

ALGERIA'S DEMOCRATIC AND POPULAR REPUBLIC
MINISTRY OF HIGHER EDUCATION AND SCIENTIFIC RESEARCH

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Language Choice and Communicative Needs in Multilingual Business Settings. The Case of an Oil and Gas Exporting Company

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Dedication

In memory of my regretted, irreplaceable mother, May God Bless her soul.

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Abstract

In today's global industry, the supremacy of English as the language of technology and international business exerts a direct pressure on the language and communicative performances required of national engineering professionals. In the Algerian energy sector mainly, technical know-how is no more a stand-alone professional skill. The present thesis set out to uncover, through sophisticated needs enquiry, the different English language and communication tasks that are required of Algerian engineering professionals from two chemical plants, with the aim to provide ramifications for ESP training at both university and company levels. Highlighting the specific purpose for which English is used took effect through asking the latter about their target needs, strengths, lacks, and wants, in addition to examining authentic instances of their professional discourse. To this end, the present study deployed a variety of data collection tools including ethnographic field notes and desk research to broadly explore the official need for English in the researched corporate setting and help frame the research questions. Subsequently, a questionnaire administered to 132 Algerian energy industry employees- with engineering professionals in majority- granted the study a quantitative stance, whereas the interview conducted with 43 participants represented the qualitative facet of the study. A direct examination of authentic instances of the most frequent communicative events (i.e., meeting and emails) through corpus-supplemented genre analysis, was proposed for more understanding of real-life usage and needs of English *in situ* but most importantly, to sort out prototypical linguistic realisations and strategies deployed to accordingly develop ESP teaching tasks and materials at final stages. The findings revealed that the English skills required of the Algerian industry employees pertained to both engineering and business communication tasks, replicating the target profile of global engineers already identified in other parts of the world. Whereas reading technical documents and to a lesser extent writing emails were customary, hence, less problematic communicative tasks, oral communication tasks were the most challenging for established engineering professionals. Implications for ESP pedagogy urged ESP trainers to draw on the work-experienced learners' specialist, insider knowledge to develop the course content. They proposed more emphasis to be put on oral, interpersonal communication skills for experienced engineers with a narrower teaching focus, centred on Engineering English, for pre-experienced and newly recruited engineers. Sample instructional materials illustrated, inter alia, the necessity to include data-driven instructional materials and awareness-raising activities in classroom practice to bring real-world communication skills to inexperienced engineers or engineering students.

LIST OF ABBREVIATIONS

- BoE:** Bank of English
- CA:** Conversation Analysis
- CANBEC:** Cambridge and Nottingham Business English Corpus
- CL:** Corpus Linguistics
- COCA:** Corpus of Contemporary American English
- DDL:** data-driven learning
- EAP:** English for Academic Purposes
- e-BE:** electronic Business English
- EBE:** English for Business and Economics
- ESV:** Enhanced Safety Vehicles
- e-ME:** electronic Medical English
- ELT:** English language teaching
- EOP:** English for Occupational Purposes
- ESP:** English for Specific Purposes
- ESS:** English for Social Sciences
- EST:** English for Science and Technology
- GE:** General English
- HK:** Hong Kong
- HRD:** Human Resources Department.
- ICTs:** information and communication technologies
- KWIC:** key word in context
- L1:** First Language
- L2:** Second Language
- Ln:** other (foreign) Language
- LSP:** Languages for Specific Purposes
- MA:** Master
- MICASE:** Michigan Corpus of Academic Spoken English
- NA:** needs analysis
- NNS:** non-native speakers

NS: Native speakers

PTFE: Poly-Tetra-Fluor-Ethylene

TCU: turn construction unit

TRP: Transition Relevance Place

TXM: Textometry

TXT: text.

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GENERAL INTRODUCTION

With the *de facto* spread of English as the dominant language of international business and technology, English language learning, viewed from a functional vantage point, nowadays prioritises the acquisition of skills that are immediately used in professional contexts. This has legitimised English for specific purposes (ESP) as the most prominent teaching-oriented, research-based field that is continuously committed to provide a detailed specification of language using purposes in target professional contexts. Highlighting the specific purposes for which English is particularly needed in the Algerian energy industry sector, by being based on two petrochemical corporate units, is the objective of the present pedagogically-oriented ESP research perspective.

In the Algerian energy industry under research, the professional know-how of the national engineers working in energy industry is not enough. Whereas literacy in French, the colonial heritage and habitual language, still keeps its important place in various strands of the Algerian workplaces, English language skills are highly demanded of the national engineering community in particular. Hence, national engineers who, after all, are non-native speakers (NNS) of English, need to be particularly proficient in this language to carry out their work-related communicative tasks effectively. These English skills are required of the industry professionals not only because its native speakers (NS), the Americans, are the leaders of energy related industry and technology but also because different non-native speaking business partners from different parts of the world use English as the international business *lingua franca* with NNS, too.

However, the Algerian engineers, let alone newly graduating ones, are qualified to work in industry more in terms of engineering know-how than in terms of industry-related English ability. While their elder learnt Engineering English either through job experience or from specific English instruction that, hitherto, used to be provided by poly-technical institutes, new entrants to energy industry are, in majority, no more equipped with the necessary English skills required in their place of work - unless they undertake a Master's programme. Worse, because the university ESP under-graduate programme is apparently far from reflecting the realities of the engineering workplace, the Algerian engineering graduates, once recruited, enter industry with a secondary school English level *per se*.

From another pole, the existence of an English training centre at the level of the Algerian energy company in question is a clear sign of the employer's awareness of the importance of equipping the local workforce with the necessary English language and communication skills, a *sine qua non* to professional performance and global integration. This being said, any training programme presupposes a pre-course Needs analysis (NA). However, when the corporate ESP training programmes, or trainers themselves are ill-informed about the English communicative and professional realities or fail to consider the employee-trainees needs and expectations, they, more often than not, fail to satisfy the employees' most urgent needs. The result is that in-company English training often turns to be a waste of time for practising engineers, who feel more useful at work rather than in the English class.

In ESP literature, the terms '*workplace*', '*English for Occupational Purposes (EOP)*', and '*business*' interchangeably describe the work-related rather than the study-related purposes behind using/willing to use English. Whereas the first one denotes the American researchers' choice of the term to refer to the professional world, *EOP* is a more ESP-related technical term that refers the *professional* domain in which English is needed for work efficiency. Because they originate from academia, ESP practitioners, let alone ESP teachers, do not possess any insider domain-specific knowledge, nor assume familiarity with EOP contexts –unless they immerse themselves there. Finally, the term *business* relates to EOP in its being a sub-category of the latter. As such *energy industry* pertains to the *business-specific* category of EOP that, in turn, includes *situation-specific* category of English for -practising engineers in- energy industry. That said, the term *business* also connotes the work- or transactional-oriented relationship or communication that involves NNS with same-domain - often, international – partners in the professional arena.

As tackled in ESP literature, the problem that hitherto used to prevail within NA, the cornerstone of ESP applied teaching practice, concerned *procedure* in that it was rarely research-based. Instead of identifying learners' real or target needs, traditional NA used to be informal, intuitive, sometimes limited to placement test, or to asking the training administrators to provide a list of expectation from the course. Worse, cost-effective needs analyses that neglect target settings of language use, are apparently still current practice among the community of ESP teachers with the result that they remain foreigners to the professional communicative practices of target groups; thus, develop little knowledge of the

learners' profession. That said, only a rigorous and rich onsite fieldwork into the workplace can be efficient in reflecting real-life needs, and so informing the ESP training programme.

To avoid the pitfalls of an EOP, in-company training, or an English for Academic Purposes (EAP) programme based on personal intuitions and outsiders' idio-syncracies about the language needs, established ESP scholars now call ESP researchers to venture into the world of professions for a more workplace-embedded perspective. The new paradigm in NA research is drawn towards more engagement with the main informants' (target groups') actual professional purposes. Because their insider knowledge makes that they are well-positioned to determine their specific needs more than the ESP practitioner, considering the adult, working professionals as the main source while researching the specificities of English use in EOP settings is therefore a must. This being said, innovative ESP research practice now tends to complement the just mentioned individual employees' needs perspectives with further evidence from the target discourse and communicative genres. To better gauge the complexities of the international status of English especially in globalised corporate settings, ESP research has to be more innovative, sophisticated and holistic.

Recent developments in ESP now recognise the situated or contextual pressures on English language owing to the contribution of research findings from different areas such as genre analysis, discourse analysis, and corpus linguistics, inter alia. The latter's novel methodological possibilities do not only enrich the ESP research perspective, but also contribute to its current eclecticism. While deeply anchored in the field of applied linguistics, the resulting multi-disciplinarity distinguishes ESP as strong teaching-oriented and materials-led movement committed to adapt to working learners' needs.

Under the banner of ESP research and practice, the purpose of the present thesis is to provide a multi-faceted examination of the different English language and communication needs that engineering professionals from an Algerian energy company subsidiary experience. In particular, the aim is to stop at the interaction between the present needs emerging in the process of current use as well as the end-product, target professional purposes for which English is required in the said energy industry sector; then, to translate workplace-embedded account of specific language use into pedagogical claims.

The investigation is based on both the retrospective accounts and direct doings of the said Algerian energy industry professionals. From one pole, the study draws on the industry professionals' retrospective accounts as to the target English skills needed, strengths already possessed and challenges encountered, *inter alia*. From the other pole, this study also combines corpus and discourse-cum-genre analytic approaches to real-language data by examining authentic samples of English use in the workplace.

To the researcher's knowledge, no ESP studies have been undertaken in Algerian professional contexts, or at least in the influential state-owned energy industry sector, with such a holistic, prescriptive perspective to needs. Would both the above mentioned Algerian engineering workplace and local ESP research benefit from a similar comprehensive ESP investigation that operationalises as many sophisticated approaches -as the ones mentioned above - as possible to inform training, this is what the research described in the present thesis attempts to embark on.

Likewise, the research described in this thesis endeavours to respond to the ESP scholars' call for empirical investigations of specific language use to make valid pedagogical claims. As such, the final aim is to provide ramifications for ESP teaching, by mainly informing course objectives for both pre-experience and practising engineers. Another research-based pedagogical application consists of drawing on established engineers' instances of good practice, hence, attempting to propose a model for developing in-house or local materials and activities that help ESP training adapt to the new demands of the engineering globalised industry.

The workplace under scrutiny represents two neighbouring Algerian industrial plants that belong to the sector of energy. Though their products are exported abroad, the international activities of interest to the present study concern the maintenance or replacement of the production equipment that often causes the engineering community to be up-to-date with technology besides being involved in international service contracts with same-domain foreign experts and suppliers. It is, therefore, a conspicuous authentic business context where the English needs call to be investigated. Basing the present empirical investigation on such a real corporate setting is believed to abide by the current ESP research practice that is more and more workplace embedded and whose pedagogical content is grounded in the local professional realities rather than being imagined.

The population of the study consists of job experienced industry professionals of the engineering category, in majority. Drawing on the industry engineers' insider knowledge was tantamount to providing both the occupational and learner perspective. The occupational or professional perspective draws on their accounts derived from work experience. It aims at uncovering the target communication requirements as well as the strategies deployed to handle linguistic or communication challenges. Feedback from such informants, who are aware of their lacks and wants or training expectations also constitutes the learner perspective. Such product- oriented versus process-oriented needs perspectives is advised in EOP contexts to be able to inform ESP teaching and training.

Half of the population of the study consists of job experienced industry professionals of the engineering category, in majority. Sampling tended to be purposeful by mainly centring data collection on the company departments where English is regularly used. In parallel, data were further collected from other non-engineering, administrative departments for comparative purposes only. To abide by the NA source triangulation principle, the researcher also purposefully selected different engineering categories, including both the lower-level and middle to high-level managers. The latter's accounts that represent both the employee-employer perspectives respectively helped triangulate the types of needs.

To address the issue so far mentioned, the following research questions are proposed:

1. What target English language and communication tasks (TSA) are needed for the daily professional performance of the energy industry engineers in question?
2. What characterises the present English needs (strengths, lacks), strategies, and wants (PSA) of the energy industry engineers in question?
3. How can the findings inform ESP pre-service and in-service training?

The hypotheses that are tentatively formulated to answer these research questions are:

1. The type of English and communication tasks/skills needed by industry employees are likely to be a blend of English for engineering and international business communication tasks. Whereas the former activates specialist terminology linked to professional know-how, the latter activates interpersonal and relational language.

2. The English language needs (difficulties, strategies activated in the process of learning to use the TL, strength and wants) reflect the engineer's years of working experience and career advancement as well the nature of tasks allocated to them.
3. Whereas the episodes of good practice emanating from the most recurring genres (email, meeting) can form the basis of local ESP materials to be adopted by trainers, lacks and weaknesses -emanating from the specialist informants' questionnaire and interview answers- have also to be addressed through useful teaching tasks and activities to remedy for such difficulties and so to equip the latter with the necessary language and skills required in the industry.

For such a study which is exploratory in nature and pedagogical in purpose, tracing the complexities of language use in the business world is a difficult enterprise, especially when they intertwine with the employees' professional background, the spoken or written modes, the nature of tasks allocated to them and other contextual factors. This being said, only a methodologically diverse investigation can help understand such a complexity and cover all its vantage points. To this end, the study deploys a multitude of methodological tools and approaches to fulfil its research aims. As mentioned earlier, the triangulation of methods is an innovative practice in ESP needs enquiry

All along the empirical investigation, the researcher took advantage of her repeated visits to the researched site (that lasted for a period of three months) to collect insider ethnographic information on the research context. An initial portrayal of English use and communicative needs in the company has been possible through ethnographic field notes and desk research as secondary data collection tools. As a result, secondary but interdependent data such as the company's implicit English language requirements have been disclosed to serve as a background description of the research context.

The aim was to offer a broader needs perspective, namely the macro-factors which contribute to the demand for English in the corporate setting under scrutiny. Field notes have been created for a thick description of the researched site including a record of contextual data such observable activities, corporate and professional values, events and other physical features of the setting being researched. In particular, the ethnographic field notes recorded during - or just after - discussions with the industry employees were precisely helpful in

framing the research aims and defining the types of questions to include in the interview and questionnaire.

Three tools of primary data collection have been used for the sake of data triangulation including two indirect data collection tools and one direct data collection tool. The questionnaire administered to 132 employees of two neighbouring industrial plants including their managerial staff was meant to yield in systematic quantitative data about target and felt needs. From another part, the interview conducted with 42 employees yielded in qualitative data whose electronic format was analysed using Software-supported corpus linguistics tool (using TXM[®] software). The latter provided additional concordance and co-occurrence data needed to triangulate the interviewees' responses among themselves.

Finally, the direct data collection method consisted of the analysis of some of the most frequent authentic communication genres, reflecting target situations of spoken and written discourse. These included a business meeting and twenty two emails. Complementing the questionnaire and interview findings on the target tasks with the examination of the industry professionals' language performance *in situ* was necessary to reveal the linguistic realisations and strategies used to perform these target tasks. The first aim was to find authentic/empirical evidence of the earlier participants' interview and questionnaire accounts as to the type of English used, as well as their lexical realisations. As stated earlier, the primary aim was to translate the authentic exemplars of English use into ESP instructional materials.

Whereas genre analysis (mainly via move analysis and textualisation) was used to approach the emails sample, the meeting sample was first examined using a multi-dimensional genre analysis; that is, quantitatively through of the examination of the most recurrent lexico-grammatical features; then, qualitatively via the analysis of the discursive, turn-by-turn examination of the genre. As known among the workplace researchers' community, difficulties of access to business discourse that is, after all, confidential in business contexts, resulted in the compilation of a small-size oral corpus only. To cope with this limitation, the researcher made comparisons with findings from a larger benchmark corpus of the same-genre to help validate the findings of the single-meeting analysis.

Because it is based on a case study, the present investigation which takes place in an EOP setting endeavours to essentially serve the engineering community (practising engineers)

of the case industrial plants belonging to the Algerian energy sector. In doing so, it will attempt to propose sound pedagogical ramifications for in-company training programme. Additionally, the findings deriving from such an investigation into target professional use are also meant to contribute to EAP teaching, namely engineering students through directly informing pre-service ESP training. The findings will inform university pre-service ESP programmes devoted for engineering students in view of the future needs perspective they provide. Equally, ESP in-service company training will also benefit from such findings to train or retrain the practising engineers according to the requirements of the industry.

Finally, useful insights for ESP course designers concerns the necessity to develop course objectives from the informative accounts of insiders (here industry professionals). The tentative contribution to ESP materials development involves the necessity to use authentic materials from local samples of English professional discourse along with corpus tools to expose learners to real rather than imagined English usage. Corporate training organisers and education policy makers can also benefit from the findings of the present study through which the industry employees call for more consideration for and investment in English training and education to adjust with the global economic reality.

It is hoped that the results of the present doctorate thesis will contribute to both ESP research (into professional engineering contexts) and pedagogical practice (namely the teaching of English for energy industry Engineering and business communication for both pre-experience and practising engineers). The present study that owes its multi-disciplinarity to the different methodological and theoretical underpinnings of various fields of expertise like genre/discourse analysis and corpus linguistics, in turn, aims to humbly add up to the existing body of knowledge into corpus-based studies of professional genres.

From another part, through its detailed specifications of needs, the present work also lends support to current innovative ESP research methodology that calls for multi-dimensional NA going beyond questionnaire-interview methods to encompassing other empirical methods for the analysis of target situations. By the same token, the present research experience communicated through this work aims to inform professional development of the ESP practitioner-as-researcher through raising the latter's awareness to the importance of workplace-embedded empirical research and onsite visits to the world of professions. In particular, it is thought of to inform ESP teacher training, notably through

integrating the requisite skills needed for the manipulation of empirical research tools, such as corpus linguistics and genre analysis, into ESP teacher training programme.

The present work is divided into five chapters. The first chapter proposes an overview of the main ESP theoretical underpinnings that constitute the rationale for the subsequent research methodology, namely its research-based pedagogy and multi-disciplinarity. It also outlines the main NA concepts and types before proposing a survey of the main target tasks uncovered by similar NA studies into engineering contexts, which have a bearing on the present research. Chapter two provides a description of the research methodology used in the study along with its conceptual framework.

Chapter two further comprises an outline of the research design, data collection tools, as well as the related conceptual background that is necessary for setting the scene to the analytical chapter. It also proposes a background description of the research setting based on preliminary ethnographic insight. Chapter three includes the analysis of the interpretive data collected via indirect (i.e., questionnaire and interview data analysis) whereas chapter four proposes the analysis of authentic workplace evidence by means of direct or empirical methods (i.e., genre analysis of authentic samples of the business discourse). Finally, chapter five covers the summary and discussion of findings collected via the interpretive and direct turn, limitations and strengths, as well research implications.

Most importantly, the final chapter proposes the pedagogical application of the hitherto collected workplace evidence in a way to bridge the gap between ESP research and practice. Not only does it project the researcher's own initiative of developing some sample *local* – rather than imported- materials under the form of data driven -rather than imagined- tasks out of the authentic samples of written and oral discourse previously analysed, but it also proposes the researcher's creation of sample translation tasks for ESP pedagogy as well other researchers' small talk and telephoning tasks drawing. Finally, recommendations for future research mainly address the unexploited areas in the present thesis due to scope or methodological constraints.

CHAPTER ONE: Empirical Investigations into the (Engineering) Workplace from an ESP Research and Pedagogical Perspective

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Chapter One: Empirical Investigations into the (Engineering) Workplace from an ESP Research and Pedagogical Perspective

1.1 Introduction

The present chapter deals with the main tenets of ESP in terms of research and pedagogical practice notably needs analysis, linguistic analysis and materials development, which will also form the basis of the methodological framework of the present research. In explaining how any ESP (pedagogical) activity is research based, it first starts by pinpointing the different conceptualisations and types of ESP to properly discuss its main strands of specificity. Additionally, it throws light on the changing concepts of need to arrive at the current interest in both the learner's needs, content knowledge as well as the contextual features and situational nature of language use and learning. While discussing the different approaches to needs analyses, the present chapter argues for the importance of embedding learner-centred ESP research in the real world of professions. As dictated by the different roles that seasoned ESP practitioners should adopt prior to teaching, a particular focus on the workings and merits of empirical methods used for ESP research and pedagogy, notably Genre analysis and Corpus Linguistics will be made. An elaborate description of the ESP research-cum-pedagogy practices employing these in-vogue empirical tools is deemed necessary to recall the ESP practitioners to familiarise with them as part of projecting specific methodology characterising ESP. Finally, a survey of on the –mostly- ESP-oriented- investigations describing target samples of specialised (oral and written) texts will be offered.

1.2 The Main Tenets of ESP Research and Pedagogy

To shed light on the theoretical and methodological principles underlying ESP research and pedagogical practice, this section highlights the evolution of the concept of specificity by first looking at the definitions and sub-fields of ESP. It stops at needs analysis as the instigator of ESP research and pedagogy in order to depict how applied ESP research, more often than not, is. Then, the scope is narrowed to specific professional areas to mainly distinguish study context from professional ones.

1.2.1 Definitions of ESP

Since its first inception as an applied linguistics derivative, changing conceptions of ESP have reflected a plethora of both divergent and convergent interests in both research and teaching. The early dominant view of ESP at the beginning of its conception in the 1960's considered the latter as '*product-based approach*' (Anthony, 2011: 2) whose pioneers were Halliday et al. (1964). Specialised language specificities were derived from the '*observable*' physical features of target texts. Or else, distinctions between the languages of disciplines as well as general language were made.

Hutchinson and Waters (1987) view of ESP sought to emphasise similarities with general English while refuting the idea that ESP is product-based. According to them, "*ESP must be seen as an approach not as a product*" (p. 19). They equally highlight the learner need as the main element of specificity in ESP, reflecting a nascent interest in catering for the needs of learners. According to them, "*ESP is not a particular kind of language or methodology... it is an approach to language learning, which is based on learner need*" (p. 19). From another part, Hutchinson and Waters (ibid.) claim that general English and ESP greatly differ in practice, seeing that needs analysis is the methodology adopted to define the content of the course, whereas in theory, they do not. They state that '*ESP is an approach to language teaching in which all decisions as to content and method are based on the learner's reason for learning*' (ibid: 19).

Robinson's (1991) definition of ESP was compatible the last point raised by Hutchinson and Waters (op.cit.) as she similarly viewed ESP as based on "*what they [learners] have to be able to do at the end of their language course*"(p. 7). She also pointed out that what distinguishes ESP from General English teaching is not specific language in itself, but the specified needs of those who take the course. To her, ESP courses do not forcibly need to '*involve specialist language (especially terminology) and content*' (1991: 4). Apart from that, she added other characteristics, namely that an ESP course takes effect within a defined time period; that learners are generally adults, and that they are likely to share the same academic or professional needs.

Specificity in ESP according to Dudley-Evans and St John (1998: 4-5) still acknowledges learner needs as they contend that ‘*ESP is designed to meet specific needs of the learner*’ among the absolute characteristics. In sharp contrast to the above process-oriented views, another absolute characteristic in their definition, ‘*ESP makes use of the underlying methodology and activities of the disciplines it serves*’, shows ESP interest in specialised language and discourse features. Their view that ‘*ESP is centred on the language (grammar, lexis, register) skills, discourse and genres appropriate to these activities*’ requires specific ESP methodology which demands ESP teachers with additional content knowledge and skills.

A more recent, elaborate definition of ESP is provided by Belcher (2009) who still emphasises its learner-centredness as she views the latter as a “*specific-learner-centered language instruction*” (p. 2). She further details the main feature that distinguishes ESP from other English language teaching (ELT) approaches, notably its “*commitment to the goal of providing language instruction that addresses students’ own specific purposes*” (p. 1).

Such a modern⁽¹⁾ view of ESP aims to make learners autonomous users of the targeted specialist discourse who will be familiar with its (grammar, lexis, communicative functions, and genres), as well as the learning strategies to be used for continuous learning while immersed in the discourse community. The interdisciplinary research base of ESP reflects its commitments to needs analysis, linguistic analysis together with its contextual relevance as well as classroom replication of community-specific communicative events. According to Hyland,

English for specific purposes (ESP) refers to language research and instruction that focuses on the specific communicative needs and practices of particular social groups... Drawing on a range of interdisciplinary influences for its research methods, theory, and practices, ESP has consistently provided grounded insights into the structures and meanings of texts, the demands placed by academic or workplace contexts on communicative behaviors, and the pedagogic practices by which these behaviors can be developed’. (Hyland, 2007: 279).

More narrow-angled, specialised ESP perspective, in this respect, signals a return to corpus linguistics in modern ESP era that is due to the availability of computers that enable research into ESP lexical and grammatical features in specialised fields (Anthony, 2011; Johns, 2013). In parallel, situated language use and eventually teaching are also in vogue in ESP research interest and classroom practice.

It is of note that research intertwines with pedagogy in a way that makes the teaching practice research-based. ESP professionals claim that their ‘*research should have pedagogical purposes*’ and that their ‘*pedagogical practices are directed by the research completed within [...] specific contexts.*’ (Johns, Belcher, and Paltridge, 2011: 2). This dual role of ESP is illustrated in the figure below. That said, granted that the ‘*major strand of ESP is learner-centred*’, a recent survey of ESP research (Williams, 2014) reveals that a ‘*minor strand*’ in ESP research involves simply researching the varieties of ESP, otherwise termed ‘*research into ESP*’, without pedagogy in mind.

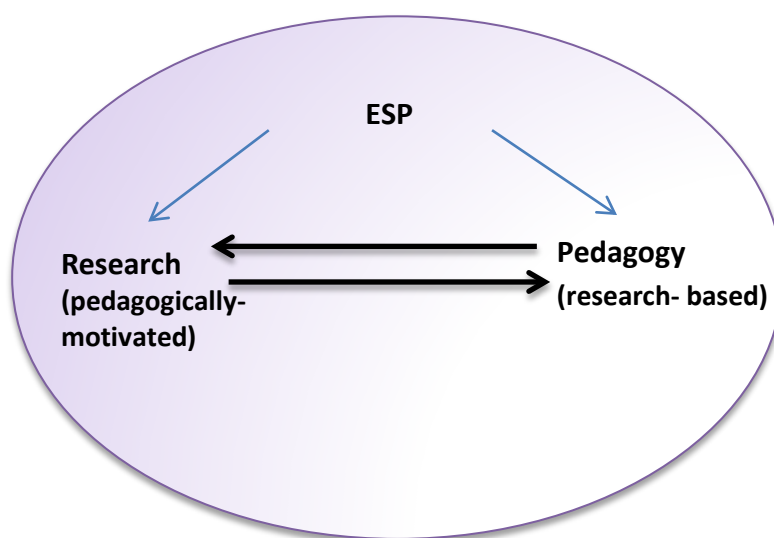


Diagram 1. 1: ESP Inter-related Research and Pedagogy

A glance at the above definitions also projects ESP as a rich field with its distinctive theoretical and methodological principles. The definitions above pointing to ESP pluralism in terms of methods used for both research and pedagogy warrant further elaboration into the approaches and methods used in a way to guide the present research framework.

Common to the definitions reviewed, ESP conception reflects blend of both product-oriented and process-oriented views of research and teaching. While the former emphasising specific-purpose language features reflects the traditional register-related interest in language specificities as ‘*defining feature of ESP*’ to borrow Dudley-Evans and St. John’s (1998:4) terms, process-oriented view shows interest in the learning process that intertwines with the communicative dimension of language use. It also transpires from the above definitions that ESP is different in practice from English for general purposed (EGP) in that it is learner-

centred, needs-grounded, and is often engaged with learners' specialist subject or domain knowledge. This latter specificity in ESP requires ample consideration through a sketch of the plethora of disciplines or professions that constitute the diversified ESP field.

1.2.2 Discipline-based Vs. Situation-specific Categorisations of ESP Specialisms

Part of projecting their theoretical conception of specificity in ESP, Hutchinson and Waters (1987) proceeded to a discipline-based classification of ESP by arranging the different specialisms according to specialist disciplinary knowledge (i.e., English for Science and Technology (EST); English for Social Sciences (ESS); English for Business and Economics (EBE)).

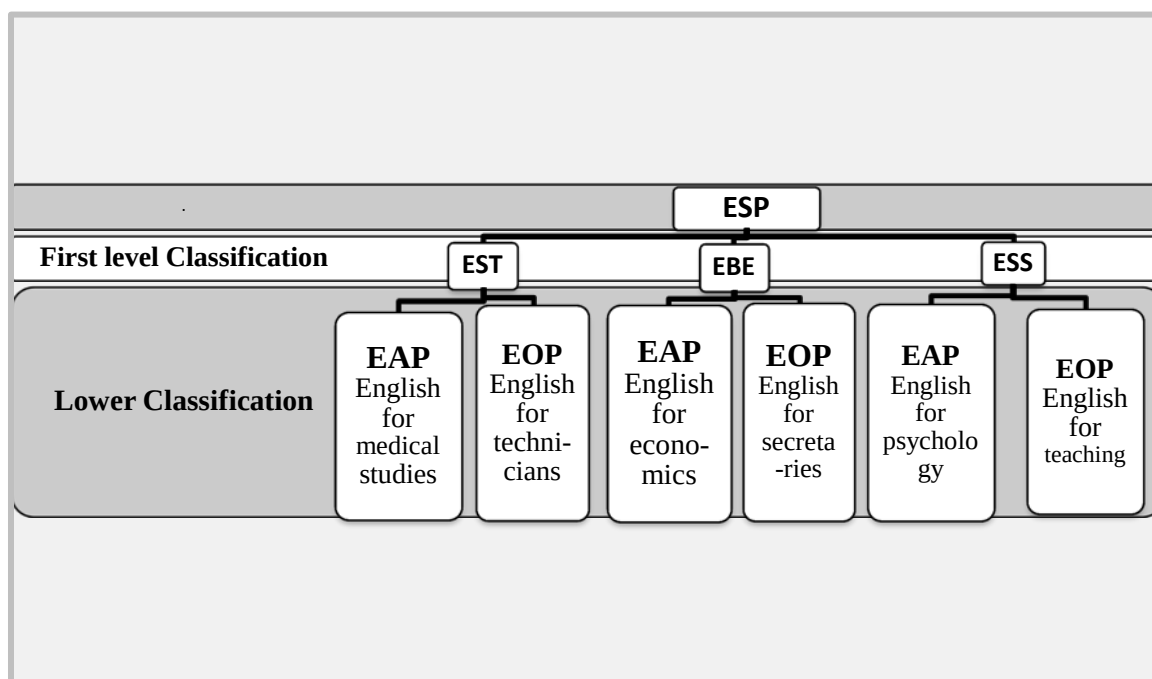


Diagram 1. 2: Hutchinson and Water's (1987) Discipline-based Classification of ESP

In turn, such disciplinary-specific classifications, according to, give way to lower-level classifications consisting of real-world situations related to either study (academic purposes) or employment (occupational purposes). A case in point is how EST is subdivided into EAP (English for medical studies, English for engineering, etc.) and EOP (English for medical

practice, English for nursing, English for technicians, etc.). Here, ESP focus is on the disciplinary-related language practices and discourses.

In sharp contrast to the above classification focus, Dudley-Evans and St John (1998) propose a situation-specific categorisation of ESP specialisms by first classifying the disciplines that ESP serves -and that the learners need to excel in- under two situations.

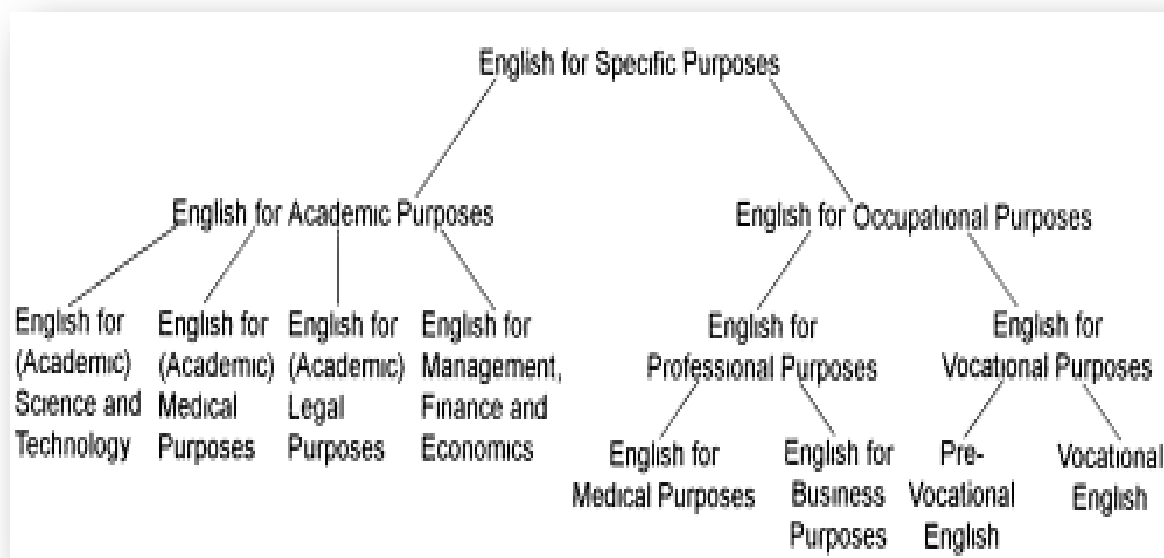


Diagram 1. 3: Dudley-Evans and St.Johns' (1998:16) Situation-specific Classification of ESP

The first one is English for Academic Purposes (EAP), referring to higher education study-related situations. Its related disciplinary specialisms consist of English for law studies, English for engineering, English for business studies, English for medical studies, and so on. The second one is English for Occupational or professional Purposes (EOP). While English for vocational purposes (EVP) refers to English that is for non-professionals or pre-experience purposes, English for professional purposes (EPP) refers to the plethora of professions that reflect the world of work. These professions include specialisms in English for Business Purposes (EBP), English for Legal Purposes (ELP), English for practicing Engineers (EEP), and English for practicing doctors or medical Purposes (EMP), among others. Here, more emphasis is put on the learners' target situations and contextual features of language use. In relation to EBP for the purpose of the present research, Dudley-Evans and St. John (ibid.) use

another term, Business English (BE) to describe the English that adult workers use in an occupational context when doing business at the international level.

This being said, one cannot deny the increasing number of specialisms that ESP now covers. As Brunton (2009: 22) states, “*ESP is today more vibrant than ever with a bewildering number of terms created to fit the increasing range of occupations that have taken shelter under the ESP umbrella*”. Part of illustrating this wide array of ESP specialisms, Williams (2014), for example, proposes new types of ESP that are the offspring of the digital era such as electronic Business English (e-BE) or electronic Medical English (e-ME).

The above organising principles, however, should be viewed in terms of complementarity and addition. Their convergent point lies in the ESP tendency to examine the specificities of language use and learning in different professional and academic areas for better training programmes, which constitute the latter’s strength. Most importantly, focusing on either disciplinary-specific language or (academic or professional) situation-specific language will depend on the learners’ specific English needs. This issue of needs will be properly discussed below.

1.2.3 Needs Analysis

This section proposes a theoretical outline of the different conceptions of needs. It is tightly linked with the previous section in that it mainly emphasises the recent theoretical developments in ESP that led to methodological developments, too, mainly in relation to the collection of different types of needs analysis (NA) data. Before, the evolution of the concept of need throughout the past fifty years is first discussed.

1.2.4 The Evolution of the ESP Perspective on Needs over the Past 50 years

The evolving NA focus started with the 1960’s view of ‘need’ in terms of specialised target language that learners need to know through learning its distinctive grammar and vocabulary. Then, a shift from the *grammatical* perspective of need to the functional one occurred with the nascent acknowledgement of the learner’s language using purposes along with the role of language as a communicative tool of the 1970’s and 1980’s. This continuing evolution of NA is offered in the diagram below at a glance.

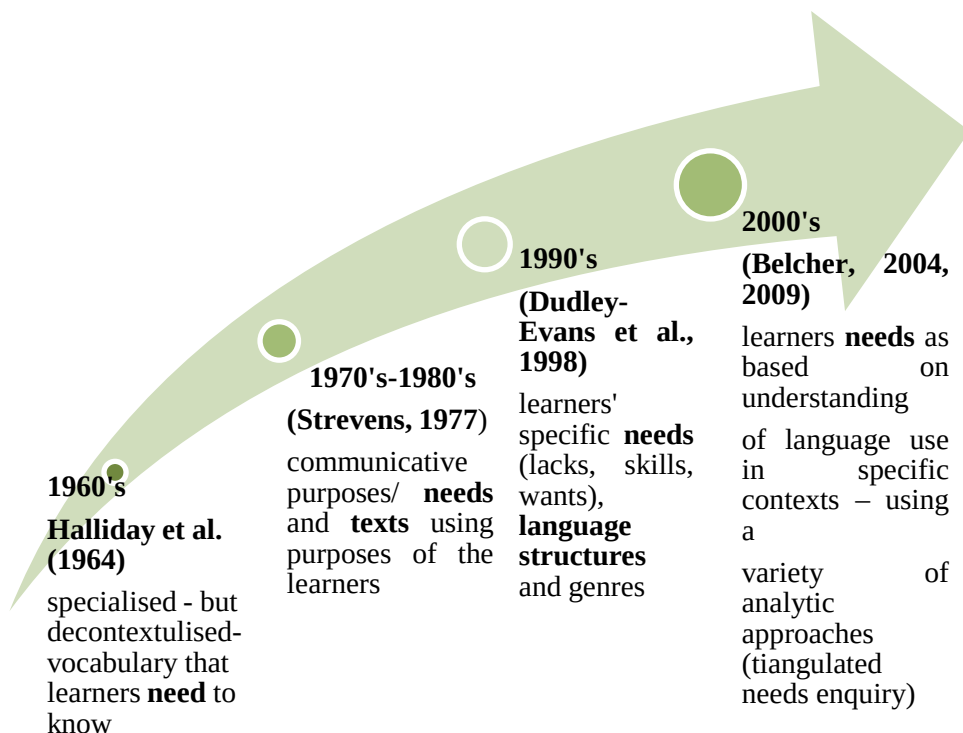


Diagram 1. 4: ESP Changing Perspective on Needs over 50 years of Research
(adapted from Upton, 2012: 14)

In relation to this second phase of NA shift of focus, Stevens (1977) highlighted how learners will needed to use specific structures and vocabulary with a major focus on functions, and tasks/skills needed in the target situation. With the advent of communicative language learning, the individual needs of students together with their interests and motivation to learn shifted from simply focusing on the language needs to recognising the '*specific needs of the learner*' (Dudley-Evans and St. John, 1998: x). Until the present time, personal and professional information about the learner together with his preferences, wants and lacks remain a central concern.

Current views of needs now adopt an *eclectic* perspective (Belcher, 2009). This eclectic approach to needs provides a thick description by taking into consideration both language structures and needed communicative purposes, together with learner attributes and the learning/teaching situation needs. It is worth noting that the old interest in specialist vocabulary is still in vogue in current ESP needs enquiry. Only, the latter intertwines with a more contextualised or situated description of the discourse and communicative practices, that

in turn affect ESP teaching practice, now more driven towards providing an authentic context for –rather than isolated- target language use.

In this regard, the venue of genre analysis together with the recently emerging computer-assisted corpus analysis have facilitated insight into the register (lexico-grammatical features), discourse practices, and communicative skills used in target contexts. This will be properly detailed later. Meanwhile, the concept of needs tackled in the above historical overview and definitions as central to ESP warrants further discussion which is offered hereafter.

1.2.5 Defining the Concept of Need

Within ESP research, needs analysis is conducted to identify needs. To specify what needs represent, a wide range of definitions exist in the literature. Hutchinson and Waters (1987: 54- 63) view needs as *‘the ability to comprehend or to produce the linguistic features of the Target situation’*. They propose two types of needs which are *‘target needs’* and *‘learning needs’*. Noteworthy is that the latter contributed to ESP learner-centredness emphasising what *‘learners need to do in order to learn’* or simply how they wish to learn (West, 1998, cited in Songhori, 2008). *Learning needs* appears under other, more global terms such as Brown’s (2016: 23) *individual differences analysis*.

In their turn, *target needs*, or *‘what the learner needs to know in order to function effectively in the target situation’*, comprise *‘necessities’*, *‘lacks’*, and *‘wants’*. *necessities* are *‘the type of need determined by the demands of the target situation, that is, what the learner has to know in order to function effectively in the target situation’* (Hutchinson & Waters, 1987: 55). Whereas the latter often derive from teachers or employers’ perception of needs, Hutchinson and Waters’ (ibid.) understand *wants* as being related to learner’s own perspectives of needs or *“what the learners think they need”* in Nation’s (2000: 2) terms. Hence, *‘Wants’*, seen from the angle of high priority needs from the learners’ viewpoint, have also to do with their learning needs or preferences. West (1994) warns against not considering wants as real needs.

Berwick (1989) and Brindley (1989) focus on the needs perspectives in the professional context. They distinguish between *‘felt needs’* and *‘perceived needs’*. Whereas felt needs reflect a personal inside perspective, similar to the above discussed *‘wants’*,

perceived needs reveal an objective but outsider perspective of the professional and his context. By the same token, it is possible, according to Brindley (ibid.), to derive ‘objective needs’ from different kinds of *factual information* about learners, including their real-life language use situations, their current language proficiency and difficulties. As to ‘subjective needs’, relevant information addressing them concern *their affective and cognitive factors* such as personality, confidence, attitudes, learning wants, learning expectations, cognitive style and learning strategies.

A most recent needs terminology is proposed by Brown (2016: 16) who provides a four needs viewpoints: the democratic view, the discrepancy view, the analytic view, and the diagnostic view. The democratic view entails ‘*whatever most people want*’ and is related to wants, desires, expectations. The discrepancy view refers to whatever is missing (deficiencies, lacks, gaps and requirements for the students). The analytic involves whatever logically comes next, that is the learning processes developed as a reaction to gaps and lacks. The diagnostic view concerns the next step in language learning/language learning process), or ‘*whatever will do the most harm if missing*’ (that is, necessities, essentials, prerequisites for using ESP that will cause harm if missing’) (ibid: 13). A recapitulation of these needs concepts is proposed in the diagram below at a glance.

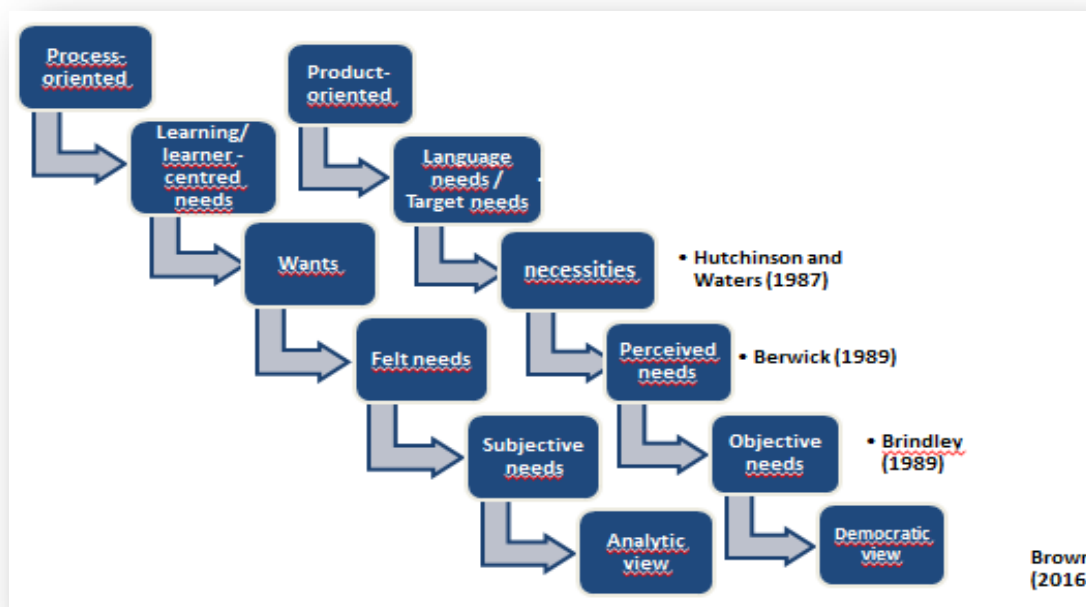


Diagram 1. 5: Process-oriented vs. Product-oriented Conceptions of Needs (Author's own Realisation)

The above classification of needs that reflect the existing literature shows that needs cannot solely be seen from a product-oriented perspective, but also in terms of learners own interpretations and present use of and attitudes towards the target language or learning. This being said, other needs concepts have mushroomed. This is the case of Vandermeeren (2003: 14) who, based on occupational settings, distinguishes between five types of foreign language needs. They are proposed below.

- **Objective need** (indicated by objective need indicators, e.g. turnover in a certain market). Empirical data suggestive of such a need consist of the frequency of interactions with foreign business partners.
- **Subjective need** (indicated by informant's subjective perceptions of foreign language need). It is illustrated by a top manager's ideal about how competent his staff *should* be in a foreign language.
- **Unconscious need** (indicated by the subtraction of subjective need from objective need). For instance, when a sales manager states that his department *does not need* English while foreign business partners are in permanent contact with them.
- **Subjective unmet need** (indicated by informants' perceptions of unmet foreign language need). These are instances of difficulties and lacks experienced with foreign language usage.
- **Objective unmet need** (indicated by the subtraction of foreign language use from objective need). This type of need is evident from the managers' claim that their departments *do not use* English whereas in reality they do.

It is of note here that Vandermeeren's (op.cit.) concept of 'subjective needs' does not forcibly replicate the former views of needs just dealt with, in the sense that they represent an employer's ideal rather than the employee learner's wants. Whereas his 'subjective unmet need' goes with earlier terms such as lacks or weaknesses, his 'objective unmet needs' signal a mismatch between objective needs indicators and employer's needs perception. This being said, even though the present research will not faithfully embrace - all of -these concepts, explicating them nevertheless, shows the plethora of understandings that exist in the literature with regards to needs.

1.3 Approaches to Needs Analysis

Having thus far elucidated the different foci of needs, the present section looks at the different approaches to NA building on the latter concepts. An overview of their main tenets, and how interdependent their territories are, will pave the way to the next sections.

1.3.1 Target Situation Analysis

Target Situation Analysis (TSA) is a term first coined by Chambers (1980) who views the latter as “*communication in the target situation*” (ibid: 29, cited in Songhori, 2008: 4). While primarily centred around the learner’s communicative or language using purposes, TSA concretises a NA research that acknowledges the function and situation of language use (Songhori, 2008) - instead of focusing on language needs in terms of isolated de-contextualised language forms.

Most importantly, TSA provides a general language situation that serves as input for ESP course development stage in terms of specifying the skills that reflect the target situation (Jordan, 1997). In other words, TSA serves to set priorities on the types of skills (productive or receptive) in teaching according to the job or study-related activities discovered. Information about the target situation can be obtained from the sources written in the field, the managers, or else the HRD (Long, 2005).

Munby (1978) proposed a set of questions to serve as a model for discovering the target situation needs and according to which to obtain a communicative profile that incorporates the needed skills and the linguistic forms in the target situation. Some of these questions are *Why is the language needed?; How will the language be used? What will the content areas be? Who will the learner use the language with? Where will the language be used? When will the language be used?*. However, Munby’s (op cit.) TSA model failed to consider other areas of interest to NA, notably the materials to be derived. This particular task was undertaken by other needs analysts.

Subsequent NA professionals like West (1998, cited in Songhori, 2008: 4), evoke the crucial role that TSA plays in terms of informing ESP materials as well as course development. Recently, Brown (2016) proposed an updated term to TSA, which is target situation use analysis (TSUA). For him, TSUA entails examining ‘*language use*’ by gathering evidence about the way people from the particular target ESP community being researched

‘understand and use the language’ (p. 21). TSUA also involves gathering exemplars that reflect such language use. These exemplars will be the subject of the subsequent, tightly related NA phase, i.e., target situation linguistic analysis. It is sketched below.

1.3.2 Target Situation Linguistic Analysis

Based on the language exemplars gathered in the previous TSUA phase, target situation linguistic analysis (TSLA), still according to Brown (2016), unearths ‘*the linguistic features*’ that distinguish the particular type of ESP being investigated. Among the main linguistic features that are examined for the above mentioned purpose, there are (technical or sub-technical) vocabulary, collocations, grammar, levels of formality, discourse markers, and genres that students aiming to be part of that target community ‘*will need to know and use to accomplish the language uses found in the target situation analysis*’ (ibid: 21). By the same token, Dudley-Evans and St John (1998) consider TSLA as the NA strategy that offer insight into the way ‘*language and skills are used in the target situation*’ (p. 125). This presupposes the use of direct methods to examine raw or empirical data samples, including discourse analysis, genre analysis and even corpus linguistics (see section 1.7).

1.3.3 Present Situation Analysis

Present Situation Analysis (PSA) came to complement TSA by dealing with the ‘present abilities’ (Lung, 2014) or the ‘*strengths and weaknesses in language, skills, learning experiences*’ (Dudley Evans and St John, 1998: 125) of the target group. Information about the PSA can be obtained from the learners themselves or from the place of work. Brown (2016) maintains that *tests* constitute the main tool, though, not the only one that is used to collect information about the general proficiency of the main informants. He indicates that interviews can also be insightful in yielding in interesting data about PSA. In this regard, further information about the target group’s present abilities can be derived from their background information, that is, through an enquiry into any previous learning of English and its duration, the level of education, or even years of work experience all of which can provide enough information about present abilities.

1.3.4 Learning Situation Analysis

As mentioned so far, the learning-centred approach proponents (Hutchinson and Waters, 1987) arguing for more ESP focus - transcending TSA along with its linguistic

situation analysis- onto learning needs, has given way to Learning Situation Analysis (LSA). Its main purpose is to uncover *'the learner's preferred learning strategies for progressing from where they are (present situation/lacks/deficiencies) to where they want to go (target situation/necessities)'* (West, 1994: 4). For the interest of the present study, it is of note that the language learning experience from the learners' conception may be particular or different from the teacher's proposed learning strategies in a top-down way (West, *ibid.*) in this line of thought, the most interesting aspect of LSA for the purpose of the present research is, in line with Dudley-Evans and St John' (1998) observation, to identify the learning skills that target groups develop in the process of using the TL during their academic life or work experience. The aim behind such an ESP focus is to later exploit those identified learning, process-oriented skills in the classroom under the form of problem solving tasks similar to 'real-life' (*ibid.*: 27) work or academic situations where employees or students handle TL use on their own with their actual proficiency level.

1.3.5 Rights Analysis

Rights analysis is a concept that appeared only recently with Benesch's (2001, cited in Upton, 2012) contention that needs analysis should be reread as 'rights analysis'. This added critical perspective on needs focuses, for instances, on the way members of the target professional community or higher education members exercise or resist power relationships. In EAP settings, another instance of such a critical work concerns how students are against the policy suggested by administrators, hence, the ESP programme. However, of interest to the present research is how the 'learner perspective' in NA is gaining momentum in Rights analysis.

In this vein, Upton (2012) argues against solely focusing on target needs that people in power provide. Instead, he views that power relationships have to be equally tackled by contrasting the *'privileged members'* (i.e., employers, teachers, or administrators) with the *'novices'* (i.e., employees or students) perspectives (p. 23). Likewise, taking the learner perspective - into account instead of solely seeking to meet the employer's or institutional interests - contributes to their empowerment,

There is growing recognition of the importance of 'empowering learners' to more actively participate in identifying and addressing their language learning and language using needs. (Upton, 2012: 24, emphasis added).

Hence, empowering learners takes effect in current ESP NA research by considering their own views (i.e., learning needs, expectations, and wants). This shift of vision in ESP research rational as Belcher (2009: 3) states, signals a certain “*motivation to help those especially disadvantaged by their lack of language needed for the situations they find themselves in, hope to enter, or eventually rise above*”. This critical perspective that reflects the learners’ right to have their voice heard in ESP research carries another understanding to the concept of learner needs.

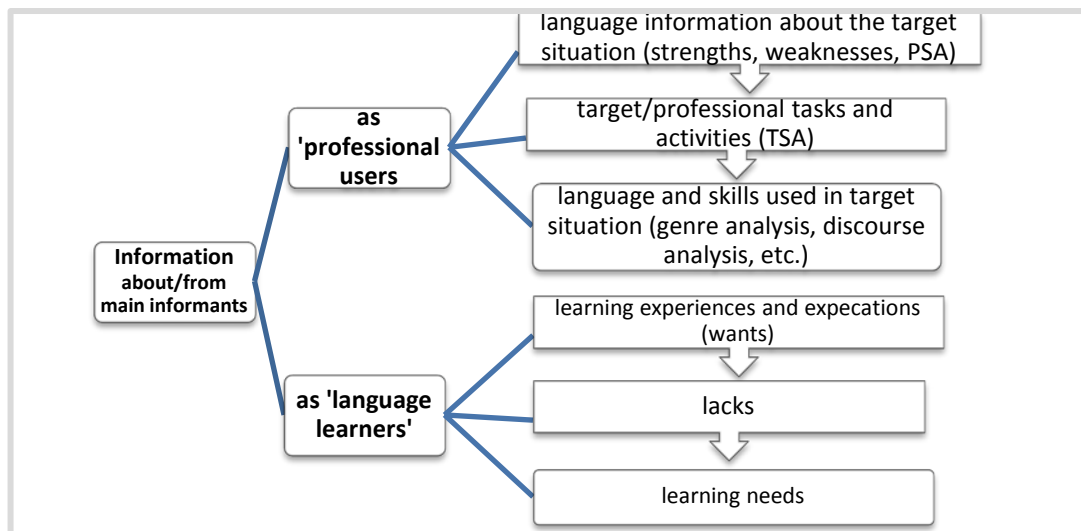
It is lastly of note that ESP scholars call for the importance to investigate power issues in EOP settings too as the latter are less researched (Bhatia, 2011, cited in Upton, 2012). By this token, many scholars precisely recommend that such a *critical perspective* (i.e., viewing needs analysis in terms of rights analysis) be joined to other - of the afore-mentioned - needs perspectives in ESP needs enquiry for a complete understanding of the learner’s needs (ibid.).

1.3.6 Means Analysis

Dudley-Evans and St John (1998: 124) contend that Means Analysis has first been coined by (Holliday and cook, 1982, cited in Dudley-Evans et al., ibid) to look at the environment in which the course will be run. Means analysis is only constructive when it addresses the ‘what works approach’, highlighting the favourable conditions rather than the obstacles to appropriate ESP programme implementation. While equally stressing out positive information, Brown (2016), for the interest of the present research, proposes other areas that Means Analysis covers through gathering positive contextual strengths of the institution/organisation, like pre-service or in-service faculty training. Capitalising, likewise, on such strengths contributes to the credibility of the NA investigation together with the ensuing pedagogical suggestions (or revisions) for an appropriate ESP programme content.

1.3.7 Current Concept of Needs Analysis Combining Multiple Strategies

Dudley-Evans and St John (1998) draw a comprehensive picture of current needs analysis, which encompasses all of the different, afore-mentioned approaches. While using different terms, Brown (2016) recently confirms such a combination of NA strategies for better results. The diagram below offers the author’s classification of their needs into two major categories.



As shown from Diagram 1.6 at a glance, the conceptual constituents of current NA consist of a blend of *professional language user-cum-language learner* information. For better understanding of how these two dimensions interact, the original diagram proposed by Dudley-Evans and St John (1998: 125) is shown below, together with the author's additional summaries of each element in squares.

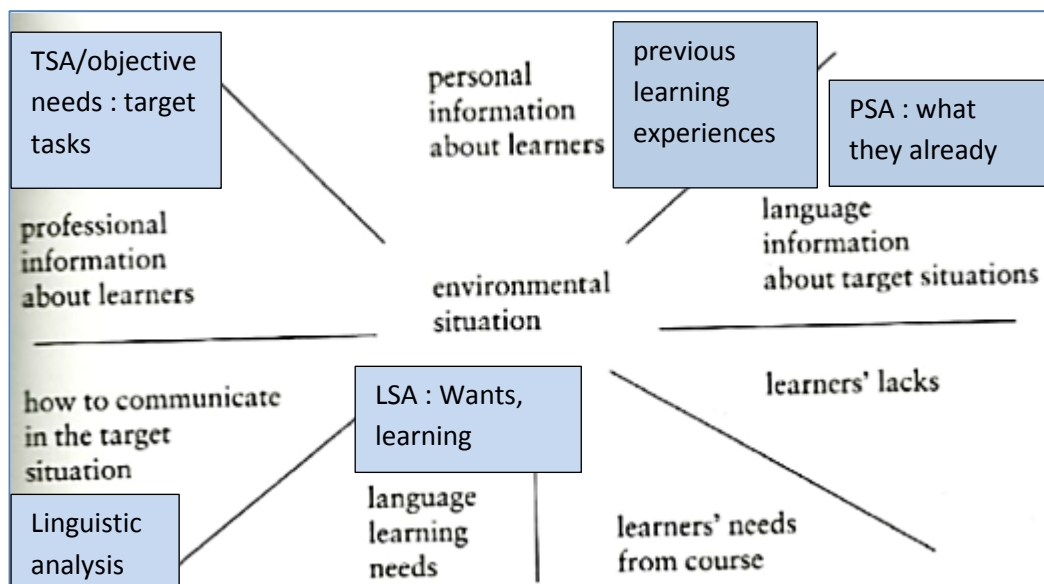


Diagram 1. 7: Author's Categorisation of Dudley-Evans and St John' (1998: 125)

Comprehensive Concept of Needs

As to needs enquiry about/from the professional language user, Dudley-Evans and St John (1998: 125) propose many NA constituents. Their understanding of *Language information about learners* reflects *present situation analysis*, that is, what the professionals' current skills and language use are, including their strengths (what they already know) and weaknesses (what they do not yet know). In parallel, *professional information about learners* mirrors Target Situation Analysis (TSA) or objective needs as it looks at the target tasks that the learners (will) use English for. Still being part and parcel of TSA, knowledge of *how to communicate in the target situation* still addresses the *professional language user* status of learners projecting an interest into the way '*language and skills are used in the target situation*' (Dudley-Evans and St John (ibid: 125).

This presupposes the use direct methods to examine for raw or empirical data samples, including discourse analysis, genre analysis and even corpus linguistics⁽²⁾. Brown (op. cit.), relating on his personal experience in doing NA, maintains that TSA cannot be separated from TSLA. In the same way, the professional status of the main informants works better in combination with their learner status (ibid.). As to the learner status of informants, *personal information about learners* deals with factors which may affect their previous learning experiences, their attitudes to English, or their learning expectations (which is typically the same as the previously mentioned *wants*, or *subjective needs*).

Lacks consist of the difference between the professionals' current skills and language use as compared to objective or target needs indicated by TSA. Likewise, information about *learning needs*, concern '*the effective ways of learning the skills and language*' (ibid.) as informed by the informants current language use (PSA). Finally, *learners' needs from the course* (that the question 'what do you need from the course?' concretises) is another dimension of NA that, according to Dudley-Evans and St John (ibid: 127), complements the general question 'what do you need English for?' in providing information about short term course needs that are necessary for skills and language development. Finally, *environmental situation* enquires about the situation in which the course will be run (means analysis).

A recent, slightly detailed version of Dudley-Evans and St John's (op.cit) NA dimension is offered in Brown (2016: 20-48), with more subdivisions and new labels to the former's original concepts⁽³⁾. Having thus far dealt with the different concepts of needs from prominent scholars, it is of note how the unique information each one of them provides acts in complementarity with the others. Conversely, relying on some types of needs at the expense

of others renders the needs enquiry an incomplete enterprise leading to ill-informed ESP course.

1.4 Sources of NA

Besides the previously established necessity to use multiple NA strategies or methods to gather complementary information about needs, diversifying the sources is another issue that is equally important as advocated by many scholars (for e.g., Long, 2005), then applied by ESP researchers (Gilabert, 2005; Huh, 2006; Cowling, 2007; Lockwood, 2012, etc.). Before reviewing the relevant needs investigations, it is important to first deal with the theoretical standpoints that led to the methodological choice of diversifying sources. Additional reference to the way in which different scholars identified the different sources in relation to the particular types of data they provide will be made.

1.4.1 Sources versus Different Types of Needs

Traditionally, the learner was relegated a secondary role in terms of representing the main source of NA. For example, while identifying the groups involved in the NA process, Brown (1995) mentioned that besides the needs analyst, there are *target groups* and *resource groups*. According to him, the former (i.e., target groups referring to the learners) are those *about* whom information will be gathered. Conversely, the latter (i.e., resource groups or employer, teacher, etc.) are responsible of providing information about the target groups' needs. Thanks to recent developments in ESP, learners including working trainees are now considered as the main source *from* whom to gather data about needs (Long, 2005; Huhta et al., 2013).

Dudley-Evans and St John' (1998: 132) classification is one such learner-centred dichotomy prioritising the (working) learner key contribution to NA. Among the main sources of NA they propose, it is interesting to highlight, for the purpose of the present study, the ones that are relevant to EOP settings only. Accordingly, the main sources, in this order, are the *learners* (here, trainees), *people working in the field*, *documents relevant to the field*, *employers*, *teachers*, and *ESP research* in the field. Jordan (1997) posits that different types of NA data derive from different stakeholders (i.e., all those who are directly or indirectly concerned with English training, according to Dudley-Evans and St John (1998: 130)) in the way explained below:

- A. learner: needs – present, current, subjective, felt, learning, learner-centred, wants/likes, lacks, present situation analysis (PSA) and process-oriented
- B. Teacher: purposes/needs- perceived needs, process-oriented, PSA, learning-centred.
- C. Employer/Sponsor: demands – product-oriented, PSA and TSA, language audits
- D. Target Situation: (Subject/department) needs – target, future, objective, target-centred, goal-oriented, aims, necessities, TSA, language analysis

Whereas Jordan (1997) gave a picture of what type of information different sources can provide, Long (2005), arguing for a triangulation of sources, brought about some additions in relation to the nature of learners along with the type of data that different sources can or cannot provide.

1.4.1.1 EOP Working Learners

‘*Specificity*’ in ESP concerns the specific needs of the learner (Huckin, 2003; Hyland, 2002). This specificity entail that the learner, with his/her insider knowledge is well-positioned to define his or her specific needs instead of the teacher. In other terms, it is better to collect data *from* the learner not *about* the learner as Huhta et al (2013) contend. This is why, ‘*modern communication needs analysis is more ‘participant-focused’, entailing more engagement with target learners’ ‘professional experience, knowledge and practices’* (ibid : 1-4). ‘job-experienced’ L2 users with specific workplace needs (Chang, 2005) are adults who are professionally qualified and who are aware of their English workplace requirements. Gilabert (2005) use the term ‘*employee informants*’ to refer to ‘*those already working in the target situation*’ (Tarantino, 1988, cited in Cowling, 2007: 432) who represent ‘*the most useful sources*’ Gilabert (ibid: 432).

Long (2005) offers a redefinition of the type of data that work-experienced or in-service (working) learners, as domain experts, can provide. Put clearly, work-experienced learners are reliable sources of information about the target situation (TSA), notably, the specialist content unlike pre-experienced learners. In his own words, Long (2005) views that ‘*experienced ‘in-service’ informants often make excellent sources on the content of their job*’ and that they ‘*are indeed able to provide useful and valid insights about their present or future needs* (p. 27, original emphasis). They are, as Long (2005) qualifies them, ‘*adults with*

serious ... occupational or 'survival' needs for functional L2 proficiency... [who] are increasingly dissatisfied with the lessons, materials and methodology developed for someone else or for no-one in particular"(p. 19).

Apart from their being valuable sources of job content, Hutchinson and Waters (1987) highlight the importance of carefully considering the learners' perceived wants and wishes. Put in other words, the adult learner's perspective sheds light on the language skills that adult learners think they already possess and what they do not (PSA, lacks); their own perception of the skills they need to up-grade to function effectively in the target situation (wants) as well as what they await to gain from the instructional programme (learning/training needs or expectations).

Having said that, the previously discussed recent critical perspectives in ESP research redefine target ESP communities '*as places where newcomers have rights too*' (Belcher, 2009: 7) whereby newcomers' (i.e., novice students or workers') own perspective of lacks and wants should also be taken into account. That said, it has recently become common practice among ESP specialists '*to collect both "subjective" and "objective" needs data, or newcomer perceptions and old-timer expectations*' (Belcher, *ibid*: 5, original emphasis) to avoid partial perspectives.

Briefly, the difference between general course with its one-size-fits-all approach and ESP course, henceforth, lies in the relevance of course content to the learners' needs through '*the precision with which it is possible to identify current or future uses of the L2*', as Long (2005) truly puts it. Relevance to the learners' needs is only possible if the course includes authentic elements of current language use (i.e., genres and lexis) that learners really need.

1.4.1.2 Domain Experts (Specialist Informants)

Domain experts are those specialist informants whose expert insider knowledge can contribute to NA through providing information about the specialist purpose for which English is used in terms of communicative tasks and events (objective, target needs, TSA). Even though Long's (2005) 'domain experts' do not largely differ from the above work-experienced or in-service learners in terms of expert insider knowledge, however, they do so in terms of projecting either a professional or learner status. From another part, Long (*ibid.*) stipulates that these specialist informants are not aware of the linguistic details of their

specialist communication, except in terms of target tasks, as mentioned earlier. The latter, according to him, are easy to highlight if the domain experts' accounts are supplemented with analyses of authentic samples of their specialist discourse.

A cautionary note in this vein is that one individual can hold different perspective depending on the status he represents, for a job experienced informant who also has an English training experience, or is interested in training he represents both sources, i.e., the domain expert and learner's perspective (Cowling, 2007). From another part, middle managers who gained their actual job position due to their long years of experience equally represent sources of two perspective, that is, the employer's and the domain expert's perspectives. In short, both the insider and learner perspective can be carried by the same employee-informants, depending on the data required from them, or as Brown (2016) termed, depending on the NA specificities.

1.4.1.3 Language Experts (Teachers, ESP Practitioners, Applied Linguists)

Because they are ill-equipped as regards domain-specific insider knowledge, the linguistic intuitions⁽⁴⁾ of an applied linguist or an ESP practitioner will not forcibly reflect the linguistic realities of the target situation as such outsiders' views derive from *'the notions and functions supposedly required to satisfy various occupational language needs'* (Long, 2005: 21). The result is that the applied linguist ends up with inauthentic teaching content besides oversimplified language structures to be taught⁽⁵⁾. This is why they are not the better positioned when it comes to identifying the target needs. However, they are reliable sources for other kinds of needs (i.e., present Language Needs, lacks, and abilities (Long, 2005; Chauderon et al., 2005; Cowling, 2007; Gilabert, 2005)).

1.4.1.4 Target Discourse Samples

For Long (2005) spoken or written discourse samples offer ESP practitioners and applied linguists insight into the domain specific language use through direct access to the insiders' real-world language and communicative doings. Likewise, they serve as baseline data against which to compare the interview retrospections of domain experts as to their target discourse (TSA). As stated earlier, they also serve as models for target language use to be

incorporated in the preparation of instructional materials (see Chaudron et al, 2005; Downey Barlett, 2005).

Relying on such *in situ* exemplars of language use also suggests a shift from the language traditional descriptions, so far termed linguistic intuitions, which often resulted in ungrounded individual imaginations of teaching materials. However, Dudley-Evans and St John (op. cit) suggest that, besides their usefulness in assessing TSA needs, text analyses are equally useful in enquiring about the PSA needs (p.136). This is exactly what Long (2005) reiterated when he posited that discourse sample records are '*means of accessing insiders' real-world criteria for evaluating task performance*' (p.72).

Common to what has been discussed above, current NA conceptions grant more attention to the insider perspective highlighting the specific purpose or target language use, that work-experienced learners/trainees, domain experts or authentic discourse samples provide. At the same time, it is also informed by data deriving from the learners' status of target groups, giving likewise more importance to their voice (wants, learning or training needs). Such insider account cannot be provided by outsiders like language experts, ESP practitioners or applied linguists, whose views used to prevail in the first beginnings of ESP.

While the latter are sources of other types of needs (i.e., language needs), it is for this same reason that triangulation of sources is necessary, depending also on what aspects the needs analyst wants to investigate. Having said that, this theoretical standpoint will inform the methodological choices of the present research. In the following section, the rationale behind prioritising method triangulation which is in vogue in recent NA research is presented. This current trend leading to a redefinition of the ESP researcher role will be sketched, too.

1.5 From Informal to more Serious EOP-Embedded Approach to NA

The traditional use of limited resources in NA enquiry represents one dilemma in ESP teaching in professional or academic contexts as Huhta et al (2013) truly put it, making of ESP a marginalised activity that is separate from the daily workplace interaction. Traditionally, cost-effective NA enquiries into professional contexts used to yield in partial information most often deriving from one individual perspective⁽⁹⁾.

The 70's NA was rather informal and was rarely research-based as '*some kind of intuitive or informal analysis of students' needs*' (West, 1994: 1) was the basis of ESP

teaching. Otherwise, as Huhta et al (2013) purport, needs analysis enquiries limited themselves to a placement test for the learners which yields in a restrictive perspective on the learners' level per se. Simply relying on casual needs analysis, in Huhta et al's (2013) sense of the term, through informally gathered data from learners and teachers lack evidence of the employees' real or target needs.

Another less time and effort-consuming and indirect method to gather information about needs consisted of asking the training administrators to provide a list of the employer's/employees' expectation from the course. This is often done using traditional needs analyses like interviews (Bernard, 1994, cited in Long, 2005) and surveys (Johnson, 1992, cited in Long, 2005). Besides, questionnaires as stand-alone tools do not ensure any insider account into the specialist domain of target users as Long truly points out,

Questionnaires are valuable for ascertaining the pervasiveness of existing views, in other words, but less so for creating new knowledge about an unfamiliar field, which may be pre-empted by too early a rush to quantification - and learning about a largely unfamiliar field is the typical situation confronting the needs analyst.(Long, 2005: 64)

Accordingly, relying solely on the informants' own interpretation of target language use through questionnaires or interviews consists of '*indirect windows on context*' in Belcher's (2004: 170) sense of the term. Solely relying on their "*guesswork*", ESP practitioners, "*who have never been near the place where the target language is spoken*" (Roe, 1993: 10, cited in Leong, 2001) will run the risk of being peripheral participants in the workplace community with limited access to the practices and the values of the professions they are dealing with. This is why, many ESP specialists and scholars call ESP practitioners to make serious on-roads to real sites where target language is authentically used.

Master (2005: 111, cited in Marra, 2013) states that ESP needs to '*heed the repeated calls to establish its empirical validity*' and to track the working learners in their workplace to collect information of their language in use there. From their part Johns et al. (2015: 117) call for '*more serious research into target situations with more sophisticated tools of which CL is an example*'. Instead of being based on abstract intuitions of English needs, ESP researchers' basing their bottom-up investigation on evidence from the working participants' doings and their authentic workplace practices is a must in current NA. This is shown in the table below:

Informal Needs Analysis	Workplace-embedded Needs Analysis
Based on teacher's intuitions about language needs/ tests/ asking employer about his staff's needs/stand-alone questionnaire	Evidence-based approach to data collection Triangulated Data collected from various sources from the workplace context
Not reliable	More reliable

Table 1.1: Traditional Informal vs. Workplace-embedded Approach to Needs Analysis (Author's Illustration)

As the comparative table of the traditional and innovative needs enquiry illustrates above, Huhta et al (2013) state that modern or new generation needs analysis adopts an *inside perspective* that is necessary for examining the specific purpose and the specific context of English language use in the workplace. Course content and materials developed as a result of the 'intuitions' of applied linguistics in relation to the functions required have to give way to workplace researchers' pedagogical suggestions to course contents as informed by their empirical investigations of authentic use (Long, 2005) . Having emphasised the theoretical principles according to which needs investigations should be more innovative, a look at existing investigations using diverse methods adopted to collect needs data is proposed in the next sub-section in a way to provide a preliminary methodological framework for the study.

1.5.1 Methodologically Diverse NA

More recent needs analyses have moved towards the use of mixed and triangulated methods for a richer needs enquiry (Long, 2005; Huhta et al., 2013). Many researchers have argued for a triangulation of methods in ESP needs analysis research (Huhta, 1999; Huhta et al, 2013; Long, 2005; Cowling, 2007). Different researchers resorted to different strategies to uncover needs.

Sesök (2007, cited in Huhta et al, 2013) used diaries, journals and logs permitted to access the everyday working tasks of the learners, together with the difficulties encountered. Though idiosyncratic, the data derive from an insider's perspective and provide detailed and rich insider knowledge of the professional context. Lockwood's (2012) needs analysis in a call centre involved the use of interviews with business stakeholders, focus group discussions

and listening to authentic calls whereby authentic data (PolyUniversity corpus) were approached using a blend of genre analysis, discourse analysis as well as corpus linguistics. According to her, *“ESP needs analysis should go beyond learner need and text analyses, to ascertain the business need and become familiar with the context of the site in which it is embedded”* (ibid: 17).

Huhta's (1999) mixed methods foreign language needs enquiry took place in an electrical and electronic engineering domain. It deployed different methods including questionnaires, structured interviews and narrative accounts of the professionals' experiences with foreign language workplace communication. The study involved 169 participants including both employees and personnel managers. While the personnel managers gave their perception of the foreign language needs of the company as well as their assessment of the employees' competence in foreign language skills, the employees provided qualitative information about their workplace English needs; reported on the details of communication situations, namely the challenging ones in which they needed to use foreign language skills.

Leong (2001) adopted an ethnographic approach including shadowing, fieldnotes and interviews to provide an insider's perspective of the English communicative needs of sales managers in Malaysia. His study shows that both oral and written modes are used and concludes with the importance of equipping the sales staff with the requisite communication skills needed for better job performance. Similarly, Louhiala-Salminen (2002) together with Johnsson (1997, cited in Cheng and Mok, 2008) and Leong (2001) used the technique of shadowing, for one and two days respectively, to collect information about the business discourses used and the languages deployed.

They used a variety of data collection methods including audio-recordings, fieldnotes and interviews. Louhiala-Salminen's (op. cit) study showed that in professional settings, knowledge of foreign language skills is less essential than knowledge of communication patterns and text types. Under the principle that needs analysis interview must include different types of informants, Vandermeeren (2003) chose to investigate the native speakers' perceptions of how well or how bad their non-native business communication partners' linguistically and culturally adapt to them.

Vandermeeren (op. cit) found out that linguistic adaptation creates a positive effect on the language needs expressed. She concluded with the necessity to sensitise the ESP teachers

to the informative insights that the NS partners can provide in assessing the linguistic behaviour of their NNS communication partners. More elaborate descriptions of triangulated NA is proposed hereafter to provide more theoretical basis for innovative needs enquiry in a way to inform the present study.

1.5.1.1 Huhta et. al's New Generation Needs Analysis

Huhta et. al (2013) adopt a holistic approach to needs analysis for ESP. They term it the '*new generation needs analysis*' as it examines English language and communication needs from different vantage points leading to a thick description. For accurate understanding of the contexts of a given communicative activity within the discourse of a professional community, a thick description involves many factors (macro, meso, and micro-level needs) as the diagram below suggests. As shown in the diagram below at a glance, the macro-level needs refer to the economic reality that inserts pressures on the country to learn English. in turn, the meso-level is more related to the employer's or corporate needs. Finally, the micro-level has to do with the individual learning needs and want of employee-learners.

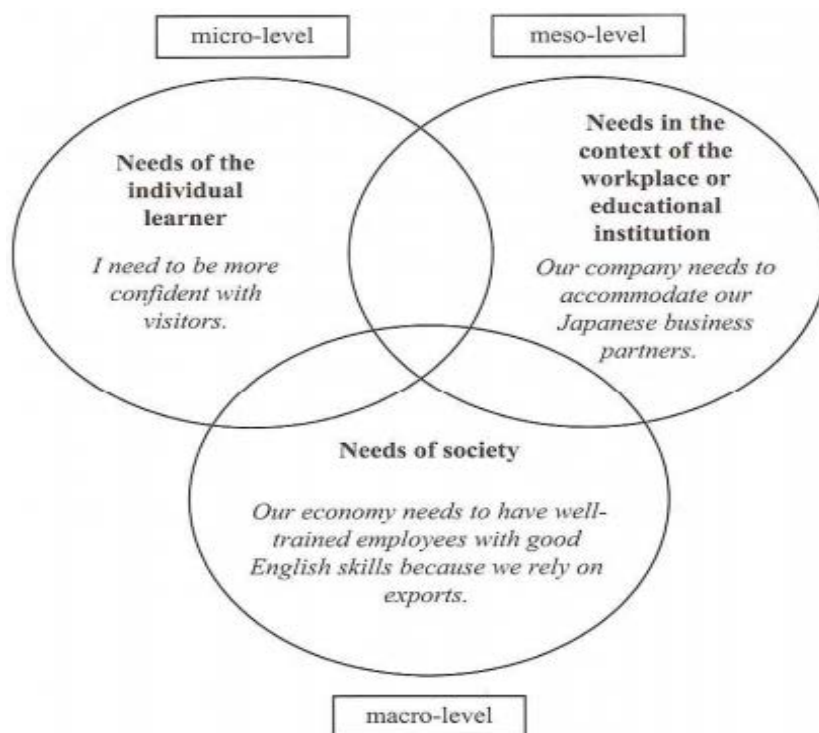


Diagram 1. 8: Needs Perspective in ESP on Three Different Levels Based on Robinson 1991 (Huhta and Johnson, 2013: 13)

New generation needs analysis, as Huhta et al (op. cit.) explain, is innovative in that it embraces the recent developments in ESP and mainstream LSP focusing on discourse, genre, and communicative events. In doing so, this modern communication needs analyses align with studies adopting a discourse analytic approach to English needs in the workplace which makes the field of ESP teaching recognise the situated contextual pressures on English language use (Marra, 2013).

To inform ESP syllabus design and to provide a support for ESP teachers with materials and specialised content, Huhta et al (op. cit.) collected data about English needs from different vantage points and in different professional settings. These included occupational information, contextual information, and narrative accounts for an overall portrayal of the language tasks performed by engineers, namely. Firstly, occupational information provided general background information on the professional field. This consisted of a job description together with the related tasks in the domain. This kind of information derived, as the authors of this project contend, was thought to be particularly useful for novice teachers with no specialised insider knowledge of the domain.

Second, context information particularly provided language material related to the professional domain. It comprised the location of professional communication (office, conference room, seminars, video-conference, etc.); the interlocutors, or companies being involved (clients, equipment suppliers, sales agents, etc.); the most frequent as well as the most demanding communication situations while dealing with experts or clients. These communication situations consisted of business discussions on technical specifications or project design and management; presenting operations facilities, guiding tours around the premises, giving information on the company; or else, unexpected face-to-face interactions like small talk or general conversations.

Finally, in the narrative account called ‘snapshot’, Huhta et al. (2013) used the information collected about the informants through ethnography to describe, in the form of a narrative, a working day of a professional including their routine tasks and activities. In snapshot 1 for instance the researchers (ibid: 73) described a typical day of project manager from the moment he logged on to his computer until he left his office. Her tasks entailing reading her incoming emails in English, to searching for information to prepare for a tender, to being interrupted by a colleague who needed her opinion, to meeting the product, then the manager to sending an email to a client, to returning back home. According to the above

authors, the primary function of the snapshots is to provide the course designer above all with specialist or technical vocabulary relevant to the professional domain being researched.

1.5.1.2 Lung's Blended Needs Analysis

In her investigation of the hoteliers' professional communication needs, Lung (2014) blended traditional needs analysis approaches (interview) with Bhatia's genre analysis of communicative events. Citing Bhatia (2008), Lung (op.cit:) purports that critical genre analysis helps provide a realistic picture of the current needs of the hotel industry workers through a description of '*the language in action and in context*'. This description adds up to the micro aspects of language use. According to her, the micro or individual perspective of need includes the individual's needs and wants, his or her ideology, values and beliefs, and his or her leadership and management style.

According to her, the micro-perspective should be compatible with the macro-institutional perspective in terms of needs and wants, values and ideology, capacities and strategies, and finally, vision and mission. The professional communication framework that is obtained presents a blend of macro-micro aspects of English use in hotel industry that will serve as a basis for developing tests, teaching material and activities as well as evaluation strategies. Hence, they help fill the gap between the present proficiency of the learners and the desired one.

Ultimately, recent investigations into English use and needs are more and more workplace-embedded; employ a variety of data collection tools; adopt a bottom-up qualitative stance; and most importantly focus on the working status of learners as well as their authentic communicative practices and professional discourse. However, what Huhta et al (op.cit) who as fervent adherents to Long's (2005) NA conceptualisations, failed to do is to collect and analyse authentic samples of spoken or written genres that they reported on (emails, presentations, meetings), which could have been used as the basis of authentic materials, one central tenet of ESP pedagogy (Belcher, 2009; Upton, 2012).

In corollary, the activities suggested were all under the form of simulations informed by ethnographic data collection tools (narrative accounts, professional profile, etc.) rather than authentic samples of language-in-use. To pave the way to specific business tasks uncovered,

then to same specific purpose (engineering) needs analyses, the section below first proposes two areas of pedagogical treatment that EOP based needs investigations can inform.

1.6 Scope of EOP Needs Enquiry: Informing EOP vs. EAP

The ESP approach that seeks to address the specific needs of learners requires the ESP practitioners to venture in the specific domain of the learner, be it EAP or EOP contexts. Here, both EAP and EOP derive from ESP, their common point is the ‘*utilitarian purpose*’ behind learning/willing to learn a language, which is either academic or professional *success* as Upton (2012, citing Mackay, 1975: 24) truly puts it. Brown (2016) also reiterates Hyland (2002) question about specificity in ESP, notably as to whether there are ‘*skills and features of language that are transferable across different disciplines and occupations, or should we focus on texts, skills and language forms needed by particular learners?*’ (p. 385).

In spite of the above difference in learners’ aims, Hutchinson and Waters (1987) view a unifying relationship between EAP and EOP in that both prepare learners for the future professional world. According to them “... *in many cases the language learnt for immediate use in a study environment will be used later when the students takes up, or returns to, a job*” (p.16). Following Mohamed et al (2014), tertiary English language preparation should go in line within workplace communication needs of engineering undergraduates. In this regard, Brown (2016) states that even studies based on EOP settings can inform EAP teaching of the same specialty in the same local context. For the interest of the present study this direct-indirect contribution to both EOP-EAP respectively is illustrated in the diagram below.

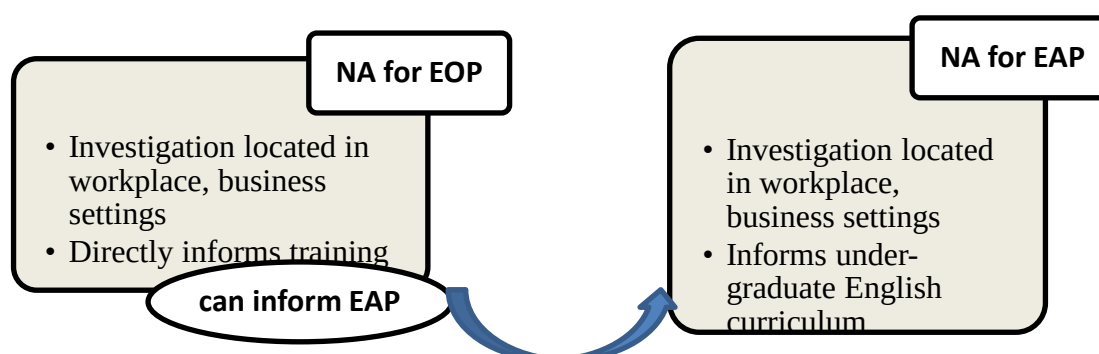


Diagram 1. 9: The Scope of EOP based Needs Analysis (Author’s Conception)

For Johns et al. (2015: 114), pedagogical implementation of NA findings into EAP contexts reflects what they consider as a '*just in case*' teaching approach which targets a wide-angle curriculum. In parallel, in EOP contexts, the pedagogical implications of NA findings as regards ESP training reflects what they term '*just in time*' approach in their catering the immediate needs of working trainees.

1.6.1 Specificities of Workplace/Business Communication Tasks Investigated

Studies aiming at improving the language and communication skills of workers for a better professional performance have been conducted from an ESP research perspective. The primary principle to espouse was to take account of the context in which the language skills under study are deployed. Shaaban (2005) reports the results of a survey conducted in the American university of Lebanon to improve the communication skills of its staff that had to communicate with people from different nationalities. The study revealed the importance of including socialising in English (such as greeting, introducing oneself, asking for and giving clarifications, etc.) to more work-related English (such as executing or giving instructions, describing processes, tools and machinery), to the teaching of cultural values and other basics.

Al Khatib (2005) collected data from Banking and tourism personnel to inform English training. According to his findings, English was either used for immediate communication or job-related tasks. For tourism staff, English was used to fulfil different tasks including receiving telephone calls, and enquiries, processing online hotel bookings, and responding to e-mail messages. Otherwise, some others prospective employees expressed an interest in using the language to better their skills for future usage.

Chew's (2005) investigation on the English language skills of Bank employees shed light on the communication and language practices in four Hong Kong Banks. It revealed through interviews and questionnaires that English was used for written communication whereas spoken communication was conducted in Cantonese. In other words, most written tasks were carried out in English whereas speaking English was reserved only in communication with foreign English-speaking bank professionals during meetings or presentations. In Chew's study the employees were all new entrants with little professional experience, and eventually, a university English level that has not been attained through workplace practice. The study concluded with the recommendation that new employees

should possess a command of both languages in order to ensure success and productivity. However, the findings also informed EAP curriculum in view of preparing undergraduates for their future occupations.

Apart from highlighting the activities of the specific area investigated, like processing online hotel bookings for hosteling (Al Khatib, 2005); describing processes, tools and machinery for engineering (Shaaban, 2005), It is of note, however, that similarities in the needed tasks and skills, like socialising or small talk in Shaaban's (ibid.) studies are intersections that reflect the whole activity of business. Though united by the same NA concern, the specific situation investigated made a difference as regards the findings obtained. In what follows, a look at same purpose investigations will show the communicative requirements of the workplace as well as specificities in terms of tasks fulfilled.

1.6.1.1 Communicative Requirements of Engineering Professional Contexts Worldwide

When they graduate, engineering students are more equipped with technical knowledge and skills than with English language and communication skills (Rajprasit et al, 2014). However, due to globalisation and competition of markets, specialist knowledge is not sufficient for successful integration in the job market. A blend of other non-technical skills is also necessary. In this vein, Dita Gálová better explains the situation when she states that,

Globalisation of the world economy requires professionals and specialists in various areas to communicate effectively in foreign languages. The success is conditional on their ability to manage language and cultural barriers, i.e., on the language skills and competences with respect to their professional areas. Dita Gálová (2007; viii)

From another part, Zaharim et al's (2008) study reveals that communication and interpersonal skills, ICT and computer skills and having a global mind-set, inter alia, are considered as employability skills that recruiters expect in their employees. Male et al's (2009) reports on the competencies of 'established' engineers in Australia. Established engineers according to them are those who have from five to twenty years of work experience. Of interest to the purpose of the present study both ICT and English skills figure among the sixty-four competencies identified while English skills are ranked the sixth.

Vandermeeren (2003) posits that, among the corporate tactics of communicating successfully, communicating in a friendly style contributes sometimes to close the business

deal. However, language knowledge that is required of the business professionals is not limited to a command of technical terms or pronunciation. Large companies grant particular attention to such non-technical skills, and to English communication skills in particular. Due to the international activities that local large companies are involved in, too, having a workforce that abides by worldwide standards in the midst of international competition is pivotal (Milianni, 2007).

Employers are more advantageous when recruiting employees already possessing, in addition to their specialist know-how, a good command of foreign language(s) (Hofstede and Hofstede, 2005). In the opposite case, poor English language skills leading either to misunderstanding or to communication breakdown have negative repercussions on the company. Most often, business deals fail because of language failure. The loss caused by language barriers is weighed in terms of money (Falter, 1991).

Dovey (2006, cited in Anthony, 2011) maintains that ‘new knowledge economy’ grants particular importance to the ability to communicate ideas effectively (through engaging in debates, discussions, negotiations, etc.) which is the only possible way to acquire new knowledge. In this case, they are relegating the specialist knowledge that is acquired at university to a secondary concern from the moment that it is changing or evolving.

In addition to the professional know-how, language and communication skills are deemed necessary for businesses with a competitive status internationally. English is not only needed to share technical knowledge, but also to communicate effectively in various situations in the workplace (Patil and Karekatti, 2012). Companies and employers today require a qualified staff with the necessary language and communication skills that are needed to represent the company/organisation at the international level, thus, communicate effectively. The next sub-section reviews previous studies that highlight the needs of the specific group of engineering professionals.

1.6.1.2 Specificities of Engineer’s Needed Communicative Tasks in International Business setting

Needs analyses of workplace communication have been conducted for the sake of understanding the intricacies of English language use to better equip employees with the necessary skills needed in the industry. Rajprasit *et. al*’s (2014) study of how pre-experience

engineers use English points to the tasks that involve reading skills (articles, manuals, and annual reports). It also points to the lack of confidence that these novice engineers show when it comes to speaking English. Difficulties in oral English were in the inability to interact or produce simple sentences immediately.

The pedagogical implications of Rajprasit *et. al.*'s (op.cit.) investigation suggests that the ESP trainers take benefit from the trainees' feedback and perceptions of their use of English in the workplace to be able to come into grips with the latter's language anxiety accompanying their English use. However, their implications extend to EAP specifically for '*redesigning ESP courses for computer engineering undergraduates*' (p. 110). Similar findings about insufficient English skills have been reported in Patil *et. al.*'s (2012) study examining international professional communication involving engineers. Holliday's (1995) NA took place in an oil company in the Middle East. The target group was the local staff whose language needs were analysed in view of developing a training course. Other pedagogical recommendations also concerned teachers' training.

Spence and Liu's (2013) study based on the high-tech (semi-conductor manufacturing) company in Taiwan investigated the target business tasks performed by process integration engineers. It revealed that reading and writing are the major skills used among employees when dealing with emails and reports. To a lesser extent, speaking skills are required for meetings and presentations, with a particular demand for speaking skills for foreign client visitors. Building on the findings, their study calls the ESP instructors for the importance of including authentic materials such as e-mails or presentations in ESP training.

Cowling's (2007) NA in a leading Japanese company combined both the outsider and insider perspective. Whereas the former consisted of ESP teachers' accounts about the language ability of the target group, the latter consisted of questioning employees with former training experience about their target language use the company. He found out that the need for small talk is important work situations when interacting with foreign guests. He also reported that the employees' found that what they learned in the business class was devoid of authentic materials and therefore did not reflect the real life language use in meetings.

In relation to the local context, a few ESP researchers made serious inroads to the engineering business settings apart from Khaldi (1995). In view of suggesting pedagogical recommendations for a better use of English in a renowned Algerian energy company, Khaldi

(ibid.), examined the English language needs from the teacher's, managerial training staff's and working trainees' (or learners') perspectives. His study focussing in majority on the assessment of the teaching and learning situation, put little emphasis on the occupational perspective (i.e. target situation language use) - entailing a detailed examination of the real-life communication events from the workplace itself. However, his findings are noteworthy. They point, among other things, to the discrepancy between the real world needs of English at work and what the English course offers. Such discrepancy originates, according to his findings, from the intuitive design of the course, its content and materials, that fails to consider the trainee's professional realities.

What is to be retained from the above review of needs enquiries into the engineering setting is that both practising engineers and engineering students can benefit from the insights gained from the target use of English in the workplace. Below, is a review of EOP-based NA with pedagogical implications for EAP.

1.6.1.3 Engineering Workplace EOP-Embedded NA for EAP

In view of informing syllabus design in favour of industry-ready engineering students, Kassim and Ali (2010) researched the Malaysian engineering workplace⁽¹⁰⁾ to find out about the communicative events and tasks that the working engineers already undertake in high frequency. They used multiple sources and methods, including existing literature, e-mail feedback from informal discussions with engineers and human resource managers, and interviews with engineering lecturers. Kassim et al's (ibid.) findings call for more attention to be drawn to oral skills. Additionally, they highlight the fact that engineers are often involved in networking for information and expertise exchange. Based on their needs analysis, they proposed a task-based syllabus through which engineering graduates could prepare themselves for the workplace by simulating some tasks (such as teleconferencing) that replicate the real-world workplace tasks.

Bhattacharyya, Nordin and Saleh (2009) investigated the English communication needs of final year engineering students who experienced internships (equalling eight months) in industrial settings, suggest that the course content should reflect authentic work situations. To them, students *"have no concrete examples of workplace writing practices to emulate from companies"* (Norback and Hardin 2005: 413, cited in Bhattacharyya et al, ibid: 3). They found out that email reading and writing as well as reading technical documentation

represented the most frequently practised business tasks. From another part, meetings and technical discussions were the most important forms of oral target tasks. Their study also revealed the engineering students' valued the role of oral skills as being crucial for job success and career promotion.

Kaewpet (2009) evaluated the ESP syllabus with reference to the English target needs in Thai engineering workplace contexts. The communicative events he identified were obtained through a survey of the main ESP literature on engineering English, as well as interviews with employers, engineers, engineering lecturers, former engineering students, and ESP teachers. His findings revealed that the communicative events that the engineers needed entailed a combination of the four skills, starting first with the need to read manuals, write reports, deliver and listen to presentations, give and receive instructions and communicate with external business partners either via e-mail, telephone or face to face discussion.

Rus (2013: 643) puts forth that engineering students' immediate communicative needs consist of making their oral communication skills into practice prior to entering the professional world. Among these academic needs, oral responses during seminars, participations in students' conferences, oral presentation of reports, of practical activities, oral exams and colloquia, final defenses of their graduation papers and later on showing oral proficiency in job interviews. However, she posits that the skills of practising engineers should be theoretically addressed as early as in the university curricula. She goes further to suggest some activities that stress out the merge between technical and general communication skills in professional engineering communication. From the above studies, it is clear that the investigations of authentic work situations in EOP contexts are meant to inform EAP curricula to bridge the gap between academy and the workplace for the sake of preparing undergraduates for the professional world.

The engineering-workplace-embedded needs investigations reviewed so far yielded in interesting results about the skills mix that the practising engineer needs to perform his or her daily business tasks, and even over career advancement. In this vein, it is worth noting that the target tasks identified in the researched engineering communities show some similarities, notably that reading and writing tasks as being customary tasks relevant to the specific engineering field. They nevertheless highlighted the importance of written and oral tasks as key to business communication performance, which belonged to common core business activity that other non-engineering based studies equally highlighted. All the same, the slight

differences in the specificities of target language use that the above studies reported perhaps lie in the specific engineering situations targeted as well as the different methods and sources chosen.

For instance, Spence and Liu (2013) chose the online survey-cum-interview method, in the high-tech sector, with process integration engineers as the main source. From another pole, whereas Kassim and Ali (2010) solely relied on questionnaires emailed to employers. Battacharyya et al (2009) derived their data from engineering students with momentary immersion into the professional world. Cowling (2007) chose to include the perspective of company-based teachers. Depending on what every investigation focused on, the results and their pedagogical implications differed. Of the few ESP studies into the local workplace contexts, most have been confined to evaluating the teaching situation, including the teachers' and learners' perceptions (see for e.g., Khaldi, 1995).

Other ESP researchers have chosen to stay closer to their academic context (see for e.g., Azeroual, 2013; Benabdellah, 2015). Worse, sketching the Algerian context, Halfaoui Ghomari's (2015) recently noticed that university ESP courses still do not take into consideration the economic realities of the workplace. Instead, they derive from '*individual visions about what would be considered as the workplace linguistic/communicative needs*' (Halfaoui Ghomari, *ibid*: 757). Even the materials consist of available economic texts describing the related areas of specialisation. In her turn, Mebitil (2014) preferred to look at the ESP teaching situation at the university level, observing that ESP teacher who are not yet - theoretically and methodologically- well qualified to replicate the business realities in Algeria need to be re-trained via an in-service programme.

In a nutshell, the above review of workplace-based studies in engineering context worldwide has a direct bearing on the present study. As regards the local context, while a few studies have entailed researchers' onsite visits to authentic Algerian industry settings, the present empirical study therefore attempts to derive more feedback about target language needs and use from authentic Algerian business settings. At the same time, it aspires to gain sufficient insider knowledge of the scrutinised corporate context and help remove some of the "*guesswork*" that is, seemingly and especially, common practice among the Algerian ESP practitioners, "*who have never been near the place where the target language is spoken*" (Roe, 1993: 10, cited in Leong, 2001). The empirical, evidence-based tendency of innovative ESP (NA) research is stressed out in the sub-section below.

1.6.2 Empirical Methods in Needs Enquiries for ESP

As stated earlier, the evolution of ESP research has witnessed a shift from investigating language use under the aspect of de-contextualised grammar and language structure of the early beginnings of ESP 1970's to more contextualised and triangulated investigations of language use in which diverse research tools like corpus linguistics and still-in-vogue, 25 years old, genre analysis are used. While some researchers used empirical data analysis methods as another phase of NA through which direct contributions to course content and materials development are proposed, some others chose to study the specialised discourse using these direct methods, then identify pedagogical relevance accordingly. Reference will be made to both types within the coming sub-sections that elaborate on these empirical approaches. Before, a look at the roles of ESP that justify such drive towards empiricism is deemed necessary.

1.6.2.1 The ESP Practitioner as an EOP Researcher

Unlike EAP contexts with which they are familiar⁽¹¹⁾, ESP teachers do not have enough, if not, any insider knowledge of EOP as they do not have any direct experience with the professional context of working learners. In this vein, Belcher (2004) notices that there is a need to fill in the research gap into the nature of expertise in the professional world and the workplace. This is why, scholars (Long, 2005; Starfield, 2016) call ESP practitioners to disinter themselves from their academic contexts and to investigate the workplace using a multi-methods needs analysis (Starfield, 2016). According to Swales (1985: 221, cited in Starfield, 2016: 159), *“ESP is required to operate within the multifarious universe of discourse denized by other occupations, disciplines and professions”*. By entering the world of professions and *‘understanding their meaning-making practices’*, ESP researchers will likewise *‘assist newcomers to successfully participate in these discursive practices’* (Starfield, ibid: 159).

For Hyland (2007), ESP is ‘research-based’ language pedagogy for learners with identifiable professional as well as academic needs. According to him, the *‘imperative of need’* requires understanding of *‘... target contexts, [and] discourses ... [among others]’* which means that *‘strong research’* must be done *‘prior to any ESP activity’* (p. 381). In EAP settings for example, Hyland (ibid.) views that teachers should respond to the imperative of specificity, by *‘conduct[ing] their own target situation analyses and their own research in*

their own local contexts' instead of being the consumers of ready-made materials and research findings. This gives teachers the role of *researchers of the genres and communicative practices of the target situation* (p. 386) with the aim to derive ESP materials and tasks accordingly. Bhatia (1994) draws the ESP practitioner's attention to the importance of doing onsite visits to authentic workplace environments to be able to derive authentic input from such empirical research. He observes,

...it is not enough for ESP professionals to look at language trying to bridge the gap between language and the professions; they need to make significant inroads in the world of professions, especially in the form of relevant ESP research output" (Bhatia, 1994: 19).

Likewise, this research output will take the form of an authentic outline of the skills and abilities that the learners need to attain, the tasks that they are supposed to encounter, the target situations they will be involved in. Equally, Brown (2016) argues that *evidence-based needs analysis* provides a solid foundation for a '*defensible syllabus*' including need-tailored instructional materials and activities that satisfy the target and learning requirements of the students.

Concerning NA meant for EOP training, Edwards (2000), with his teaching experience in dozens of companies involved in international communication, mentions that, for effective training to take place, only an investigation onsite is likely to reveal insight into the workers' effective needs, the real skills practised, the terminology used, and even, the materials to prepare. Similarly, Reimer (2002) views that ESP has to focus the learner's attention on the particular terminology and communication skills required in the international professional field.

Belcher (2004, citing Bhatia 2002), encourages more investigations into the professional areas that have been studied in depth to know more about the nature of their expertise. In Belcher's (ibid: 177) terms, further EOP-based investigations have to reveal '*what makes someone communicatively competent doctor, lawyer, engineer, or businessperson*'. According to her (ibid.), only via such '*research-based definitions of expertise*' could ESP practitioners propose strong arguments for TL use instead of outsider interpretation. In this vein, Anthony (2011: 1) states that there are different '*skills that ESP practitioners themselves [need to] apply when attempting to understand the target language*' (Anthony, ibid: 1). In this line of thought, research skills entailing the deployment of more

than one method will be detailed below after stopping at an equally important role of the ESP practitioner that justifies, here again, the practitioners' need to be a skillful researcher.

Clearly, the ESP practitioner-as-researcher role entails more than one responsibility. This is why, Johns et al. (2015), with thirty years of experience in ESP research and curriculum development puts forth that ESP practitioners '*must be very good learners*' in addition to being '*open, flexible and sensitive to context*' (p. 118). Whereas Johns et al (ibid.) suggest that ESP practitioners should learn about the specific context and purpose for which the target language is used, Anthony (op. cit: 1) states that there are different '*skills that ESP practitioners themselves [need to] apply when attempting to understand the target language*' (Anthony, 2011: 1).

More explicitly, Frendo (2012), in tune with Belcher's (2004: 177) '*multiliteracies approach*', purports that ESP researcher-practitioners should learn how to use the different research tools such as discourse (genre, conversation analysis); corpus linguistics. For Frendo (ibid.), needs analysis skill involves expertise in all of the above research tools. This justifies the reason for which ESP practitioners take a considerable time and effort in developing these skills. However, for Belcher (2004) the ESP teacher's role is to make the '*multiliteracies approach*' operational in the class by extending the above-mentioned skills to the ESP learners⁽¹²⁾

1.6.2.2 The ESP Practitioner as Materials Writer

The early role granted to the ESP practitioner is that of Material writer. As mentioned earlier, this principle is based on the ESP tendency to avoid ready-made materials that do not forcibly reflect the target situation of the students or working trainees. It has been set forth as early as 1960's when Halliday, McIntosh and Strevens (1964) precised that the teacher should choose appropriate and '*specialised teaching materials that help teach the structures and vocabulary.*' (pp. 189-190). However, the conception of materials has changed according to Upton (2012) and Johns (2013). The way in which specialised language was presented will be sketched later.

With the advent of communicative language teaching and learner needs, the drive toward 'authentic' materials that better reflect language in use and its specific context granted ESP instruction the tendency to be material driven (Belcher, 2004). Hence, the role of the ESP

teacher as a materials writer has been confirmed. This role mainly amplified due to the shortage of ready-made textbooks that reflect the use of English in different specialties (Strevens, 1977, cited in Upton, 2012). Four decades later, Upton (2012) observes that this role still takes effect when he quotes Bocanegra-Valle's (2010: 157, cited in Upton, 2012: 19) observation that, "*ESP practitioners are more often faced with the task and responsibility of developing learning materials*".

In a similar vein, Belcher (2004) reiterates how pedagogy and research intertwine, showing therefore, how the practitioner's roles of researcher and materials' developer are equally interwoven. She purports,

Unlike other pedagogical approaches, which may be less specific-needs-based and more theory-driven, ESP pedagogy places heavy demands on its practitioners to collect empirical needs assessment data, to "create or adapt materials" to meet the specific needs identified, and to cope with often unfamiliar subject matter and even language use (Belcher, 2004: 166, emphasis added)

Throughout this chapter a review of the main ESP investigations will constantly make reference to materials development as one of the main pedagogical aims of ESP-based enquiries.

1.7 Empirical ESP Research Tools for Target Situation Linguistic analysis

ESP research describes how English is used in real-life business or academic discourse with a pedagogical focus (to draw implications for teaching based on the actual use and real-world professional realities). The main methodologies of ESP research are the use of linguistic analysis (i.e., corpus analysis, genre analysis), and needs analysis. While some ESP specialists focused on the analysis of business or professional language using genre or corpus approaches, others employed the latter as complementary empirical Needs analysis tools.

1.7.1 From Register Analysis to Multi-Dimensional Genre Analysis

One of the key features of ESP is the analysis of target language use in specialised settings for pedagogical application, by considering texts as the objects of study. Only, the early linguistic analyses of the 1960's that were under the banner of 'register analysis' focused on language structures and specialist vocabulary in isolation, without taking account of the context (Halliday, McIntosh and Strevens, 1964, cited in Upton, 2012). The related ESP course and textbook introduced learners to language features and reading passages whose use

was limited to the sentence level, hence, devoid of any communicative purpose (i.e., information about how or for which purpose the word is used in that target specialist domain).

By the 1970's, the shift of focus towards the importance of communication paved the way to discourse analysis as a primary tool for ESP to study language, or specialist texts, above the sentence level. While discourse analysis examines the key structures and patterns of texts that define their communicative purposes, in turn, ESP materials developed out of discourse analysis help students understand how language structures are deployed to fulfill different communicative or rhetorical purposes (Upton, 2012; Hyland, 2007). In the 1980's genre analysis emerged as a type of discourse analysis that focuses on language functions and key structures and patterns that distinguish specific text types or 'genres' from others. In the same way, it is of note that genre analysis does not assume absolute separateness from register analysis, too. While drawing on discourse analysis while highlighting the organisation of particular texts, it also draws on register analysis to stop at the key language forms. This interrelationship is illustrated in the diagram below at a glance.

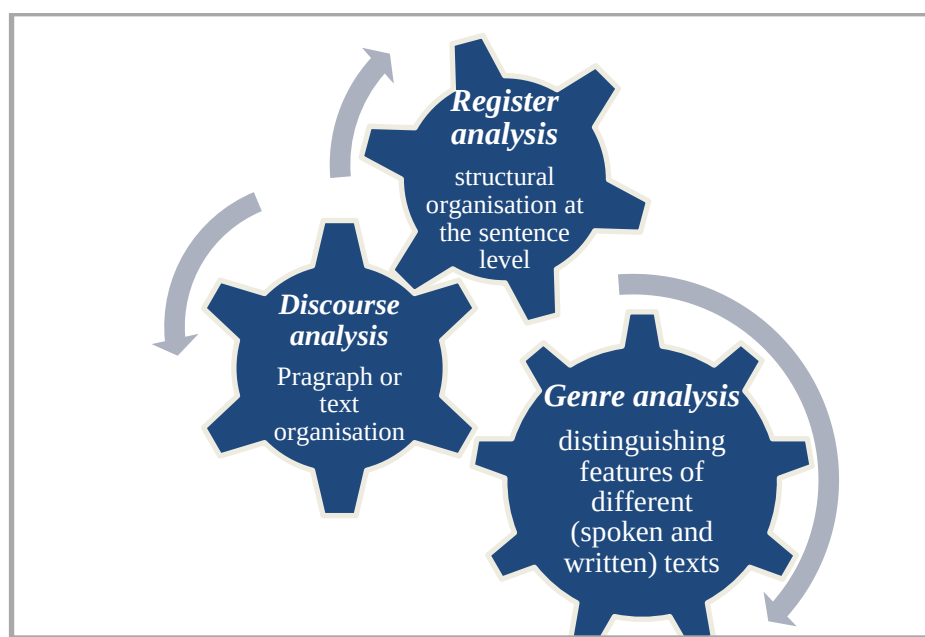


Diagram 1. 10: Genre-Discourse-Register Analyses Interrelationship (Author's Conception)

The review of the relevant genre-related ESP investigations proposed below will show how the investigations into specific genres activate the study of both text organisations (discourse analysis) as well as lexico-grammatical features (register analysis) of specific texts.

1.7.2 Genre Analysis as a Top-down ESP Research Tool

While not all Genre analysts are essentially ESP specialists (Belcher, 2004), nor are all ESP genre analyses necessarily pedagogically motivated (Williams, 2014), the present sub-section focalises on genre analysis as one of the tools used in needs analysis because it is useful for ‘*understanding community situated language use and describing specific target text*’ (Hyland, 2007: 380) required by learners. By the same token, ESP also employs genre analysis in the discovery of its target text-types and the creation of genre-based materials (Belcher, *ibid.*).

Swales (1990) understands genres⁽¹⁴⁾ as ‘*communicative events*’ with ‘*communicative purposes*’ which are ‘*recognized by expert member*’ and demarcated by ‘*the structure of the discourse*’, and ‘*the choice of content and style*’ (p.58). The focus of genre analysis is on the way in which writer’s communicative purpose define the grammatical forms used (Dudley-Evans and St. John, 1998). Here, communicative purpose, form and content⁽¹³⁾ represent key elements of the genre. However, it has been proved that members of community may creatively alter genres to serve their purposes. Still with pedagogical applications in mind, Swales’ (1990) genre analysis method consists of how genres are organised, at the macro-level, in terms of ‘*rhetorical moves*’ that reflect how the communicative purpose of each one changes.

Initially, the first genre analysis model focused on research articles introductions making EAP contexts a favourable context of study (Swales, *op. cit.*). Additionally, shedding light on the ‘*genres that “work” in occupational settings*’ (Belcher, 2004: 170; original emphasis) turned to be equally valuable. The aim was to reflect how recurrent organisational genres reflect corporate communicative practices. Naturally, the identified *moves* were proposed to be taught to learners of that genre. The *micro-level* of genres involving the *lexical* and *syntactic* analysis is also another kind of genre analysis.

1.7.3 Context-Sensitive Genre Analysis

The predictable nature of genres through a series of moves was open to debate especially with the analysis of spoken genres or cyber genres. In corollary, current conception of genres nowadays is that they are “*more contextual than simply textual, dynamic than static, varied than monolithic, and interesting in its shaping of and being shaped by people*” (Belcher, 2006: 142) instead of considering them as rigid, rule-governed events. In recent

definitions of genre analysis, sensitivity to context figures as a key element impact the communicative purpose and subsequent language features, Hyland offers the following definition,

Genre analysis has thus become the principal form of discourse analysis in ESP, providing a very focused methodology and enabling researchers to identify the structural and rhetorical features that distinguish the texts most relevant to particular communities and contexts. (Hyland, 2007: 384).

Beyond textual analyses, genre analyses also take into account the attitudes and group values of the researched community of text users as a contextual feature. Sensitivity to context⁽¹⁵⁾ in ESP language analysis means that texts are no more analysed in terms of isolated sentences or chunks, but broadly examined. This broad examination includes the social context that considers the authors or speakers (their professional status and expert knowledge) in addition to taking into account the audience as well as the communication strategies used to engage or define the audience (Upton, 2012).

ESP research uses the supplementary insight into target contexts to better identify how the discursive practices are produced and distributed thanks to ethnography. Among the ESP researchers who used ethnography, Flowerdew (2008) supplemented his corpus analysis with ethnographic insight to investigate from an insider perspective of why professionals of the genre under analysis write in the way he identified. Hyland (2007) points out that one of the strengths of ESP is its research-based language pedagogy which takes the context of language use into consideration. Ethnography as a needs analysis tool allows for a comprehensive contextual explanation of communicative behaviour that derives from the values and attitudes of insiders themselves.

Context-sensitive genre analysis is also related to the concept of *intertextuality* or *interdiscursivity* (Belcher, 2009: 4) that describes how texts relate to other texts or events. In the case of the present professional settings, emails content often include a reference to other written genres like technical documentation or events like meetings or telephone conversations, all of which reflect the practices of the professional community in question. From another pole, another kind of intertextuality reflects how email incorporates features of other types of discourse (like conversations and business letter) (see for e.g., Nickerson, 2000).

1.7.3.1 Genre-Based Pedagogy

Genre based ESP pedagogy makes learners familiar with professional genres. Belcher's (2006: 137) considering the ESP teachers as '*methodologically free thinkers*' projects how they can use different methods to bring the real professional world to the language classroom. A case in point is the use of corpus-enhanced genre-based pedagogy. They have also become teaching methods in ESP to exploit authentic texts and materials in view of increasing students' awareness as to their purpose and linguistic features. In this line of thought, ESP scholars posit that,

If we are to teach the writing of certain very specific texts such as ... the business or technical report, we need a system analysis that shows how each type of text differs from other types. (Dudley-Evans, 1987: 53)

Currently, not only written genres, but also spoken professional or business genres represent the object of study and teaching practice⁽¹⁶⁾. In a more general way, the aim of genre-based pedagogy is to provide students a direct access into genres, to increase their knowledge of the communicative practices of the target community.

1.7.3.2 Genre-based Corpus Analyses

Since its inception in 1981, genre analysis is still in vogue in ESP research. Tardy (2011, cited in Johns, 2013), one the current ESP researchers into genre, calls for the importance of complementing genre analysis with other approaches so as to highlight the genre's "dynamic, situated and inter-textual nature". Corpus tools came recently to enrich genre analyses by enabling the compilation of text corpora of genres that are representative of a specific field (i.e., specialised corpora). According to (Sinclair, 2004), corpus linguistics is:

...a collection of pieces of language text in electronic form, selected according to external criteria to represent, as far as possible, a language or language variety as a source of data for linguistic research (Sinclair, 2004: 19)

Corpus-based descriptions expand the ESP practitioners' knowledge of genre by providing insight into lexico-grammatical structures of the most common words which grants CL a register perspective (Belcher, 2009; Tribble, 2010). The frequency counts and collocational analyses derived from concordancing programmes allow for quantitative analyses and pointed linguistic descriptions. These corpus-based descriptions are often used to complement move analysis to yield in insight into the internal text structure of specific genres

(Biber, 2010). Examples of such triangulated approach to genre, Handford and Matous (2011) of engineering talk, Handford (2010) on meeting genre; business letter (Flowerdew and Dudley-Evans 2002, cited in Tribble, 2010).

1.7.4 Corpus Analysis as a Bottom-up ESP Research Tool

Whereas corpus linguistics (CL) is adopted to research the specific structural features of specialised texts *per se* with no pedagogic applications, the pedagogic involvement of CL-based investigations appears in Johns (2013) reports on the editors' observation on the latest increasing number of submitted articles that use CL to approach lexical chunks. According to Johns et al. (2015), '*Corpus linguistics has revolutionized ESP in many ways. Finally, we can really be authentic at the level of language.*' Here, they emphasise the pedagogical contribution of CL investigations, notably in informing curriculum content, by confirming that '*[t]here are many ways to approach CL, all of which could be valid for an ESP curriculum*' (p. 117). In the following sub-sections a sketch of the features specialised corpora and their added benefit to ESP research and pedagogy will be proposed together with related research in this area.

1.7.4.1 Features of Small Specialised Corpora

Whereas general corpora (like the British National Corpus, BNC; COBUILD bank of English, BoE; Corpus of Contemporary American English, COCA) are larger, containing millions to hundreds of million words, they are accessible online whereby it is possible to create concordances and derive collocations from chosen words. However, specialised corpora, which consist of compilations of texts from specific fields of expertise, are often home-made; smaller in size; and generally compiled by individual researchers who collect them for their own research purposes. In this case, they are not made available for online access (at <http://quod.lib.umich.edu/m/micase/>). One exception is the Michigan Corpus of Academic Spoken English (MICASE), where it is possible to derive materials for EAP learners.

In the same vein, contextual information served in the interpretation of the data of both Handford's (2010) Cambridge and Nottingham British English Corpus (CANBEC) and Koester's (2006, cited in Koester, 2010a) Corpus of American and British Office Talk (ABOT) corpora. They were able to establish the link between the high frequency of the

modals (*have to*, *need to* and *should*) and the type of workplace genre. Whereas '*have to*' was found out to frequently occur in unidirectional genres (involving one most powerful speaker giving instructions), '*should*' appeared more frequently in collaborative genres. Similarly, collocational patterns of modals and pronoun combinations indicate that the pronoun '*you*' was a collocate of the semi-modal '*have to*' whereas '*we*' tended to co-occur with '*should*' to respectively denote unidirectional and collaborative genres.

1.7.4.2 Small Specialised Corpora vs. ESP Research

Small specialised corpora together with their contextual information are particularly useful for ESP to inform pedagogy (Flowerdew, 2004). According to Tribble (2002), whereas larger corpora offer '*either too much data across too large a spectrum, or too little focused data, to be directly helpful to learners with specific learning purposes*' (p. 132), more specialised corpora better serve the pedagogical purpose of ESP in yielding insight into the specific purpose of language use.

Specialised corpora are compiled to '*provide insight into the particular genres investigated such as the very specific types of scientific ...or academic writing*' (p.68). They will not predict the language features of other genres, nor will they serve for teaching general purpose English or EGP learners. In case they are collected from one organisation, they will be representative of the genre produced in that particular organisation *per se* (Koester, 2010a). For Koester (2010a), specialised corpora do not need to be large in size to provide valid results, as they represent a particular genre. Even with relatively small amounts of data, '*specialized lexis and structures are likely to occur with more regular patterning and distribution*' than in a large, general corpus (O'Keeffe et al. 2007: 198, cited in Koester, *ibid*: 69).

Apart from informing ESP course design, another equally important advantage of needs analysis is its authentic materials generation ability. In other words, authentic data gathered in the process can also be the basis of authentic, target-needs-responsive materials and instructional tasks (Belcher, 2009: 7). Hereafter is the evolution of Materials development in ESP practice. Then a look at the data collection tools used to generate authentic teaching materials will be proposed.

1.7.4.3 Pedagogical Applications of ESP Research into Small Specialised Corpora

Even though representing small corpora, collections of specialised texts produced by researchers are said to directly or indirectly inform language teaching practice (Römer, 2010) and ESP in particular (Koester, 2010a). This is suggested in the diagram underneath..

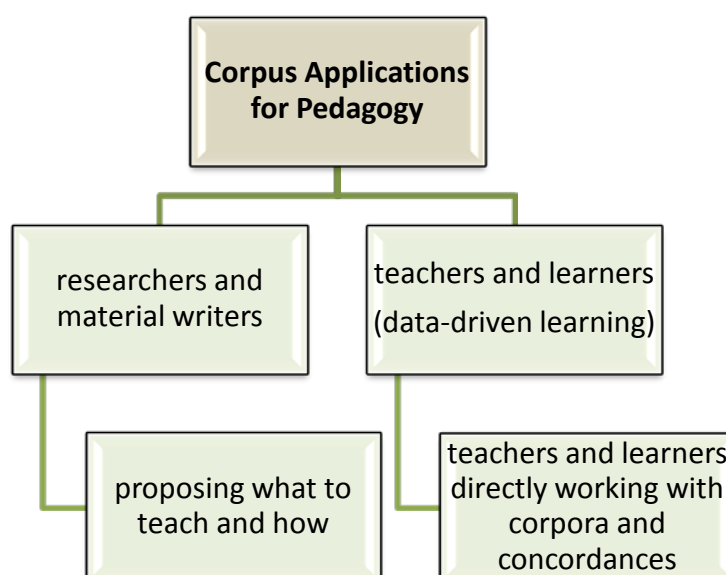


**Diagram 1. 11: Specialised Corpus Applications for Language Pedagogy
(Adapted from Römer, 2010: 19)**

One contribution of corpus findings to materials development in particular, is to bring corpus-informed adjustments in the instructional materials or textbooks in view of proposing data-driven, authentic rather than imagined examples of language structures used in context focusing on highly frequent patterns. Form another part, direct pedagogical application actively engages the teachers to work with corpora and concordances in their language teaching process; and why not, enable learners to use corpus tools themselves so as familiarise with concordances themselves.

Following Römer (2010), corpus applications for ESP involves the researcher's indicating how corpus analysis findings can contribute to pedagogy; hence, proposing which features are teachable. For example, Hyland (2005, in Römer, *ibid.*) compared the disciplinary language of both hard and soft (human and social sciences) disciplines. In doing so, she combined this bottom up method with interviews conducted with specialist informants.

MICASE instructional materials directly derived from the specialised corpus MICASE highlights some communicative functions (like hedging or complaining) that are said to help students familiarise with discourse practices and structures of academic speech (Römer, *ibid.*). Apart from investigations of academic settings, corpus investigations of professional discourse is also what Koester (2010b) undertook with ESP pedagogical objectives in mind.

Otherwise, teachers also have the possibility to create data-driven learning (DDL) tasks themselves thanks to the textbooks and websites that offer such ready-made DDL exercises. For ESP teachers who are not necessarily expert in the specialised target discourse⁽¹⁷⁾ of their learners, a key word analysis based on a specialised corpus is useful in making ‘*informed selections*’ of the appropriate language contents to be introduced to learners according to their current or future needs (Römer, 2010). A simple key word analysis of a specialised discourse can help ESP teachers ‘*focus their efforts in terms of selection of language contents*’ (Perez-Paredes 2003: 1, in Römer, 2010: 26). Flowerdew (1993) elucidated how accessing a corpus of biology readings and lectures helped teachers make appropriate text selection for their course.

Among the merits of corpus pedagogical applications for the learner are that ‘*[c]orpora will clarify, give priorities, reduce exceptions and liberate the creative spirit*’ (Sinclair 1997: 38, cited in Römer, 2010: 26); and specialised corpora are no exception. According to Bernardini (2002: 165; cited in Römer, 2010: 26), working with concordance materials fosters ‘*corpus-aided discovery learning*’ through which students learn about language usage in an inductive manner. Some direct effects of such a DDL environment are learner motivation, language awareness raising and autonomous learning, *inter alia* (*ibid.*).

Researchers addressed the question of giving students a direct access to concordances ‘*without getting lost*’ (Gavioli 2001: 109). For instance Gavioli (*ibid.*) emphasised the teacher’s role to simplify and adapt the concordance samples to enable learners gain access to recurrent features. Proceeding likewise with students of economics, Gavioli (2006) offers models of DDL activities in which the collocations of important keywords in the discourse of marketing (like the word ‘market’) are uncovered to familiarise students with the technical vocabulary of their discipline. From another part, Römer (2010) argues in favour of equally focusing on highly frequent general vocabulary (like cost, price, etc.) that appears besides specific lexis, showing specific meaning in specialised contexts.

Mudraya (2006) used a data-driven lexical approach (i.e., she integrated the lexical approach with corpus based teaching methodology) to teach Engineering English. Her compiling the Student Engineering English Corpus (SEEC) was mainly based on engineering textbooks (Moudraya, 2003; cited in Mudraya, 2006). According to her, the aims of compiling the SEEC corpus were,

(a) to establish a representative corpus of Student Engineering lexis; (b) to provide teachers and learners with a word list that could serve as the lexical syllabus foundation of English for Engineering; and (c) to explore the syntactical, morphological, lexical, and discursive features of Engineering English (Moudraia, 2004: 142, cited in Murdaia, 2006: 238).

Mudraya's (op.cit.) investigation highlights the importance of acquiring sub-technical vocabulary besides technical one in the ESP classroom. She illustrated her concern with a sample of data-driven instructional activities that enhance technical non-technical English use through collocations. For the interest of the present study, she stated another merit of using corpus linguistics methodology besides enriching the learners' language experience, namely that of familiarising the researcher with them, too.

Similarly, Qi-Bo (1989, cited in Mudraia, 2006: 238) collected a 400,000-token Guangzhou Petroleum English Corpus (GPEC) to know more about the features of Petroleum English; to sort out with vocabulary lists for learners and teachers and to possess some empirical working knowledge in processing a corpus on a computer. To prepare undergraduate engineering students to the technical terms they will encounter while reading engineering texts, Ward (2007) performed a data run of the most frequent collocations in 100 pages of their engineering textbooks.

Of the data-driven learning tasks that Ward (2007) proposed involved the first step of raising students to the existence of highly frequent discipline-specific collocations, notably by asking them to pick out all the collocates of a technical term. The other step consisted of getting them to read collocations as chunks. This involved tasks helping them to identify the constituents of the collocation (noun, adjective); to understand their meanings; and end up by eventually producing some. Based on the same textbook corpus, Ward (2009, cited in Paltridge and Starfield, 2013) also produced a list of basic terms for non-proficient engineering undergraduates.

While giving students direct access to corpus data is beneficial, an equally beneficial way of empowering them is to train them how to manipulate the corpus tools. In this vein, it is

posited that ESP learners' manipulation of corpus tools themselves makes them take part in NA (Lee and Swales, 2006, cited in Belcher, 2009). Likewise, they can identify their own target needs from the data without the help of the teacher. By making the difference between their communicative actual performance and the target community ones -discovered from the corpus- they similarly participate in the ongoing needs analysis process.

This sub-section has shown how ESP specialists included both top-down and bottom-up insights from genre analysis and corpus linguistics respectively, in combination or in exclusivity, to empirically highlight the macro- and micro-linguistic peculiarities of specific language use in professional or academic discourse. It has shown how the progress in technology, that CL exemplified, marked the shift of ESP research from practitioner's intuitions about the specific features of specialist discourse to authentic data-derived output.

Put simply, such insights from genre-based as well as corpus linguistics analyses have informed ESP pedagogical practice, notably in the creation of data-driven learning tasks as well as authentic instructional materials. As mentioned above, it should be noted that the analysis of genre or Corpus analysis most often constituted the sole research methodology of the above investigations into the language specificities of the target discourse. However, the aim of the present study is to *index* the above empirical tool into the overall multifaceted needs investigation. The final section will provide a state-of-the-art overview into both spoken and written professional genre existing studies.

1.8 Target Situation Analysis into Spoken and Written Professional Genres

The interest of ESP specialists in professional environments is borne out from the bulk of research describing workplace discourse that sociolinguistic researchers undertook in such settings (Marra, 2013). The findings of workplace studies uncovering how language is used for professional purposes are of particular relevance ESP whose focus is on skills development and language learning. This is why, St John (1996: 15) notes that “[t]here is a definite need to understand more of the generic features of different events, such as meetings, to identify common features for effective communications” namely in “the way in which language and business strategies interact”. From an ESP perspective, the frequently occurring types of communicative events that the working learners encounter at work are instances of professional genres.

Insights from workplace investigations of English use not only help inform and frame ESP needs analysis there, but they also provide authentic instances of effective communication that are exploited under the form of ESP teaching materials (Marra, 2013; Koester (2010b). Hutchinson and Waters (1987: 7) called for the necessity “*to determine the [language] features of specific situations and then make these features the basis of the learners’ course*”. Be it in professional or academic settings, many needs analysts collected discourse samples as a second NA phase (Chaudron et al, 2005; Downey Barlett, 2005; Long, 2005; Lung, 2014).

Besides the applied linguists (for e.g., Gimenez, 2005, 2006, Koester, 2010), this section shows how workplace discourse researcher’s analysis of different genres, often using corpus tools, has also provided evidence-based knowledge of workplace professional communication such as Handford’s (2010) analysis of meetings; Nickerson (2000) and Kankaanranta’s (2005) analysis of emails.

1.8.1 Researching Oral Genres Including Meetings

To be communicatively competent, an industry professional needs to be aware of language usage in a variety of oral business situations including meetings. The discourse of work meetings represents an area of research from a descriptive vantage point (Bilbow, 1995, Poncini, 2007; Boden, 1994; Bargiella-Chiappini and Harris, 1997, etc). Their focal point is to mainly seek to explicate how people communicate in business organizations through talk as part of doing their job. The language in the workplace project⁽⁶⁾ led by Janet Holmes since 1996 was one of the largest projects that used corpora involving new Zealand English speakers in workplace meetings, as well as goal-oriented professional talk (Marra, 2013).

In spite of the above mentioned descriptive-only focus, insight from discourse analytic investigations into workplace/business talk to ESP have caused the latter recognise the importance of the situated approach of English language use in the teaching of English (Marra, op. cit.). Other strands of descriptive research into workplace discourse concluded with pedagogical recommendations as suggested in Bargiella-Chiappini, Nickerson and Planken’s (2013) book and further shown in the diagram below at a glance.

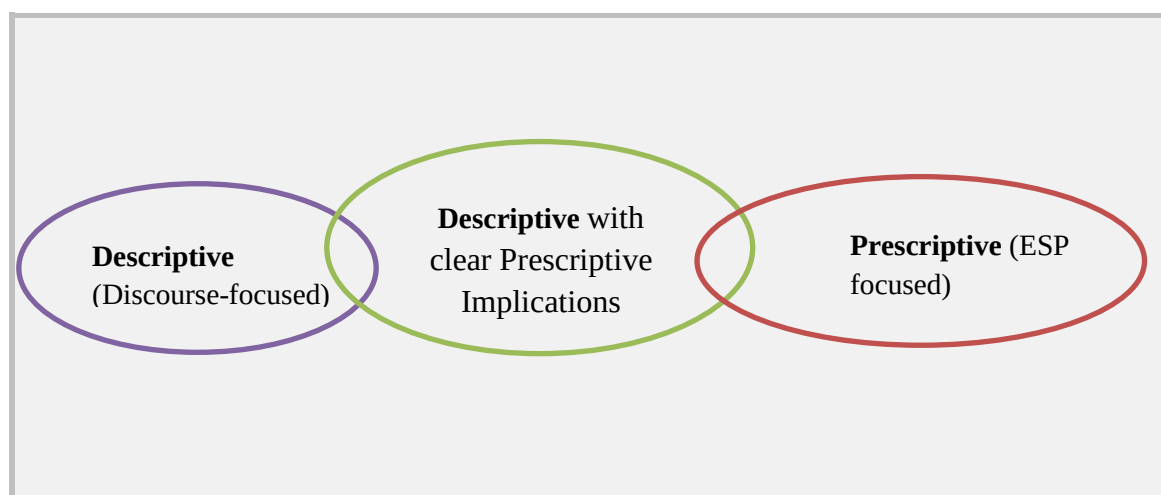


Diagram 1. 12 : The Overlapping Descriptive-Prescriptive Research Foci of Professional Genres Investigators (Inspired from Bargiella-Chiappini et al, 2013)

While pedagogical implications still figure among their aims, some descriptive studies, nevertheless, first describes the professional discourse *modus operandi*. Examining oral genres in professional contexts in terms of language content (discourse, lexis, syntax) has particularly benefitted ESP teaching and teachers in providing authentic exemplars of teaching content or materials.

This is the case of Charles and Charles' (1999, cited in Koester, 2010b) investigation of sales negotiations concluded with the necessity to teach potential negotiators 'tactical summaries' that help them advance their own position in the negotiation. Rogerson-Revell's (2008) study of international meetings, in particular, the communication strategies used, pointed to the importance of equipping learners with appropriate interactive styles and strategies that reflect a certain intercultural awareness.

Koester's (2010b) pedagogical application of her Conversation Analysis⁽⁷⁾ of workplace discourse, including meetings, helps introduce the learners to the characteristics of workplace/business discourse depending on their particular needs. Opening and closings can be useful in raising students' awareness of the existence of these phases. She devised classroom activities that help students distinguish between business meetings and casual conversations in terms of organisation, turn-taking, content as well as transactional and relational business talk.

In their turn, Handford and Matous's (2011) corpus-based genre investigation of on-site NNS engineers' professional talk revealed, besides their highly frequent use of technical terms, their skilful manipulation of some discursive practices that fulfil professional communicative tasks. They concluded that the identified discursive practices should be taught as skills to inexperienced engineers or engineering students. These discursive practices are summarising, tactical interrupting, clarifying meanings, discussing a problem and identifying a process. They also suggest that the multimodality that prevails among onsite engineers must be granted a pedagogical focus seeing its role in easing communication namely among NNS. In particular, non-verbal, gestural and visual communication, are skills to be taught to the above mentioned category of learners for a competent use of English on-site.

While deeply anchored in the business communication studies and applied linguistics (ESP) of the twentieth century, prescriptive investigations (Diagram 1. 12) into business discourse studied business language mainly to inform teaching and training programmes meant for the future business people. Their methods essentially included needs analyses and linguistic analyses like genre or corpus analysis. Though Nickerson and Planken (2015) posit that the genre approach to spoken business workplace discourse is less informative to teaching practice as that of the written genres, Handford's (2010) studying the linguistic manifestation of the above stages offered, above all, insight into the way 'business people *do* meetings through language' (ibid: 69, original italics). However, his findings also proposed suggestions pedagogical practice through which he translated his research findings of authentic English language usage.

While its primary aim was to understand the intricacies of business meeting genre, Handford's (2010) corpus analysis of the meeting genre nevertheless concluded with pedagogical suggestions. For example, he highlighted the importance of raising business English students' awareness to the factors that influence communication in a corporate setting (status of the speaker, client, manager, sub-contractor). Another implication for teaching practice emanating from Handford's corpus analysis consists of drawing the business English learners' attention towards the discursive practices that constitute business discourse, where 'appropriacy' and 'intelligibility' have a say in producing or interpreting discourse.

He suggested that 'L2 English-trainees' be sensitised, through 'awareness-raising activities', to the different discursive practices prevailing in the meeting genre as well as its representative vocabulary (p. 245). Because his large meeting corpus involved international

situations, he considered that NS-NNS standard deficit model that is promoted in textbooks *‘should be replaced with a dynamic skills-set’* that grants the learner the ability *‘to navigate successfully through international and intercultural situations’* (p. 247).

Handford (2010)’s CANBEC corpus and Koester’s (2004, 2010a, 2012) ABOT corpus are two researchers who later adopted an ESP approach after studying authentic spoken business genres because they translated their research findings into teaching practice. Their studies had pedagogical aims at the end. Koester’s (2004) work enabled the creation of the first data-driven ESP book for students. Recently, Handford’s (2010a) genre-based investigation of business meetings resulted in the creation of a series of data-driven coursebooks (Business Advantage, Handford et al., 2012). According to the authors, business advantage series represent the most authentic course book to date whose listening/reading extracts derive from authentic meetings.

Corpus research in ESP has also been used to evaluate existing teaching materials. Compiling corpora of spoken English in authentic professional settings have led some business discourse researchers to point to discrepancies with textbooks and real-life business discourse features. For instance, Dow’s (1999, in Nickerson and Planken, 2015) ESP approach to simulated negotiations compared negotiations of students and professional negotiators to identify the difficulties students faced. He then suggested the teaching materials that help cope with them. Cheng and Warren (2006, cited in Koester, 2010) compared the speech acts taught in textbooks about meetings and the speech acts existing in a corpus of actual spoken business English. They found out that ‘agreeing’, ‘disagreeing’ strategies were more indirect than those provided by the textbook.

They concluded that textbooks examples of speech acts need to be compatible with real world language use. In parallel, Chan’s (2009) evaluation of ESP teaching materials revealed how Business English textbooks do not use authentic corpora to illustrate authentic language use in meetings. Marra (2013) developed ESP teaching materials out of a corpus of naturally-occurring business talk in corporate settings. Instead of teaching them isolated sets of expressions or strategies, she proposed that ESP learners be introduced authentic samples of workplace interaction to help them assess the language they meet at work then experiment this use of English with new forms and local strategies.

In brief, while ESP employs genre analysis in the discovery of its target text types, not all genre-studies are ESP-led ones or pedagogical in purpose (Belcher, 2004). There are studies that only seek to uncover the discourse features of specific genres, without pedagogical interests. Others show intersections of both research interests. Having thus far looked at oral professional genres, below is an overview of a written professional genre, email communication.

1.8.2 Researching Email genres

ESP researchers' empirical investigations of email communication in corporate settings had a pedagogical focus which was to derive situated teaching materials and classroom activities that raise the learners' awareness of this genre encountered in the workplace. their research endeavor is a response to ESP scholars' advocating the importance of taking into consideration the role of the 21st century multimodal digital era in both ESP research and pedagogy alongside the need to '*see how technology is effectively used in the target situation and prepare our students for those eventualities*' (Johns et al., 2015: 117).

To bridge the gap between theory and practice⁽⁸⁾, Gimenez (2005) proposed a pedagogical application of his and other corpus studies of business emails genre. The aim was to raise the business English students' awareness of the linguistic features related formal-informal style of emails typical to external-internal email communication. In another activity, students had to identify some language structures that are common to emails, among which contractions, spelling mistakes and embedded messages prevail. The third activity drew students' attention to the embeddedness characterising email communication. According to Gimenez (ibid.) embedded messages are consecutive emails generating from the initial one and closed by the final message which signals the end of communication. in his own words, embedded messages *involve "...a series of internal, subordinated messages which depend on the first message to make sense, and a final message which brings the communication event to an end"* (ibid: 235-36).

Other studies complemented the linguistic dimension with the contextual social dimension in the analysis genre. For example, Nickerson's (2000) genre analysis of emails highlighted both the textual regularities and the rhetorical practices of the email writers. Luzon (2005) suggests that pedagogical focus should entail both. Kankaanranta's (2005) identified different types of emails, including postman message (attachments), dialogue

message - that are the equivalent of Gimenez's (op. cit.) embedded messages..... She concludes with the pedagogical implication that her findings contribute to the understanding of business communication by both the ESP practitioner and students. Concerning pedagogical implication, Kankaanranta's email corpus analyses contributed to increasing the ESP practitioner's understanding of the different aspects of email communication and helping the student understand the complexities of real world email communication that is not reported in the guidebooks/textbooks/literature.

Still aided by corpus tools, Merhpour et al. (2013) undertook a comparative genre analysis of the emails produced by two groups of business professionals: Iranian and English native speakers. Their study revealed that there was no significant difference in the way in which emails were structured to fulfill the overall communicative goals of requesting and providing information. They concluded that such a similarity was due to the common communicative purpose and the NNS email users' familiarity with specialist English language due to the routine work tasks. They finally proposed a pedagogical application of the findings gathered for both teachers and materials providers. One such application suggests to ESP teachers to raise their students' awareness to the email conventions highlighted in the study.

In conclusion to this section, genre and corpus studies of professional discourse as well as other contextual qualitative approaches like ethnography brought useful contributions to ESP mitigating, therefore, for the lack of insider knowledge and real-life data, hence, learners' hitherto lack of access to authentic materials in the ESP classroom (Starfield, 2016). In spite of their scarcity, these genre or discourse studies have nevertheless provided partial insight into the target community. Most importantly, they have granted the researcher enough impetus to go to the workplace environment to back up the preliminary information they gathered, with a more updated, richer one using a comprehensive methodological approach that deploys a variety of data collection tools for a more comprehensive portrayal of English language use and requirements in energy industry. Under the firm belief that investigating any target business language use requires the examination of the complex situation at different levels, the present study adopts the stance of Huhta (1999), Long (2005), as well as the above researchers of professional discourse to offer a multitude of perspectives that affect language need.

1.9 Conclusion

This chapter has shed light on the extent to which recent positive influences of theoretical, technological, and methodological advancements in ESP influenced (NA) research in general and on pedagogy in particular, including materials development and instructional methods. Whereas a historical overview of the early concepts of needs has revealed a rigid, de-contextualised, structural description of specialist language without any empirical basis, recent needs analyses trying to gauge the complex world of target communities not only put the learner's subjective and learning needs⁽¹⁸⁾ at the centre of the investigation, but has portrayed a NA endeavour to diversify the tools and visions of needs by relying on direct empirical methods as well. A distinction has been made between NA investigations in EOP occupational settings and those undertaken in EAP academic settings. What is of note concerning EOP-oriented NA is that their findings can also be useful to EAP teaching programmes in terms of preparing students for their future target situations of use in the professional world. To show the theoretical and methodological alignment of the present study as to the use of empirical tools, and hence, provide a rationale for the next chapter, more emphasis has been made on ESP learner-centred investigations of professional genres while discarding purely descriptive ESP and workplace discourse investigations into the peculiarities of some genres and sub-genres - whose sole objective is to highlight the features of the plethora of ESP types and sub-fields without pedagogical consideration.

Endnotes to Chapter One

1. Johns (2013: 7) splits the history of ESP into four main phases: The Early Years (1962-1981), The Recent Past (1981-1990), The Modern Era (1990-2011), and The Future (2011 plus).
2. See section 1.7 in the same chapter
3. Here below is a comparative table that the author proposed to see the similarities and additions brought by Brown (2016).

Dudley-Evans and St John (1998: 125) Current concept of needs analysis	Brown's (2016) Eleven analysis Options
Professional information about learners How to communicate in the target situation //////////////////////////////////// Language information about the target situation Learners' lacks //////////////////////////////////// environmental situation //////////////////////////////////// Language learning needs //////////////////////////////////// -////////////////////////////////////	Target situation use analysis Target situation linguistic analysis Target situation learning analysis Present situation analysis Gap analysis Rights analysis Means analysis Language audits Individual differences analysis Classroom learning analysis Classroom teaching analysis

^

v
At Later stages of NA (during course) at earlier stages of NA

4. See glossary.
5. ESP Researchers of authentic corpora had sometimes the aim of showing these mentioned discrepancies between imagined materials and authentic workplace discourse. See section 1.8.1 'Researching Oral Genres Including Meetings', for a review of relevant investigations leading to such an observation.
6. See <http://www.victoria.ac.nz/lals/lwp> for an overview of this project.
7. The basic analytical framework of Conversation analysis is tackled in chapter two as this tool is also adopted to approach the meeting corpus.
8. This expression has been literally borrowed from his article title. See full title in bibliography.
9. Examples of such individual perspectives are given in Long's (2005: 31-32) tabular summary, entitled 'NA data-collection procedures'.

10. Their large-scale research targeted multi-national companies (MNCs). However, even in MNCs, adopting English as the official working language does not ensure high language proficiency among its NNS staff, to follow Spence and Liu (2013).
11. Dudley-Evans et al (1998) posit that the ESP teacher originates from academia as s/he studied in this environment and is familiar with the study skills needed there.
12. See section 1.7.4.3 of this chapter for more details about the pedagogical applications of CL tasks for more details on the added benefit of having the students work with genres and corpus tools themselves)
13. The recurrence of these elements within the same genre type reflect what is termed as genre stability.
14. The term genre originates from the French term meaning ‘type’. In essence, genres or text types related to literary works serving the same purpose and showing similar surface features.
15. In this vein, Upton (2012) purports that ESP has always focused on context. Only, the definition of context has changed from the context of the sentence some five decades ago, to the broader social context now.
16. See section 1.8 for an overview.
17. This is because ESP is different from other types of dual-focus instruction involving a second or foreign language, notably Content and Language Integrated Learning (CLIL), and the content-driven variety of Content Based Instruction (CBI), known as sheltered CBI, in that it is necessarily and invariably language-driven and primarily concerned with linguistic content and not the subject content of the discipline to which ESP is related, whose main function is to provide the context of use.
18. It is advocated in the ESP literature that Hutchinson and Waters, the proponents of the learning approach added the missing part of the concept of learner-centeredness which is one of the founding pillars of ESP as viewed today. However, they also created a controversy among ESP scholars and practitioners –that the author of this work experienced in the past– as to whether their domain should be concerned with the nature of a specific variety of English as some subset of the language system or a special use of that system, or else the process of learning the target language in such a way that it may be used for any specific purpose. To distinguish between the two, William (2014) termed the former research interest as ‘research *into* ESP’

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Chapter Two: General Description of the Research Context and Methodology

2.1 Introduction

This chapter proposes an overview of the research methodology that is used in the present investigation of the English needs in the engineering workplace. It will first sketch the mixed-methods, sequential research design, before detailing the data gathering tools. Then, a description -and justification- of the sampling procedures, which still abide by the theoretical stance espoused in ESP NA research, will be outlined after having described the research setting. Drawing on the hallmarks emerging from current needs analysis for ESP, previously detailed in the first theoretical chapter, namely in terms of NA method and source triangulation, the chapter will propose an outline of secondary ethnographic tools of preliminary data collection that are used to mark the initial broader stage of the enquiry. Then a shift in the research protocol from the interpretive turn (that consisted of asking target groups via questionnaires and interviews) to the discursive turn (through a direct observation of the target informants' *doing* different professional genres) will be made. To specifically highlight how empirically-based this study is, a detailed consideration of the empirical tools and strategies used for the analysis of authentic (oral/written) genre samples (including corpus linguistics, discourse analysis and conversation analysis) is deemed necessary. This chapter will stress out the limitations/difficulties entailed in collecting this type of confidential difficult-of-access data from a business setting -together with the ways used to cope with this limitation of self-compiled small specialised corpus. Finally, background description of the research context is proposed by the end of this chapter under the form of an initial macro-perspective to needs.

2.2 Research Design

The present study sets out to highlight the specific purposes for which English is used in the engineering workplace through examining the energy sector employees' perspectives of needs, wants as well as target tasks, together with analysing authentic instances of target language use at work via the most prominent business genres. To this end, this section attempts to reveal the research *modus operandi* that aims at rendering the present needs

phase and not at the onset to pre-empt an '*early a rush to quantification*' (ibid.). In parallel, semi-structured interviews came to complement the systematic questionnaire data (Vandermeeren, op. cit) with the main informants' individual accounts of the target situation language use. The ensuing detailed qualitative data were meant to yield deeper insight through their report of the strengths, challenges and strategies experienced, inter alia. Finally, the precision of inquiry also took form through the close examination of authentic samples of both spoken and written discourse whose aim was twofold. First such discourse samples analysis aimed to triangulate the target group's earlier interview retrospective accounts with direct observation of their performance. Second, it attempted to translate the raw data and findings into classroom practice and instructional materials. The protocol adopted for each research tool will be detailed in the subsequent sections.

2.3 Energy Company as a Research Context

Part of providing a rationale for the study, the present section describes the research setting. The chemical plants under study represent an Algerian energy company with its international activities. To preserve its privacy the identity of the energy company is not revealed. Nor are the corporate units, that is, the industrial plants representing the case company openly identified. What is most important to state is that American companies were on the origin of setting the whole infrastructure of the two plants. That said, all the codes, operational manuals and technical documentation that are available in both plants are in English. Not only this, but because the two case plants have been operational since 1973 (plant2) and 1983 (plant1), there is constant need to renovate their production equipment. To this end, the company often enters in service contracts across national borders with foreign suppliers and manufacturers with the result that English is more often than not the language of business communication⁽²⁾.

In the present study, the international company, that the industrial plants represent, is the empirical locus as it is an incessantly evolving context that is the first to experience the processes of globalisation. Hence, it is a suitable setting where to observe authentic instances of English use for professional communication under the impact of globalised business (Bargiella-Chiappini et al., 2003). Also, because the employees' actual linguistic practices are sensitive to contextual factors the present research objective concurs with Joshi et al. (2009: 622, cited in Piakkeri et al., 2013: 16) who assume that undertaking a '*contextual diagnosis*' is deemed necessary to examine the broader issue of language diversity within a company. To

comply with Bargiella-Chiappini et al's (2013: 131) suggestion to investigate business discourse through '*...thinking about the various factors that specifically contribute to why an individual's text or spoken even comes to exist in a particular language*' (rather than another one), prior to the closer analysis of its enactment in the workplace interaction under study.

As has been clarified earlier, the study starts with providing understanding of the contextual factors, to first start with describing the macro contextual circumstances, i.e., the broad perspective of English language use and need noticed at the level of the company that, one believes, has a partial role in modelling the language attitudes of the Algerian professionals in our data. The macro-level description of language choices and practices proposed here is informed by some elements of ethnography gathered mainly through desk research (see section... below) and informed from organisational/workplace studies of similar settings.

One aspect of specificity in ESP research, and mainly in NA investigation lies in its scale. Gas industry that the present research context represents consists of a business, occupational setting where specific English needs are investigated (EOP) (Brown, 2016: 33). Following Brown's (ibid: 33-35) classification of the specific categories of EOP, investigations into *energy industry* fall under the *business-specific* category under EOP. In turn, *business-specific* category includes *situation-specific* English for -practising engineers in- energy industry. Henceforth, a need for both Engineering English and business English could be anticipated. However, it is important to mention that this early estimate cannot practically define the detailed contents or areas of English use to be included in ESP teaching or training programme. The specificities of English use for business and engineering will be possible only after gathering and analysing different kinds of data from different sources.

2.4 The Participants

The researcher adopted a purposeful sampling (Ross, 2005) in choosing different categories of industry professionals to elicit data, that is, higher (head of departments), middle (heads of services or staff managers), as well as lower-level managers or engineers). Purposeful sampling also took form when primarily focussing on the industry employees and managers who are directly involved in English usage for occupational or professional ends. Even if they do not forcibly use English for any communication task related to the nature of their works, the contribution of other samples (Finance and Purchase, Human Resources

department (HRD)), in the needs enquiry was necessary. More details about such a ‘triangulation of sources’ (Long, 2005) in collecting information about English language and communication needs are offered below.

2.4.1 Triangulation of Sources

As posited by Holliday (1995), Cowling (2007), and Long (2005), the use of source triangulation to collect NA data from different perspectives deriving from the work environment is enriching for a case study research. The different sources used are shown in the diagram below.

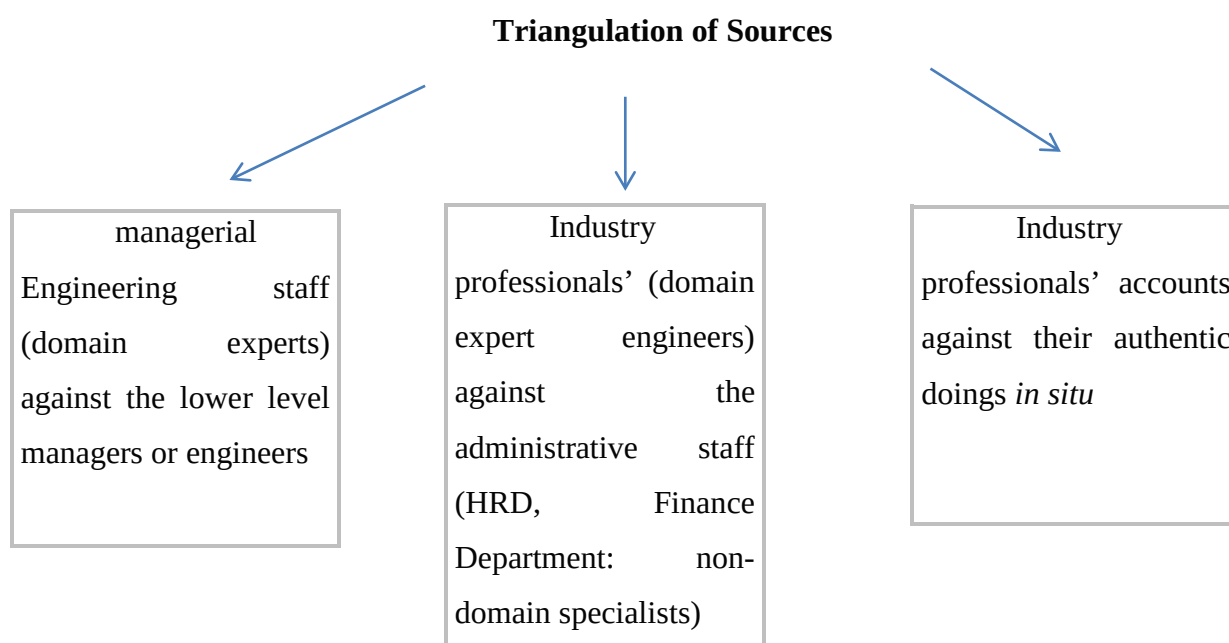


Diagram 2.2: Sources Triangulation Adopted in the Present Study

Following the principles previously sketched in the first chapter, section 1.4, the use of the sources above served provide different types of information on needs. A stratification of such needs according to sources is offered in the next diagram at a glance.

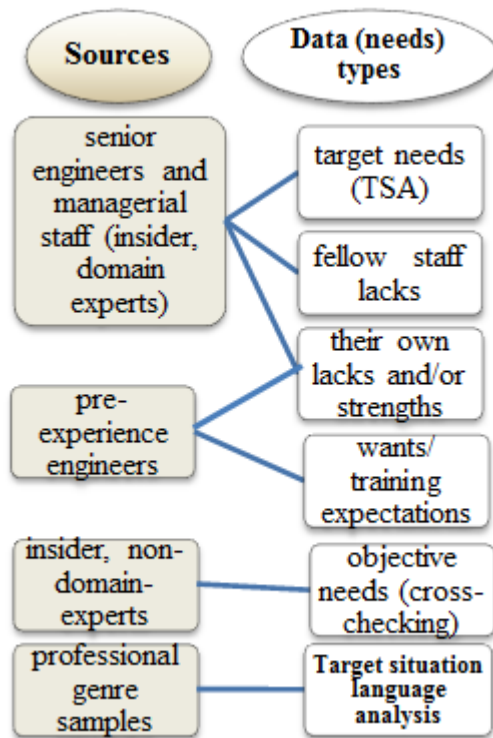


Diagram 2.3 : Needs Types versus Data Sources

The first type of participants represents the high managers (heads of departments) and middle managers (heads of services). In selecting the managerial staff, the researcher chose a group that reflects Selinker's (1979, cited in Leong, 2001) characteristics for 'specialist informants'. Being '*competent and trained specialist members of the disciplinary culture*', to borrow Leong's (2001: 4) expression, the specialist informants, that the managerial staff represent in the present study, are better-positioned to tell about the different uses of specialist language among the '*expert members of the disciplinary culture*' (ibid.) to pursue the different goals related to their business. They therefore represent a reliable source of interview data concerning their fellow staff's target needs (Vandermeeren, 2003, 2005); their own as well as the employees' present situation needs (namely lacks).

The second category of participants consists of industry engineers from the technical and the maintenance departments. The purposeful choice of this category of participants is due to their regular use of English as part of doing their job. Engineers represent such 'typical sample' (Marshall et al., 1996), being the main source of data collection. Based on the researcher's present -and previous fieldwork during the preparation of MA dissertation- preliminary discussions with the research site population, as well as the available literature

pointing to the fact that industry professionals or engineers represent the employees category that deal with English on a regular basis as part of doing work⁽³⁾.

Because most of the engineers are job-experienced professionals, they also represent domain experts and reliable sources of target language use. From another part the pre-experienced share of engineers will also contribute in providing information about the lacks and challenges encountered when using English for their specific work purposes. In addition to the above mentioned domain experts and pre-experienced engineers that this sample represents, the industry professionals, namely those who experienced English training constitute another source of needs including wants.

All the same, the sample also comprises employees from other departments such as some agents from the purchase department whose work nature (ordering equipment from external markets) entails occasional and limited use of English at work if compared with the technical engineers. Their interview and questionnaire responses aimed to generate both qualitative and quantitative data as to the present situation (self-assessment, lacks) and target (objective) needs as well as (felt) subjective needs. Additional data from this category of employees as regards their evaluation of training was obtained. The third category of participants represents the employees whose job nature entails rare if not, no use of English. Their responses served to compare and contrast their attitudes towards English with those of the engineers, thus, validate the findings about the latters' real workplace needs. In addition, their reference to other staff categories with frequent use of English also served confirm the findings.

The fourth category of participants belongs to the human resources department (HRD) who also figured as an interesting source of information. The HRD managers responsible of training, possess important information on the type of English that is required in industry because they play the role of a link between the company training centre and industry workers (Huhta, 2010). These training coordinators possess information about the teacher selection (qualification and expertise), the principle of grouping employee-learners (according to their level, to their profession, or to their job position) as well as real time allotted for the English course. These data contribute to the evaluation of the training situation within the researched setting.

2.4.2 Sample Choice

The participants occupy a variety of positions and occupations. The following diagram the departments they originate from as well as the major occupational category based on. Then, this description is given in numbers in the table underneath.

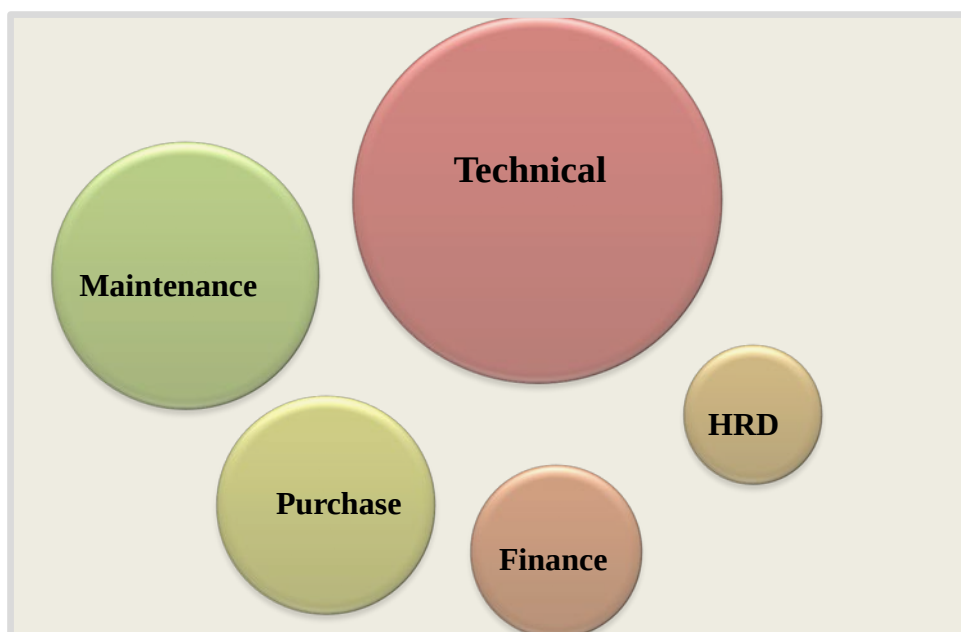


Diagram 2.4: Sample Distribution per Job Category

The sample includes a smaller portion of employees from the finance department including jurists and accountants. The latter's responses serve the role of a proof criterion in comparing and contrasting the varying attitudes towards and interests in English depending on the employees' work nature.

		Discussion	Questionnaire	Interview
Departments	Contracting		2	2
	Finance	3	12	5
	Human resources	3	3	1
	Maintenance	6	24	6
	Production	1	4	
	Project	1	4	
	Purchase	3	14	2
	Technical	8	68	27
		Total 24	Total 132	Total 43

Table 2.1: Participants per Departments and Data Gathering Tools

Whereas 123 industry employees/managers answered the questionnaire, 43 informants took the interview. Among them, executive staff comprised 2 higher managers (heads of technical and purchase departments) and 8 middle managers (heads of services from the technical, maintenance, contracting and finance departments). The remaining informants are technical engineers and administrative agents (i.e., financials, jurists). In the analytical chapter, the finance and contracting department staff will be fused because they originate from the same category (See endnote 33).

2.5 Data Gathering Methods

This study required the deployment of a variety of methods including ethnographic data gathering tools, questionnaire, interview, the analysis of spoken and written professional genres that consist of meeting and e-mails respectively.

Data	Method of Analysis	Aim
Desk research	Collection of company published materials/documents	Examine the needs for English language at the public scene (corporate communications, documents, informative signs)
Discussions	Office discussions/note taking	Initial employee impressions and accounts on language and communication needs/served frame the questionnaire and interview queries
Semi-open Questionnaires	Open and closed/ likert (statistical analysis) Questions	To identify the communication practices, strategies, perceptions, challenges, learning expectations, past/current learning experiences, factors and attitudes affecting language use
Semi-structured Interviews	Text (thematic) analysis/ qualitative-quantitative analysis	
Analysis of discourse samples (meetings /email samples)	Genre analysis, corpus analysis	Identify the typical genre structure, language realisations and interpersonal strategies/ cross check informants' accounts with direct observation of English use in situ

Table 2.2: Methods and data Used in the Present Study

In the sub-sections below, an elaborate description of the above data gathering tools, together with the researcher's collection and analytical procedures will be proposed.

2.5.1 Ethnographic Methods for Contextual Analysis

Fetching information about the business professionals' discourses and experiences required making of their working environment a research context. Hence, the researcher adopted ethnographic methodologies during her three months period of data collection in the corporate context. Different data types were collected including preliminary ones as well as those that necessitated the collaboration of the employees.

2.5.1.1 Desk Research

Using desk research as an ethnographic methodology was a way to gather publicly available data, mainly the company's printed or online resources, within or outside the corporate settings, which point to its foreign language needs. These secondary contextual data derived to shed additional light on the company's chosen languages of communication initially depicts the implicit needs for the English language (Vandermeeren, 2003, 2005). Mostly included in the form of appendices, desk research methodology served collect the following types of data:

1. To examine presence or requirement of and importance given to the English language in the following:
 - o The job advertisements requiring specific foreign language(s) mastery;
 - o The company's official websites (and other websites related to the company and its businesses); in which language is the company internet homepage (Lavric and Bäck, 2009)
 - o The magazines that the company publishes;
 - o The call for tender advert;
 - o The informative signs and place name within the corporate site. Description of the ways plurilingualism manifests itself in the written public space (see Lüdi et al, 2010).
 - o Company training.

The above mentioned exemplars of corporate strategy uncovered via desk research will depict '*little-investigated qualitative needs*' in Vandermeeren's (2003: 27) sense of the

term. That is, desk research data collection will highlight another broader facet of language needs and requirements through uncovering the macro-contextual factors which generate foreign language needs. The latter will serve as initial but clear indicators of the importance given to, and the demand for English language proficiency within the corporate setting under scrutiny. Some of the gathered data will appear in the background description of the research site that is proposed by the end of the present chapter.

Desk research is but one of various data collection tools deployed, that are believed to reveal different parts of “*the puzzle that must be fitted together “to get the true picture”*”, following Vandermeeren (op. cit: 27, original emphasis). Hereafter another kind of data is obtained through discussion.

2.5.1.2 Discussions

During her visits to the first plant, discussions were initiated to know about the employees’ views of English language needs and communication experiences to essentially ‘*pave the way ...to other methods*’ (Dudley-Evans and St John, 1998: 137). The researcher’s choice of employees to talk to followed a ‘*snowball procedure*’ in that informants suggested others because they had something to say about English. They were either subject of English training, proficient in English, or had experience in dealing with foreign suppliers. However, this did not prevent the researcher from fetching the accounts of those employees with a less regular usage of English. Ultimately, the researcher conducted a discussion with different managers and engineers from different departments as shown in the table below:

Human Resources Department	3
Maintenance Department	6
Supplies Department	3
Administration	1
Production department	1
Finance Department	3
Technical Department	8
New Facilities Department	1

Table 2.3: The Informants Involved in Discussions per Department

Discussions were also conducted for the sake of building rapport and establishing trust with the respondents. Having these employees of the industry sector, to familiarise with the researcher, who is an academic and could be thought of as ‘an intruder’ or an ‘outsider’ to the workplace, was necessary. In parallel, the researcher’s concern to provide an ‘insider perspective’ was equally conditional on her familiarising with the research context and the specialist community of engineers. Most often, the discussions took place in the employees’ offices after the researcher introduced herself and her broad topic of research. In this sense, they were partly ‘planned’ rather than totally ‘spontaneous’ (Dudley-Evans et al., 1998: 137). From the second they knew that English was the centre of the researcher’s interest, many topics emerged and were recurrently invoked by the employees in all the discussions conducted.

The fact that the discussions were not recorded was helpful in many ways. It gave the employees freedom and easiness to talk without any feeling of self-consciousness. This paved the way to the emergence of many topics. For example, e.g., the same English language needs were recurrently referred to (e.g., “their immediate occupational needs for English”, “why was there a need of English training?”, “what skills they needed to develop”, “their strengths and weaknesses in using English to accomplish target tasks”, “what to rely on for communication successfulness”, “how important was English mastery for professional efficacy? etc.). Most often, the discussions turned out to lively debates. This has helped the researcher frame the questionnaire and the semi-structured interviews. The researcher’s decision to include the topics emerging from the discussion in the questionnaire was a way to derive statistical descriptions. At the same time, dealing with them in the interview was a way to both seek more details of the hitherto systematic responses as well as proceed to an official record -rather than researcher’s notes only- of the employees’ perspective and/or feedback in the form of a transcript.

During the discussions, that always took place in the employees offices - as mentioned before – the researcher always took notes of the important statements and topics that her interlocutors issued. However, it was not possible to note down everything when the discussion was going on. The researcher, who was all ears with her interlocutors could take further notes afterwards, i.e., in the post discussion phase that is, immediately after each discussion. As long as she recollected every detail of what was said few minutes ago, the researcher made sure to record in the form of notes and summarise the topics dealt with.

Following up the discussions with such written records enabled the researcher to pick up the most insightful statements, expressions or anecdotes from the discussion notes to supplement the empirical data gathered from the interview for instance.

2.5.2 The Semi-Open Questionnaire

The questionnaire allowed for more systematic and quantitative examination of the themes identified in the discussion. It was administered to a larger number of informants for more systematic information about the uses and challenges in English identified in the discussions.

2.5.2.1 The Questionnaire Content

The first section of the questionnaire is about background information including their job position and years of experience in the company. The second section elicits information about the use of English at work. It includes a question asking the employees to self-assess their English skills on a three points (0-2) scale. To evaluate the language skills of the employees, self-assessment here replaces testing. *'In language research'*, self-assessment as Huhta (1999: 42) observes, *'has been found a sufficiently reliable method for diagnosing language skills'*. The *'quantitative dimension'* of language and communication needs appears

The second section elicited information about objective needs indicators, notably, employees' account of the frequency of target communicative tasks and events that required the use of English (Vandermeeren, 2003: 15) in work situations (writing e-mails, taking part in meetings/ negotiations/ presentations, or reading manuals, etc.). As informed by the empirical investigations into a similar industry setting (see Kassim and Ali, 2010; Spence and Liu, 2013; Rajprasit et al, 2014), as well as by onsite ethnographical discussions (see section 2.5.1 above), the choice of the communicative events mentioned above were also found to characterise the work tasks of the researched engineering industry employees. Then, the researcher derived the frequency means out of the informants' responses by applying a 5 point scale (that is: 5 points for regularly; 4 points for often; 3 points for sometimes; 2 points for rarely; and 1 point for never) in recoding data.

To highlight the language using and learning processes derived from authentic workplace experience with the TL, the next question elicited the informants' systematic responses of the origins of their communication success or difficulties (language or specialist

knowledge). The choice of such a close question was informed by the themes hitherto emerging from first-hand discussions. Then, an open-ended question required informants to tell about their personal strategies and ways to cope with English usage⁽⁴⁾. In a bid to provide context for the next question (training expectation), the penultimate question of this section, which was also open-ended, required the employee-informants to provide their feedback as to -past or current- in-service English training.

Whereas this question sought both positive and negative impressions, another follow up open-ended question sought reasons for negative attitudes towards training, if opted for. The aim behind this second training evaluation was to confirm or refute the rough clues obtained earlier through ethnographic discussions and field notes with target group's own view⁽⁵⁾ (however, training attitudes or evaluation remained a secondary or peripheral subject that served only complement the main research interest driven towards target work situations of language use and experience). The last open-ended question elicited the informants want from in-service training, or in other terms, '*what they needed from the course*' (Dudley-Evans and St John, 1998: 127), a question that '*should be asked*', according to ESP scholars (ibid.) to help narrow down the training focus on priority needs *per se* ⁽⁶⁾.

The last section, which consisted of one question, required the employees to rate their position towards some attitude statements about the use of English at work, namely international communication in the workplace. This scaling techniques which consists in revealing the respondents' positions towards positive or negative items about the language in question, was another rapid way of detecting the language needs among employees (Vandermeeren, 2005). It is of note that the open-ended answers were also approached quantitatively. However, this was possible only after having identifying the emerging trends and classified them according to different headings.

Questionnaire data are primarily used to discuss frequency trends. The questionnaire included 4-point Likert scales to measure the frequency with which employees used a range of languages in six genres of communication. Attitude statements were also included in questionnaires to quantify attitudes towards language use, English and other languages. The answers of the questionnaire were coded and statistically analysed using Sofastastics software⁽⁷⁾. Frequency distributions, Percentage and mean values and even statistical tests (pearson's R correlational test) were derived. Besides, cross-tabulations between the questions found to be related were performed.

2.5.2.2 The Procedure of Administration

First and foremost, the researcher self-administered the questionnaire. For that, two options were available: either to personally undertake the task of its delivery and collection or to send it to employees via intranet. Though it was more time and energy consuming, it was more judicious to choose the first type of questionnaire administration. Yet, due to the earlier prolonged contact with a similar workforce during the magister thesis preparation, the researcher was already familiar with the negative, though legitimate⁽⁸⁾, reaction of employees as regards the questionnaires. In corollary, she took many other measures to minimise the rate of non-response among the busy employees.

A case in point is the formulation of the questions that was done in a way to elicit *'straightforward information relatively brief and uncontroversial'* (Denscombe, 2007:154). Prior to this, the researcher's attempts to establish rapport with the future respondents from the first contact were made to prepare the employees for the questionnaire. Minding about their valuable time, she reassured them that almost all the questions would require short answers; and that she would grant them ample time to return their answers. Whenever it was possible, reviewing the questions with the respondents was done for the sake of clarity.

Worse, the researcher, who was physically available at the workplace, and in order to pull out the responses, had sometimes to orally deliver the questionnaires queries then herself write down the answers of some engineers who would have, otherwise, never returned their answers. Still because of the researcher's availability on site, she proceeded to friendly reminders by visiting the offices of the employees who did not return their questionnaires on due time. Eventually, the researcher did not gain much from the real advantage of questionnaires in terms of saving time and energy (Basturkmen, 2010). However, she was at advantage in terms of ending up with an insignificant rate of non-response from the part of the employees, that will be detailed in the third chapter.

2.5.3 The Semi-structured Interview

As stated above, the recurrent topics that emerged from the earlier discussions made the researcher include them among the major questions to be raised in the interview. Conducting a semi-structured interview as a method of data collection afterwards was a way to allow for more exploration of these themes identified in the discussion phase. In other

words, the choice of a semi-structured rather than a structured interview enabled the researcher to follow, in the light of the detailed picture of the topic under study, new unplanned insightful information during the conversation. At the same time, it was a way of recording the interviewees' retrospections of their own communicative experiences. Following the guiding questions about the professionals' experience with the different communicative events and tasks that require the use of English still allowed for a systematic comparison of the interviewees' responses, thus, for a generalisation to be made on the professional context under scrutiny.

The interview was conducted with the managerial staff including two heads of departments (of the technical and the purchase departments) and ten staff managers including three staff managers from the technical department, and three staff managers from the maintenance department, one staff manager from the purchase department, and three staff managers from the finance department (one contracting one judicial and one finance). The researcher targeted two groups of interviewees, the first group including technical and maintenance engineers together with some managers from other departments. The second group represent less regular users of English who generally spread in the administrative department (finance, contracting, jurists, accountants).

Combining these two perspectives was meant to collect triangulated accounts and perspectives regarding language and communication needs including both challenges and strategies. Among the first group of interviewees, the researcher ensured that a certain proportion of top/high managers as well as staff managers figured. To derive qualitative data about the English target needs, that is the type of English skills that their staff should possess for better job performance. Engineers with more than 15 years of experience, thus a solid experience in language practices particular to their professional domain, were also a source of information on the target needs. Both the industry employees (i.e., engineers) and their middle (staff) or top managers provided accounts about the present situation needs, including the strengths and weaknesses when communicating English, as well as the strategies and resources used to handle English use at work.

2.5.3.1 The Interview Guiding Questions

The interview started with questions enquiring about the job position of the interviewee, their years of experience, and a description of the different tasks that s/he carries

out in a whole day of work. Then, followed the question of the role that English plays in the fulfilment of their daily work-related activities as well as English skills required of the industry professionals. From here, the researcher posed further questions such as, “what are the difficulties encountered during English language use?” and “how do they handle the different situations in which English is used for international business communication?”; “what they expected from in-service English training financed by the company?”; “their views on the use of English for international business communication?”, and so on.

The main language of the interview was French -as it was the case for the questionnaire, too- with some switches here and there to Arabic⁽⁹⁾. Some employees⁽¹⁰⁾ asked the researcher whose main language of investigation was English, for the reason for which she did not conduct the interviews in English. The use of English when interviewing the majority of the employees would not have yielded empirical data about personal accounts of language choices and practices that are rich in details. Translating representative passages, afterwards, to be quoted for the sake of illustration in the analysis did not pose a problem to the researcher as the latter belong to same speech community as her informants. By this same token, only the author’s translated English version will appear in the analytical chapter. Of course, any translation shortcomings are the researcher’s.

2.5.3.2 Reaching Informants and Conducting the Interview

Because the researcher conducted the interview in the workplace, she had first to ask the employees in advance to choose a moment when they would be disposed to take the interview according to their availability. Due to their valuable time, some engineers were difficult to be reached⁽¹¹⁾, which obliged the researcher to renew her attempts many times. Some employees respected their appointment while some others ceased the opportunity of the first contact with the researcher to answer her questions for fear of dishonouring their commitments in the near future. In corollary, the interviews took place on site from May 11th to June 17th, 2015. The duration of the interview varied from one employee to another depending on their availability and how much they wanted to say about the topic. It ranged from six to fifty minutes. The average was 14 minutes. Even though the normal duration of an interview should exceed twenty minutes (Bryman and Bell, 2011), the cooperation of the informants made that the interviews obtained were revealing and yielded in interesting data.

The researcher conducted the interview in a conversational mode to establish rapport with the interviewees and to make them feel at ease (Bryman and Bell, op. cit.). When the office contained two employees or more, it happened –though not often– that the interviewee’s office mates took part in the interview without necessarily being addressed by the researcher. This resulted in a lively debate through which everyone present in the office wanted to share his viewpoint. By the same token, the researcher who had the major topics of the interview in mind was not dominant and intervened only to ask the employees to address the questions. Apart from the first three questions, the researcher did not impose a rigid sequence as to the remaining questions. Instead, she tried to insert her questions according to the evolution of the conversation and the flow of topics that the interviewees proposed.

Most often, the interviewees’ turns consisted of narration, description and evaluative comments that lasted several minutes without interruption. This is why, the researcher made sure not to intervene too much to give way to their interpretations and narratives, and at the same time, to be open to new related issues emerging from the conversation that did not figure among the interview topics. To officially record the accounts of the employees, the researcher digitally recorded the interviews⁽¹²⁾. This resulted in 9 hours of audio-recorded interview data. Then, she proceeded to the transcription to make the best use of the interview data.

2.5.3.3 Interview Transcription

The transcript was almost verbatim in that the researcher reproduced the speakers’ erroneous French. One instance taken from the transcript is a jurist saying, “*des appels d’offres nationales et internationaux*” (instead of “*des appels d’offres nationaux et internationaux*”) [national and international calls for tender]. However, the intra-sentential switches to Arabic dialect were not transliterated as their presence or absence did not affect the thematic analysis to come, nor were they analytically relevant to the research interest. Instead the researcher directly translated Arabic, most often, function words⁽¹³⁾ into French simply to render the sentence uniform for textual analysis and eventual external readership.

In spite of the benefits that the researcher has drawn from the digital recorder, certain self-consciousness and anxiety have been noticed from the part of some of the interviewees that was not noticed during non-recorded discussions mainly at the beginning of the interview. However, this state soon vanished leaving way to a more relaxed and cooperative one. As

mentioned earlier, the researcher conducted the interview in French, the language that most of the employees speak well seeing that it is the working language by default.

However, it happened that some employees, who undoubtedly yearned for English language practice deliberately chose to talk in English. Others also used Arabic during their talk in French. In this case, the researcher did not prevent the interviewees to '*speak in the language of their choice*' (Gaibrois, 2014) as long as it made them feel comfortable. Contrarily, the researcher exploited such natural language choices to back up the analysis. The final, aim was to create a relaxed atmosphere to ensure the employees produce rich and detailed accounts of their communication experiences.

2.5.3.4 Software-Supported Corpus Analysis of the Interview Data

The researcher undertook the transcription of the empirical interview data as a conventional practice. In addition to present it for public scrutiny and providing a proof criterion for the analysis, the transcript that equalled 36.900 words also served to examine the interview data in more detail (Heritage, 1984). Part of triangulating the interview responses within the same group of respondents, a safer way to spot the recurrent responses, accounts or to compare them was through using software-supported linguistic data Analysis. In this study, the researcher chose TXM software as a corpus linguistics tool (Heiden et al., 2010) to analyse the electronic form of the interview text under a TXT format. The aim was to obtain concordance⁽¹⁴⁾ data.

While '*[c]oncordances are arguably a bridge between quantitative and qualitative approaches in that they provide more co-text and therefore context than frequency lists*' (Handford, 2007), the aim was to reveal the recurrent items within the interview corpus in a way to perform the afore-mentioned triangulation across the interviewees' responses themselves. Thematic exploration of the meeting transcript took also effect through searching for co-occurrences of highly frequent words symbolising major themes dealt with in the interview, one of which was the word 'English'.

Prior to software analysis, the researcher preceded to the translation to French, the here and there intra-sentential switches to Arabic in order to render the interview transcript more uniform, thus, easy to analyse. These switches generally consisted in prepositions and did not alter the overall sense of the sentence, nor the idea that the interviewer wanted to

convey. The interview transcription conventions adopted are those proposed by Bryman and Bell (2011: 482- 483). Essentially, they consist in the transcriber's using brackets to add either contextual information or to remedy for the interviewee's grammatical omission so as to make the meaning of sentences clear to the reader.

2.5.4 Analysis of Authentic Samples of Professional Genres

The purpose behind analysing authentic representative written and spoken samples of the target discourse is manifold. Following Long (2005), the use of English *in situ* provides another source to gather information on the target discourse for NA. Such source triangulation allows the researcher to cross-check the domain experts' (i.e., industry professionals') own retrospective accounts with authentic enactments of communication and discourse strategies. Additionally, to complement the questionnaire and interview findings, only a discourse or genre analysis of authentic samples of their professional discourse, following Long (ibid.), will yield in insights about their linguistic realisations of representative genres. From another part, such authentic samples of English in use and its discourse structure will also serve -after the NA phase- as a pedagogical demonstration of authentic models of domain-specific target use of English, thus, as appropriate teaching materials (ibid.) to be suggested for engineering students or engineer-trainees in the final chapter.

2.5.4.1 The Analysis of the Email Genre

As informed by studies in similar research settings as well as the preliminary discussion with the employees, email is one of the regularly used type of communication written in English. Email as one form of written correspondence that evolved - and is still evolving - under the influence of modern technology (Dudley-Evans and ST John, 1998). In corollary, emails tend to be less formal and less impersonal in format and language (ibid.). Besides, the availability of personal computers makes business people directly compose their own email -and put their writing skills into practice- without secretarial assistance⁽¹⁵⁾. However, this modern form of written communication still respects the principles of good communication like clearly stated purpose and coherent ideas (ibid.).

Through verifying the above assumptions within the local email corpus the aim will be, following Nickerson (2000: 139), to reveal '*the nature of authentic email communication produced by corporate writers who do not speak or write English as a first language*' in

relation to both format and content. The latter which will surely tell about the know-how of emailers will ‘*reveal the degree to which competency in writing is used as a mark of expertise*’ (Chiappini et al., 2013).

a) The Emails Corpus

The researcher asked the donors to randomly pick up some e-mails from their routine e-mail communication. The donors in question are two middle managers from the maintenance and purchase departments respectively and two engineers from the technical department respectively. In total, 22 emails were collected to represent the email genre that is typical to the research setting under study (i.e energy industry). This corpus size is acceptable in consideration to what Koester (2010a) stated about the acceptable number of texts, notably that there have to be ‘*at least five, if possible ten, different samples*’ (p.70). Because the donors got acquainted to the researcher’s presence and were familiar with her research aims (they already took the interview and answered the questionnaire), the latter did not have to sign with them a confidentiality agreement to convince them that their emails would be used for research purposes. She only reassured them that the identity of the participants involved in the email communication, or any confidential content would not be revealed.

b) The Main Elements of Email Genre Analysis

In the light of the relevant features characterising the email genre that Bhatia (1993) developed as well as insight from other genre studies into the language of business emails, the present section proposes the genre analysis *modus operandi* adopted in the examination of the of authentic emails sample collected from the engineering workplace under study. The analysis is based on Kankaanranta’s (2005) Nickerson’s (2000), and Gimenez’s (2005, 2006) analytical framework that took both contextual and linguistic analysis in their approach to external corporate e-mails as a genre. In particular, the linguistic analysis adopted in both Nickerson (2000) and Kankaanranta (2005) draws on Bhatia’s (1993) three levels of linguistic analysis (lexico-gramatical features⁽¹⁶⁾, textualisation and structural organisation of moves). The overall analysis includes the following elements:

- o Structural organisation of emails (Content versus Layout moves);
- o Move sequence (Nickerson, 2000; Kankaanranta, 2005; Gimenez, 2005, 2006);
- o Message embeddedness (Gimenez, 2005, 2006);

- o Textualisation of moves (Nickerson, 2000; Kankaanranta, 2005; Gimenez, 2005, 2006)
- o Register Language form including formal /informal style; specialised/technical vocabulary (Kankaanranta, 2005);
- o Interpersonal strategies that denote the type of relationship between the email correspondents Nickerson, 2000; Kankaanranta, 2005).
- o Reference to other genres (intertextuality);
- o Existence of spoken or written features of discourse (Nickerson, 2000; Kankaanranta, 2005; Gimenez, 2005, 2006).

c) Models of Genre Analysis

The aim behind qualitatively analysing the representative email corpus was not to generate quantitative data but to first provide concordances of the recurrent expressions used as well as empirical evidence of the use of English for external email communication. Hereafter is a diagram summarising the emails move sequence identified by each of the above authors is provided at a glance.

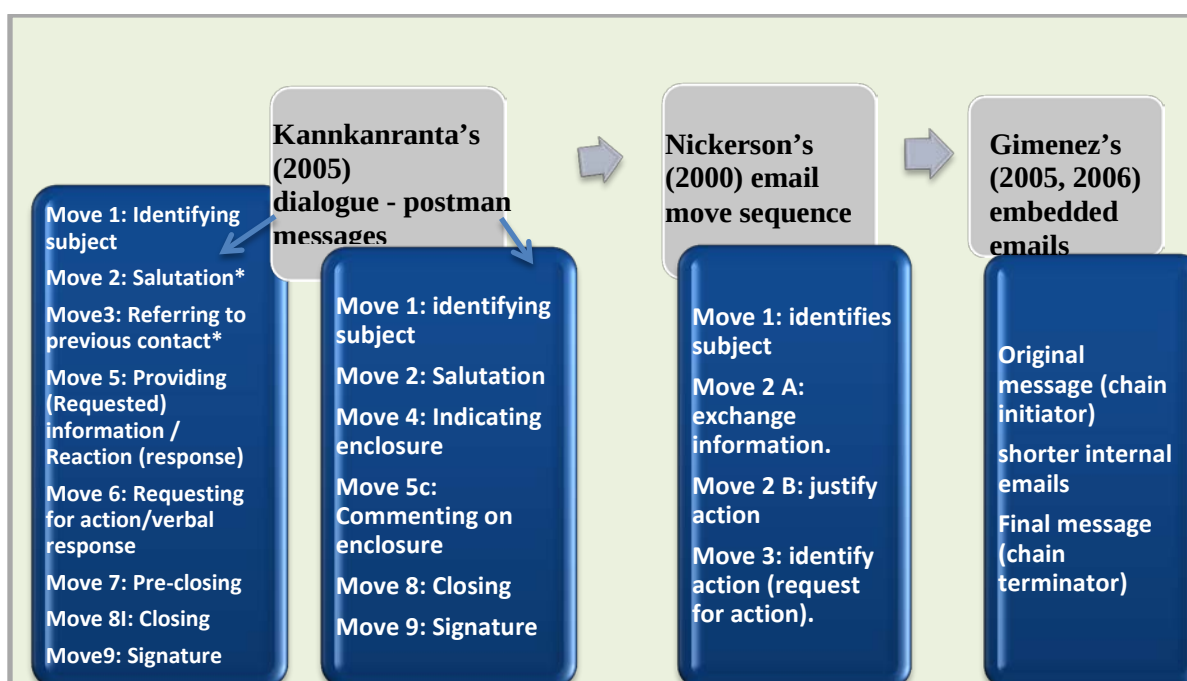


Diagram 2. 5: Kankaanranta (2005), Nickerson (2000), and Gimenez's (2005, 2006) Email Macro-organisation Models

Kankaanranta (2005: 273) move sequence of dialogue message notes that move 2 (salutation), and move 3 (referring to previous emails) is not always obligatory. Furthermore, her dividing these dialogue messages into opening and response messages directly engages the content of move 5. That is, move 5 comprising 'reaction' appear in the response dialogue message whereas 'providing information' can occur in both opening and response messages. Similarly, move 6, 'requesting for a verbal response' happen to appear in both. As to postman messages, they are characteristic of Move 4, 'indicating enclosure' and a variant of Move 5c which is 'commenting on enclosure'.

For Nickerson (op.cit.), Move 1 is obligatory move that identifies subject. It can include an opening move in which the sender elaborates on the subject of the message but the subject line suffices sometimes. The communicative purpose of Move 2a is to exchange information. Which is similar to Kankaanranta's (ibid.) move 5, providing information. However, what is interesting about Nickerson's (ibid.) move sequence is her identification of another move, 'justifying action', that paves the way for the subsequent move 2b 'identify action'. According to Nickerson's (ibid.) interpretation, Move 2 b (justify action) occurs in case the sender needs to continue to work with the receiver in the future whereby he needs to constantly justify his request for action. Finally move 3, identify action means request for action which is, again, similar to Kankaanranta's (ibid.) move 6, Requesting for action/verbal response.

Gimenez's (2005, 2006) model of embedded emails shows similar organisational features to kankaanranta's (op.cit.) dialogue messages. However, features of embeddedness appear in the dialogic mode of messages; the change of message subject throughout the progress of messages as well as embedded features of both spoken and written language. With all of the above organisational elements in mind, , the analysis of the email sample will draw from previous research experience into email genre macro-organisation while drawing its evidence, and illustrating with representative extracts, from the researcher's email corpus, mainly. That is, the move sequence adopted in this study will first of all be based on the content identified (i.e., communicative purpose of each move) in the researcher's email sample. Then comparisons will be made to check the existence of email features already proposed by above renowned email researchers.

It is nevertheless of note that passage from one level of analysis to another was done in a special way, which is shown in the diagram below at a glance.

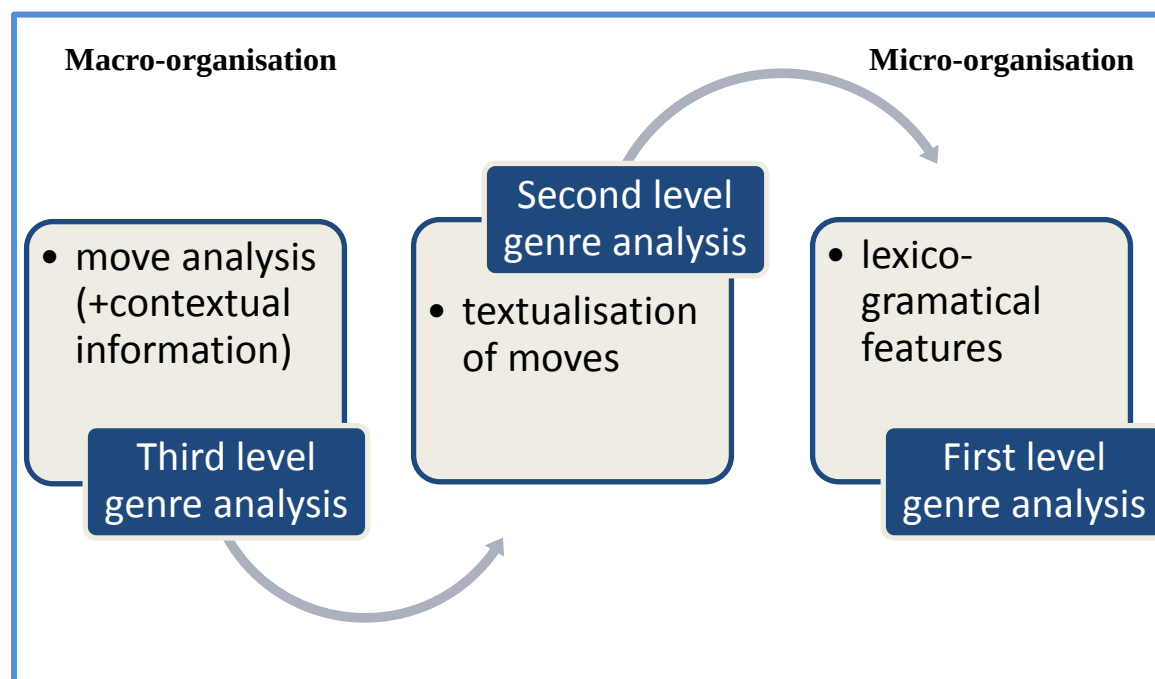


Diagram 2. 6: Email Genre Analysis Process Adopted in the Present Study

Instead of starting from first level of analysis, the analytical process is reverted, starting first from identification of moves sequence (move analysis); to tackling their textualisations, or lexical realisations⁽¹⁷⁾; to finally sorting out some typical lexico-grammatical features. Here, no quantification was reverted to. Instead tabular summaries showing occurrences of lexical items were offered to illustrate textualisations. Noteworthy is the role of ethnographic insight in providing contextual information during the move analysis level and even later on.

2.5.4.2 Analysis of the Meeting Genre

The present section offers an overview into the methodological procedures taken to approach the meeting corpus under study. The perspective taken in this study is consistent with that of Boden (1994), Schwartzman (1989) and Bargiella-Chiappini et al. (2013), notably that meetings are considered the microcosm of (international) companies and that they are events where the discursive practices of professionals are caught into action. Hereafter is a conceptual background defining the term meeting in general and business or professional meeting in particular.

a) Conceptual Framework

For Boden (op. cit.), meetings are in their nature talk. In turn “[t]alk is at the heart of all organizations. Through it the business of organisations is accomplished” (Boden, 1994:1), when conducted in a business setting, meeting interactions reflect the characteristics of an organisational or corporate context. This is in line with Schwartzman’s definition of meeting,

A communication event involving three or more people who agree to assemble for a purpose ostensibly related to the functioning of an organization or a group, for example, to exchange ideas or opinions, to solve a problem, to make a decision or to negotiate an agreement, to develop a policy and procedures, to formulate recommendations and so forth. A meeting is characterised by multiparty talk that is episodic in nature, and participants either develop or use specific conventions for regulating this talk. (Schwartzman, 1989:61)

What is understood from this definition is that meetings involve participants who meet and act adopting their professional roles to deal with professional problems and issues. They fulfil their institutional goals in the form of decisions, agreements, or ideas. The organisation of meeting talk and interaction is done through turn taking and topic progression. These latter are, conventionally, regulated by a chairman.

From another part, Handford’s (2010a: 60-1) description of the 21th century –both internal and external- business meetings is as follows:

- A set of participants in the form of dyadic/multiparty gathering.
- Evidence of a meeting agenda or topic (formal/informal, planned/spontaneous, written/spoken, fixed/flexible) (Holmes and Stubbe, 2003).
- (Work-related) goal of the meeting (Boden, 1994: 84)
- Particular turn-taking mode (constrained/specific, depending on the meeting phase, level of formality and power relationships)
- The influence of the professional/institutional/national culture
- Recognisable meeting beginnings and endings.
- Degrees of intertextuality (reference to e-mails or previous events/meetings or texts like contracts, etc.).

While some of the above elements of the meeting will be looked at in the analysis of the present meeting corpus, it should be pointed that the term ‘business meeting’ owes its label to the status of the professionals involved in business which distinguishes business discourse from professional discourse (Bargiella-Chiappini and Nickerson, 1999). That is, the

interactants' business focus, business purposes and even the text they produce in a way to facilitate business shape business discourse (ibid.). Additionally, the meeting is the event from which the data of the present study have been collected. This is sketched below.

b) Meeting Corpus

As mentioned above, the researcher will draw on data from the first video record that served as the primary data set of the MA thesis. As a reminder, the meeting which lasted 45 minutes was vide-recorded by the researcher herself on May 26th, 2009. It took place between local members of an Algerian global energy company and Dutch experts who were proposing some technical expertise and solutions to technical problems the industrial plant faced. In this meeting, English serves as the common language of the encounter. The meeting involved two phases: the pre-inspection phase in which the local engineers planned the two days of foreign expert's fieldwork in the plant. At the same time they evoked the technical problem, trying to hypothesise over its possible mechanical origins/solutions to the problem. The researcher who was present there could propose the underneath tabular summary that describes the main elements of the meeting.

	Meeting (May 26 th , 2009)
Local (Algerian) Active Participants	06 Algerian technical professionals L1:Arabic, L2: English, LN: French FO (chairman) +5 other Engineers MI, MU, RA, ICO, NA
Foreign Participants	02 Dutch technical experts (MOLT, MOLT ASSIST.) L1: Dutch, L2: English.
Main Topic	Discussing / solving technical problems related to the compressor parts
Language	English
Meeting type	External (contractually-bound) Technical meeting
Meeting Stages (Informal agenda)	• Planning the two days of foreign expert activities in the company + evoking the mechanical defect in compressor machinery • Break (lunch time+ expert's site inspection of defective machinery) • Expert's main report • Participants' discussion of the inspection report/question

Table 2.4: Summary of the Meeting Data Elements

Since one of its purposes is planning, as the table seems to suggest, the meeting represents what Koester (2010a) terms a '*collaborative genre*' in which '*the participants contribute ...towards accomplishing the goals of the encounter*' (p. 75). The nature of the participants' interaction is also defined by the agenda. This means that the Algerian participants will engage in *proactive* talk (Bilbow, 1995) originating from the fact that they were in a position where the expert had to reveal to them his report and they had to enquire about its main points, ask questions, seek details, request clarification, and provide opinions. Because of the same institutional situation in which the foreign expert had to reveal his plan or his inspection report afterwards, his participation tends to be *reactive* (*ibid.*) in nature, by replying to answers or providing clarifications on demand.

2.5.4.3 Multi-dimensional Genre Analysis of the Business Meeting Sample

While viewing genres as '*the communicative vehicles for the achievement of goals*', to follow Swales (1990: 46), the aim of examining the meeting genre sample is to highlight how business or professional purposes are achieved through the language of meetings from a macro- and micro- perspective to linguistic choices. To this end, the present study attempted to offer a corpus-assisted, discourse and conversation analysis informed examination of the meeting under study following Handford's (2010) multi-dimensional genre approach to business meetings (diagram 2.7). This first involved a bottom-up examination of the prevalent lexico-grammatical micro-organisational genre features. The macro-organisation of the meeting language derived from the most frequent discursive practices inherent to the genre. Then, a blend of both discourse analysis and conversation analysis was needed in the second stage of genre examination for more contextual analysis.

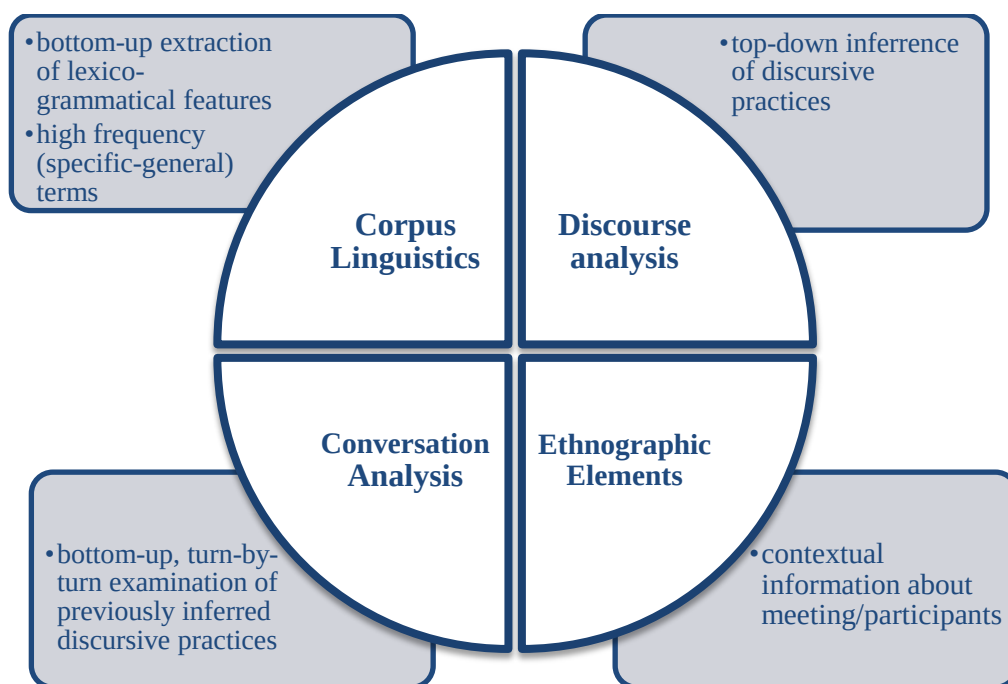


Diagram 2.7: Multi-dimensional Meeting Genre Analysis Used in the Present Research

While DA helped apply in a top-down fashion Handford's (2007: 35) meeting-related *fingerprint* discursive practices, the latter proposed a closer qualitative examination of these discursive practices, on a turn-by-turn basis, to highlight how the professionals *do* the meeting genre online. Here again, ethnographic elements were needed to back up the analysis in terms of providing necessary contextual information about both the meeting and its participants. More ample discussion of these diverse approaches used in the analysis of the meeting genre is deemed necessary. In essence, regardless the multiple approaches used, Bhatia's (1993) three levels of genre analysis underpin this analysis, too, by highlighting the micro- (lexico-grammar), macro-(text-related) organisation of the meeting genre before sorting out with some lexical realisations⁽¹⁸⁾.

a) Bottom-up Quantitative Analysis of Lexico-grammartical Features

Linguistic analysis involved the lexico-grammar and other text-related features such as the functional aspects of discourse and text organisation. More specifically, the quantitative analysis consisted of performing a lexico-grammatical analysis by looking for high-frequency-words in the small but specialised corpus (one meeting). The corpus under

scrutiny falls under the category of *in-house localised corpus*⁽¹⁹⁾, Open access corpora are generally large corpora compiled by one or many *institutions* and made open to the research community via internet) being compiled by the researcher herself for the sake of collecting empirical data from the researched site (Fuertes, 2008). Hence, the small amount of corpus is justified if one takes into consideration ‘*the limitation of collecting, and for spoken corpus, transcribing the data*’ (Koester, 2010: 67).

Koester (2010, the Routledge Handbook of Corpus Linguistics) states that the most frequent lexical items can be even in a small corpus whereas looking for high-frequency-words in a large corpus is even unmanageable. She adds that one advantage of a small specialised corpus is that it provides a link between the texts and the specific context in which they were produced. Whereas larger corpora-based studies study text and co-text *per se* (Flowerdew, 2005), this analysis makes additional reference to *context* to highlight the professional identities and roles of participants who concretise the genre with their goal-oriented language (Hanford, 2010a).

This lexico-grammatical examination used a software-supported corpus-based quantitative analysis (such as TXM (Heiden et al., 2010) and the Online-Utility text analyser). Word searches were presented in the form of descriptive statistics of the main recurrent lexical features in the meeting. To cope with the limitation of the small corpus, these features were compared to Handford’s (2010) data derived from the benchmark corpus (CANBEC, and Handford and Matous’s (2011) Hong Kong (HK) corpus of international construction industry. While the first mainly served identify similar characteristics as the language of business in similar external business meetings⁽²⁰⁾, the second one was referred to find similar patterns as regards the language of engineering.

Corpus based genre analysis involved lexicogrammatical analysis, that is the quantitative analysis its keyword and clusters through keyword high frequency search. It highlighted the most frequent key words and compared them to statistically significant keywords from larger benchmark corpora of the same genre. In specialist genres, keyword search revealed both the content knowledge (Tribble, 2002, in Handford , 2010b) that are specific to this community of industry professionals as well as the interpersonal language used (Handford, 2010a).

Another way of looking at the corpus data was also through concordances, ‘*a collection of the occurrences of a word-form, each in its own textual environment*’ (Sinclair, 1991: 32, cited in Tribble, 2010 : 167) running right and left concordances of the most frequent key words offered insight into the ‘stylistically salient’ lexico-grammatical features of the genre in question. If concordances were thus far needed in the interview transcript analysis to reveal more about the latter’s thematic organisation (i.e., thematic exploration of the key terms denoting key topics or issues⁽²¹⁾; in other parts (meeting and email samples), concordances⁽²²⁾ were exploited to discover ‘*how lexical items collocate*’ (Tribble 2010: 182) to sort out with representative lexical phrases (linguistic exploration)- to be then suggested for pedagogical application as authentic teaching materials.

Because the researcher was herself the corpus compiler, she was able to use the quantitative findings generated from software-based corpus analysis to complement her qualitative analysis (Koester, 2010a). Here also, the researcher referred to other corpus based findings as a ‘*benchmark genre(s)*’ (Koester, *ibid.*) against which to compare the linguistic and discursive features identified in the single-meeting corpus under study⁽²³⁾.

b) Qualitative Analysis of the Meeting Based on Handford’s Model

To see the whole of the elephant, in Bhatia’s (2004) terms, the qualitative analysis attempted to highlight some of the pertinent discursive practices that Handford (2010) identified as key constituents of the business meeting genre, together with their linguistic realisation. Discursive practices are ‘*recurrent patterns of linguistic behaviour that are decipherable in transcripts of business meetings*’ (Handford, 2010a: 66).

c) The Genre Perspective

In studying the business meeting as a genre, Handford (*op. cit.*) adapted Bhatia’s (*op. cit.*) model of written professional genres to spoken discourse to uncover ‘*how specific practices and their linguistic manifestation create the business meeting genre*’ (Handford, 2010a: 63). Handford’s (*ibid.*) large meeting corpus analysis - of 64 meetings from 26 companies -revealed some systematic discourse features of the business-meeting genre that ‘*help account for the dynamism and recurrence of this genre*’ (p. 88).

Move pre-2: Meeting preparation (not always happening/ happening in the past, not accessible in the transcript)

Move pre-1: Pre-meeting (talking about the prerogative of the chair)

(Transition Move) ('the Chair's dominant role is re-established and the Group's role proportionally restricted' (Chiappini et al, 1997: 210))

Move1: Meeting opening

(Transition Move)

Move 2: discussing the main points of the agenda

(Transition move) (attempt from the part of the participants to change the topic/turn-taking order)

Move 3: Meeting closing

Move 4: post meeting effects (scheduling for another meeting/ leaving some notes to coming meeting)

Table 2.5: Structural Aspects of the Business Meeting Genre (Handford, 2010a: 69)

While emphasising the idea that the business meeting is a genre with clear beginnings and endings, Handford (op. cit.) nevertheless added supplementary features to the meeting genre already proposed by Holmes and Stubbe (2003) and Bargiella-Chiappini and Harris, 1997) (move 1: opening of the meeting; move 2: discussion of the agenda; move 3: closing of the meeting). In-between, Handford (op. cit.) added three stages that he viewed as obligatory for all meetings besides two stages preceding the opening (pre-1 and pre-2 stages) and the post-meeting (stage 4).

A total of six stages (or moves) separated by three transitional moves (i.e., functional language signalling transition that occur within or across the speaker's turn). While opening and closing moves (move1 and move3) do not represent the core of the meeting event, following Handford (2010), it is the second move, which revolves around discussing the main points of the agenda, which is composed of task-oriented talk in majority (Holmes and Stubbe, 2003), hence represents the focal point in the analysis of the meeting. Accordingly, the analysis of the single meeting in the researcher's possession will equally capitalise on move 2.

Handford added to Holmes and stubbe's (2003: 63) classification of meeting purposes, goals and functions (i.e., planning (prospective, forward-oriented); reporting (retrospective,

backward-oriented); task-oriented, problem-solving (present-oriented)) a fourth category related to external meetings which is exploratory meetings (supposition-oriented), which involves giving and receiving information and advice, reflecting hypothetical situations related to, say, the development of the relationship between the two companies.

d) The DA-cum-CA perspective

The study of Handford (2010: 1) shows how DA is used to describe and interpret a fully transcribed, ethnographically informed corpus (CANBEC, the Cambridge and Nottingham Business English Corpus) of business meetings, through the inferential extraction of recurrent meeting practices and their realisation through language

From a DA perspective, the analysis shows how meetings are made up of stages and how practices can be inferred by looking at the language that is found in a given stage and how some language items play a role in the meeting as it progresses (Handford, 2010a: 93).

He identified the main stages of business meetings. These stages are characterised by some key discursive practices that reveal the goal-driven activities of the participants who belong to this specific business/ professional community.

Expectations	Setting the agenda/ Opening the meeting
Formulations	Summarising progress/ Summarising information/ Seeking clarification/ Checking shared understanding/ Emphasising shared understanding
Recollections	Orienting to past events/ Orienting to related events/ Orienting to recurrent events
Instantiations	Operationalising topic shift/ Bringing discussion ‘on track’/ Taking discussion off track/ Cutting speaker off/ Making an aside/ Reaching a decision/ Blocking a decision/ Postponing a decision/ Requesting future meeting/ Bringing topic to a close/ Bringing meeting to a close compliment

Table 2.6: Recurrent Discursive Practices in Business Meetings (Handford, 2010a:

While the above discursive practices serve as '*fingerprints*' for meeting analysis in Handford's (2007: 35) view, the present study looked at one significant discursive practice, '*formulations*', through which the participants summarise progress or information; seek or provide clarification; check or emphasize shared understanding. Others were *Expectations*, like orienting to the agenda-related topics and *recollections* like referring to past events, all of which illustrated with representative extracts. The analysis will elaborately focus on '*Instantiations*' as they represent another key discursive practice that constitutes an intervention in a way that was not foreseen in the agenda. Most importantly, they are revealed to show how the participants recreate genres, by altering or managing the direction of the discourse within the meeting genre while the meeting is in progress (Handford, op. cit.). The analysis will likewise elaborate on 'Bringing discussion on track/to a formal footing', 'Cutting the speaker off', and 'Making an aside' as typical forms of *instantiations* that are representative of the meeting under study. With these above meeting discursive practices in mind, a turn-by-turn bottom up examination that CA offers will be richer in detail.

The present study undertakes a multimodal genre analysis combining both Discourse Analysis (DA) corpus linguistics and Conversation Analysis (CA). This multimodal analysis is believed to bring useful insights into the study of how and why communication is framed in the business meetings under scrutiny. Though they are united in principles, the two approaches are different in some points. This is why it is worth mentioning where the difference between them lies.

2.5.5 Discourse Analysis Conceptual and Analytical Framework

While being interested in particular professional domains projecting specific purposes of English use, the primary aim behind using DA to approach authentic data is to shed light on '*the practices shared by workplace and professional communities, and the genres they use*' (Koester, 2010b: 143). From a pedagogically-oriented needs perspective, this direct window on professional context that DA provides aims to show how, '*Business professionals ... interacting in a lingua franca situation may actually share the same corporate and professional discourse systems, thereby greatly reducing the potential of misunderstanding*' (ibid: 143). To pave the way for the analyses of our data, a clarification of DA is proposed here. Before moving on to defining the specialist term of DA, it is better to first figure out the literary meaning of the term 'discourse'.

2.5.5.1 Discourse Analysis Defined

DA method is considered as an interpretative procedure for the analysis of particular speech events (Mercer, 2004). While the first studies of discourse focused on the abstract structures of (written) texts, current approaches are interested in the study of (spoken, oral) talk-in-interaction. DA sees language as a tool of getting things done. It deals with the organisation and function of text or dialogue (episodes of talk) within a social context. Brown and Yule better summarise this function of DA as stated below,

The analysis of discourse is, necessarily, the analysis of language in use. As such, it cannot be restricted to the description of linguistic forms independent from the purposes or functions which these forms are designed to serve in human affairs” . (Brown and Yule, 1983: 1).

It is plain from Brown and Yule’s (1983) definition that DA adopts a functionalist stance. Likewise, DA brings about useful insight into how people or societal groups purposively use language.

2.5.5.2 DA Analytical Framework

As postulated earlier DA adopts a certain framework or scheme via which talk is examined. To ascertain readers gain a general view of what it constitutes, the whole system is first presented to pave the way for discursive treatment of the corpus in later stages of the study. To start with, it is more instructive to define DA framework from Potter’s following definition,

Discourse analysis is concerned both with the organisation of texts and talk in practices, and with the discursive resources that those practices draw on.” (Potter, 1996: 9)

According to the above definition, discursive resources are deployed to make talk into practice. DA looks at ‘Acts’ which are units at the lowest rank of discourse. Acts make up ‘moves’ which form part of ‘verbal exchanges’ structure. They correspond most nearly to the grammatical unit clause. Here, grammar is concerned with the formal properties of an item (noun, pronoun, noun phrase, imperative, etc.). In instance of moves that can be found in meeting exchanges for example, there are opening moves, answering moves, or follow-up moves. Of course, each move has a function and can reflect specific professional domains⁽²⁴⁾.

Another focal point is ‘Discourse’ with the functional properties, with what the speaker is using the item for. As it were, three sentence types emerge from discourse, i.e.,

declarative, interrogative, imperative. Three major acts emerge from discourse, too: elicitation, directive, informative. They may occur in all forms of spoken discourse and are considered as the key elements of initiating moves. For example ‘a ‘Directive’ is an act whose function is to request a non-linguistic response *per se*. From another part the ‘Informative Act’s’ function is to convey ideas, facts, opinions, information. Of course, variety arises from the relationship between grammar and discourse. That said a tabular summary of the situational categories realised by the different grammatical types of an utterance is presented below.

Discourse Categories	Situational Categories	Grammatical Categories
Informative Elicitation Directive	Statement Question Command	Declarative Interrogative Imperative

Table 2.7: Situational and Grammatical Categories in Discourse Analysis

Mercer (1997) refers to ‘rhetoric’ as one element of study by DA. Rhetoric is defined as “*a clever type of speaking...or the use of words concerned more with effect and style than with content and meaning*” (Wooffitt, 2005: 95). As it were, visual rhetoric consists of using non-verbal signs to help clarify meaning. Verbal or written rhetorical devices of interest to the study are hedging or politeness. Clearly, investigating such ‘*gross features*’ of discourse using ‘*broad content themes*’ (Potter, op. cit: 17) of talk is the main task of DA. As far as the present study is concerned, only the most relevant content themes that would inform our enquiry will be uncovered in our DA approach to the meeting data.

a) Transactional vs. Relational Language

In discourse analysis, transactional or task-oriented language is distinguished from interpersonal, phatic, otherwise termed relationship-oriented language (Brown and Yule, 1983). These two types of language also occur in external business meetings under different forms, similar to McCarthy’s (2000: 104, in Handford, *ibid*: 43-44) analysis of service encounters below:

1. Phatic exchanges (greetings, partings)
2. Transactional talk (requests, enquiries, instructions)
3. Transactional-plus-relational talk (non-obligatory task evaluations and other comments)
4. Relational talk (small talk, anecdotes, wider topics of mutual interest).

Though transactional language forms the bulk of business meeting talk (Boden, 1994), interpersonal language also interferes within the latter. They do not always fill in awkward moments of silence, but are said to be purposively used to either '*reinforce the relational context*' (McCarthy, 2000: 104, in Handford, 2007: 44) or to pursue transactional goals in spite of the seemingly relational content Handford (ibid).

These two types of talk will be addressed during meeting data analysis⁽²⁵⁾. Among its other instances, relational language through the collective pronoun 'we' (in comparison to I, or you) for example will be examined. Because relational language occurrences can be checked beyond word frequency data, examining their real transactional goals-if any- is also to be done via turn-by-turn organisation of talk (i.e., CA).

b) Business Discourse Goals

McCarthy (1998) distinguishes between unidirectional and collaborative discourse. Both discourse types are manifest in business meetings. Collaborative discourse, with its three types of talk, i.e., making arrangements, decision-making, as well as discussing and evaluating, occur sometimes during the same meeting. Within unidirectional discourse, briefing, directives, requesting action/permission/a favour, and reporting represent the main types (Koester, 2006: 32). For Handford (2007) though business meetings seem to be collaborative in essence, they also contain unidirectional discourse with varying degrees of directness. In the qualitative analysis of the meeting, inferring these discourse goals, together with their roles and lexical realisations, also combines additional insight from CA for a closer examination of the latter in the context of conversation.

Some lexico-grammatical units have some discursive functions which can easily be figured out at the sentence level only. However, many other discursive practices are achieved over turns, suggesting therefore a more bottom up perspective, which will be detailed later.

c) Discourse Practices

Whereas goals hitherto established *what* participants aim at through communication at, practices project *how* these goals are achieved. Focusing on practices in DA emphasizes an *automatic, normative* perspective on discourse (Handford, 2010a: 31). This perspective allows for interpreting the discourse practices⁽²⁶⁾ produced by experienced participants during a business meeting for example as the reflection of the corporate context. Handford distinguishes practices from strategies, which are more spontaneous and unusual than the normative practices. However, they can be creatively applied by expert members of the genre to fulfill specific goals in mind (Bhatia, 2004). Here it is the role of the discourse analyst to make the relevant inferences about such a locally-emergent strategy in light of the available authentic data.

2.5.6 Conversation Analysis as a Supplementary Approach to the Meeting Genre

In this section, the points at which CA contrasts with DA are proposed to justify the researcher's decision to approach her data using both methods, following Handford's (2010) research experience. Even though DA and CA both focus on spoken language, the latter is approached by CA in a different way from DA. The main analytic styles of CA and DA are displayed in the table below.

Conversation Analysis	Discourse Analysis
Studies the organisation of talk-in-interaction	Studies both written and oral text
Data-driven analysis of actual pieces of language, real-life conversations. Empirical approach which avoids premature theory construction	Appeal to intuitive, theoretical judgment
Methods are inductive- search for recurring patterns	Focus on the <i>gross features</i> of talk (linguistic/discursive repertoire)
immediate categorisation of restricted data	Use of inferential categorisation of discursive practices

Use of specialist, technical vocabulary (repair, TRP, TCU, etc.)	Use of broad, general terms to describe the discursive practices.
Examine transcripts of naturally occurring data	Authentic talk, newspaper articles, verbal accounts generated from interviews and any other texts.

Table 2.8: Analytical Characteristics of CA vs. DA (Adapted from Potter, 1996; Wooffitt, 2005)

Using CA, the sequential organisation of talk is uncovered together with the ways in which utterances are designed to manage such sequences. Such turn-by-turn sequence of talk is believed to reveal the participants' interactional sense-making procedures within the context of conversation. Here, CA emphasizes the interactional consequences of the utterances with little recourse as possible to intuitive, interpretive judgment that DA is known for (Wooffitt, 2005). Unlike DA, the detailed procedures employed in CA have proved capable of revealing deeper insight into the organisation of conversation. While its use is rare and only descriptive in CA, quantification⁽²⁷⁾ in DA is reverted to, to allow for initial inferences about of the linguistic realisation of discursive practices (Potter, op. cit.). This blend of qualitative-quantitative methods is illustrated in the diagram below.

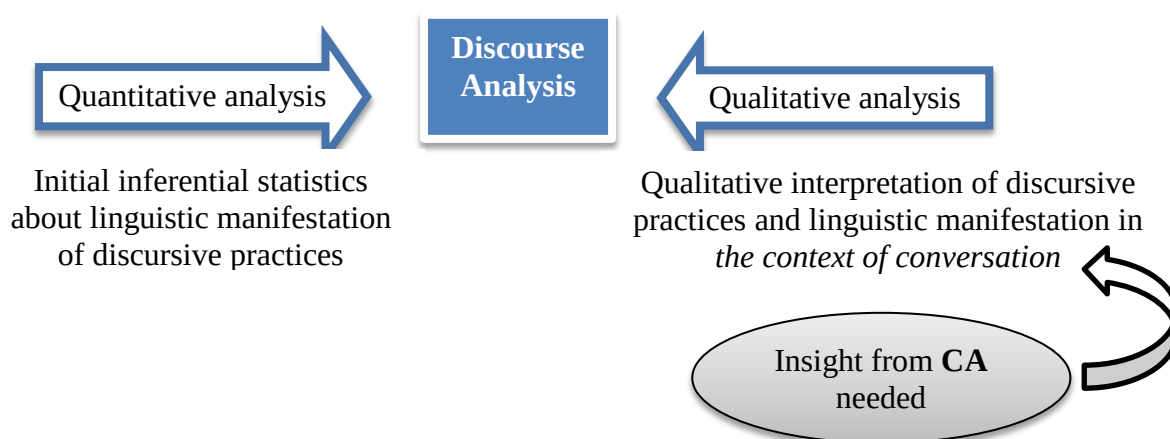


Diagram 2. 8: Analytical DA vs. CA Approaches to the Authentic Meeting

As shown in the diagram above, quantifications under the form of tabular counts will back up the DA approach to the meeting data while insight from CA will be required in the

closer qualitative examination of the meeting organisation on a turn-by-turn basis. Finally, because of its focus on fine-grained details of talk, CA developed a specialised, technical vocabulary (adjacency pair, turn constructional unit, etc.) that DA does not possess (Wooffitt, 2005). Before providing further details about CA analytical and conceptual framework, a definition of talk and how the discipline of CA views it is proposed.

2.5.6.1 Talk as a Collaborative Construction

Social interaction in face-to-face encounters involves a conversational exchange between speakers and hearers and meaning results from a jointly created discourse (Heritage 1984). Approaching talk as a collaborative construction is inspired by Goodwin's (1979) view on the interactive construction of a sentence or an utterance through production vs. reception and speaker vs. hearer that are all taken into account. The collaborative nature of interactional data allows the researcher to describe the interaction as a joint process in which both speakers and listeners participate (i.e., to observe the production and the reception of the message). Talking to each other is seen by CA as "*an emergent collectively organised event*" rather than "*a series of individual acts*" (Ten Have, 1999: 9).

Naturalistic L2 use is conceived as interactions that occur without the influence or involvement (direct or indirect) of the researcher (Firth, 2009:132). Gardner and Wagner (2004) differentiate between talk in experimental environments (in classrooms or laboratories) through role-plays, games, simulations and the like; and talk in naturally occurring environments (for e.g., in the workplace). The former have no real world consequences whereas the latter do have. Moreover, in experimental data, L2 speakers are judged by the researcher to be '*less competent and less resourceful than the naturally occurring data show them in fact to be*' (Gardner and Wagner, op. cit: 2).

Real-life conversation like when people are conducting business is one such domain in which CA is applied. The focus is on professionals' talk that reveals their meaningful conduct and sense-making procedures in relation to the context of business (Firth, 1996). The focus is also on '*the institutional turn*' in CA and on '*how institutional or work-related agendas or mandates are reflexively constructed and oriented to through the processes of talk in interaction (doing being professionals)*' (Firth, 2009:134).

2.5.6.2 How Conversation is Analysed

Conversation Analysis has been extensively described in our MA thesis. Still, it is useful to invoke the key technical terms that make of CA a formal discipline. Introducing this formal vocabulary here is essential in understanding the subsequent turn-by-turn analysis of meeting genre.

a) Turn-Taking

To uncover the participants' different verbal procedures and activities that are coordinated to achieve interactional order, the analyst examines the sequence of interaction on a turn-by-turn basis. In doing so, he analyses a given utterance, not in isolation but in relation to prior and following turns in the conversation. This is because understanding how a turn occurs requires an examination of prior turns before its realisation and provides the basis for understanding the turns that follow later (Woofitt, 2005). What follow are some features and basic technical terms that the conversation analyst has to stop at to demonstrate the sequential organisation of interaction under analysis.

From a conversation analytical perspective, a conversation basically consists of turns during which only one speaker talks. The sequence of turns follows a normative principle of turn-taking through which speaker-change happens (Sacks et al: 1974). To examine the turn-taking system, the conversation analyst looks at the way turn construction units (TCUs) and transition relevance place (TRP) are arranged. '*The statement component of the turn is the construction unit*' (Woofitt, 2005: 51). It is at the end of TCUs that 'turn-transfer' is likely to happen (Woofitt, 2005: 27).

b) Transition Relevance Place

A Transition Relevance Place (TRP) is a mechanism through which the current speaker who 'holds the floor' signals to others the end of his speech, hence, the possibility of taking the turn. In doing so, the current speaker 'throws the floor' to other speakers in a direct way by naming other participants.

The other case representing the indirect aspect of the TRP rule is when the current speaker does not himself allocate the turn while indirectly signalling to others to take the turn (through a pause, gaze, falling intonation, etc.). Hence, it is possible for any other participant

to initiate the turn-transfer at this appropriate place, i.e., at TRPs (ibid.). The TRP is also indirectly predicted from the current speaker's intonation, choice of words, speed delivery or else, through adjacency pair (question-answer for e.g.).

c) Adjacency Pairs

Adjacency pairs are two successive utterances produced by two speakers involved in a conversation. This results in two subsequent turns like greeting-greeting, question-answer, complaint- acceptance/ denial, invitation- acceptance/ denial, offer- acceptance/ rejection (Schegloff, 2007). The speaker who utters the *first pair part* expects the addressee to produce the *second pair part* which is *conditionally relevant*. Examining such a normative exchange allows the analyst to better understand the speakers behaviour in relation to the structure of conversation. In other words, if the second pair part is not produced, the analyst interprets it in terms of uncooperativeness or non-understanding due to linguistic incompetence, for instance.

<i>Adjacency Pairs</i>	<i>Examples from our Data Transcript</i>
Summons/answer	NA: you see the behaviour of the compressor? MOLT: no (.) only the record
Offer/ acceptance or rejection	MOLT: You want to have a look at it? NA: no. err- we follow you- your programme

Table 2.9: Some Examples of Adjacency Pairs from the Meeting Transcript

As the examples from the table above clearly illustrate, the second part of the adjacency pair carries two possible actions as a response to the first pair part. Preferred responses are sign of 'affiliative' action that shows solidarity and alignment with the adjacency pair initiator. By contrast, dispreferred responses convey a certain kind of 'disaffiliative' conduct which is interpreted in terms of conflict (Heritage, 1984: 269). Additionally, some types of adjacency pairs (requests, offer, invitation, announcement) have their second pair parts showing 'agreement' or 'disagreement' through '*granting*' or '*rejecting*' rather than 'acceptance' or 'refusal' formulations respectively (Schegloff, 2007: 59).

d) Overlap

Even though one turn involves one speaker at a time, *overlap* occurs when another speaker starts speaking while the current speaker has not yet finished. Overlapping speech provides important analytical elements about what is happening during the conversation (Heritage, 2005). Supportive overlap takes place to assist the current speaker complete the turn as illustrated in the following example.

MI: yes.I think e::h (0.8)the material isn't e:r-(3.0) isn't[good fo]r=
FO: [adequa]te
MI: = temperature variation

Extract 2.1: An Instance of Overlap from the Meeting Transcript

As suggestive from the extract below, the three-seconds silence period, during which MI was searching for the word, made FO initiate an overlapped speech to participate in the word search, hence in the completion of the turn.

e) Repair

Repair is the mechanism through which participants remedy to problems of hearing, speaking or misunderstanding that occur during interactional language use (Schegloff et al, 1977). When the resulting misunderstanding impedes the course of interaction, repair ought to take place to ensure intelligibility. The 'trouble-source' or 'repairable' (Schegloff, 2007: 101) does not concern language production but it encompasses all what participants judge as troublesome including problems in talk reception. *Self-initiated repair* refers to the current speaker's self-correction after having noticed his trouble-source. In parallel, *other-initiated repair* concerns the recipient's signalling and repairing the trouble source of the speaker ((Schegloff et al, op. cit.; Hutchby and Woofitt, 2008).

2.5.7 Coping with the Limitation of Small Specialised Corpus

Part of reporting on the '*blind alleys ... integral to the research process*' (Harwood 2005: 254, cited in Paltridge and Starfield, 2007: 123), it is important to note that the amount of data collected for this study depended on the on-site visiting period and type of access to data allowed in the industry sector. While the researcher, during her MA thesis, benefitted

from a three-months training period in the same plant, new regulations during the PhD research period allowed for only one-month of field visits per plant -that could be renewed for doctoral researchers⁽²⁹⁾ for security reasons.

The researcher was not allowed to make records of authentic meetings in the case plants visited, having chosen to research the setting in transparency. From another pole, making audio-records and directly observing professional talk-in-interaction revealed problems of access to confidential data that the investigator into business discourse is always battling with (Bargiella-Chiappini et al., 2013). Hopefully, during a total of three months of field visits to the two neighbouring plants, the researcher did her best to collect the maximum of information to thoroughly cover the research theme.

In corollary, ethnographic observation could be made; interviews conducted and questionnaires administered. Only, this time, apart from collecting authentic email samples, the researcher's participation in and the recording of authentic meeting interactions were restricted. As a result, the latter was exploited again, but from another research vantage point⁽³⁰⁾, authentic spoken data already in her possession, (i.e., the meeting recorded in 2009 during her MA thesis preparation) being firmly convinced that the latter will serve the purpose from the moment that data derived from national engineers working in the same industry setting.

In the same vein, the emails sample gathered for the purpose of the study bore a drawback, too. The limitation concerned the small size of the email corpus. Although they constituted authentic mutual interaction with foreign partners, the emails gathered were only 22. A bigger number of emails could have been gathered; nevertheless, the collection of such emails was a challenging task, too. Business emails, like oral business discourse, are also confidential (Mehrpour and Mohaddesh, 2013). In corollary, professionals are reluctant to share their emails with the researcher. The majority of those who promised to send the researcher their emails later on, or after asking the permission of their superior never did in spite of the researcher's friendly reminders.

While Sinclair (2004) puts forth that '*small is not beautiful; it is simply a limitation*' (p. 189), Koester (2010a) explains that this limitation does not affect the validity of results but their generalisation over other more general genres. She adds that the limitation of small corpus derives from access and transcription, i.e., the fact that it is usually compiled by an

individual researcher, like an ESP researcher, who is usually the transcriber. This is particularly the case for *spoken* corpus where the reality of the target situation (including limited access and restrictions in permission from one side, besides the time consuming transcription from the other side) override such ‘*academic*’ arguments as to the appropriate size of the corpus (Hunston, 2002: 26, cited in Koester, 2010a: 71) making the researcher exploit the data that are available to her no matter how the size is.

Biber (1993, cited in Koester, 2010a) found that common linguistic features of a genre show stability in their occurrence starting from 1000 words sample and five to ten text samples representing a genre, which makes 20 emails acceptable. 1000 words. As to the single meeting analysed in this study, Flowerdew (2004) confirms that it is more important to collect complete texts or interactions that represent the genre rather than an *artificial* large corpus with long texts. However, Koester’s (2010a) consideration of the minimum number of texts that represent the genre (at least five texts) specifically applies to those frequently occurring, over-represented genres. For the under-represented ones, the solution is to make comparison between the genres represented by fewer than five text samples and ‘benchmark genres’ or ‘macro-genres’ (that is, similar genres grouped together in a larger number of text samples).

2.5.8 Advantages of Small Specialised Corpora

One advantage in relation to smaller corpora is that it is easier to make reference to the original context of use from where data were gathered, which is not usually the case in larger corpora collected from various contexts (Flowerdew, 2004, cited in Koester, 2010a). This is to say that especially in the case of small specialised corpora, the pattern of language use is often suggestive of the setting in which it has been collected. This is due to the corpus compiler’s familiarity with the context (see diagram 2.6) (information about the setting, participants, and purpose of communication, etc.), as Koester (2010a) truly puts it since the corpus compiler and transcriber is the researcher herself.

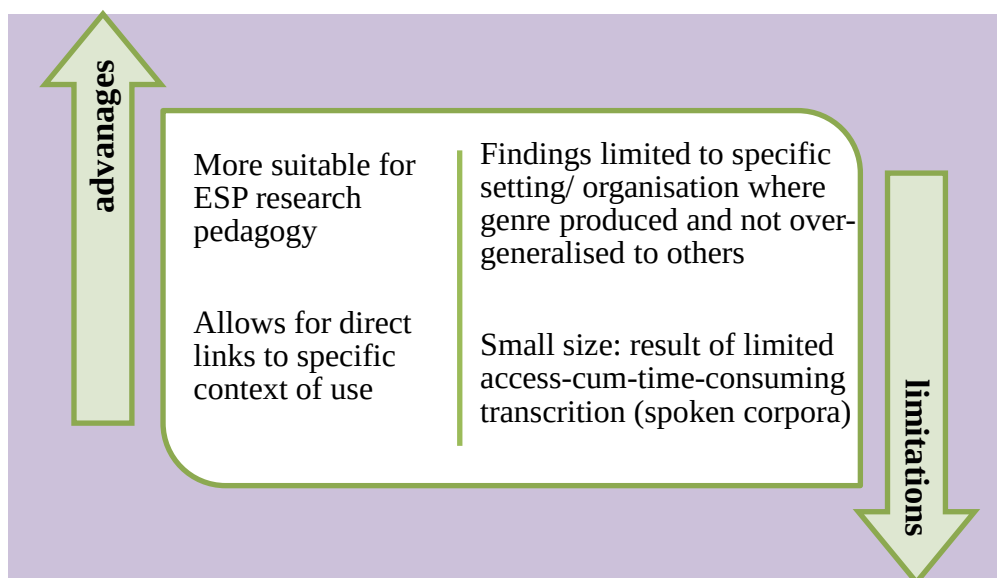


Diagram 2.9: Advantages vs. Limitations of Small Specialised Corpora (Author's Conception)

Specifically for a spoken corpus the role of contextual data, that Koester (2010a: 72) refers to as '*untranscribed recorded data*', is to provide background information that informs the analysis and the interpretation of the corpus data. For example, Handford (2010) used contextual information to back up his spoken meetings corpus (Cambridge and Nottingham Business English Corpus, CANBEC) in highlighting the relationship between the speakers (subordinate-manager, colleague-colleague); topic (technical, sales, marketing, etc); and purpose of the meeting(internal/external), among others.

2.5.9 Confidentiality Vs. Ethical Issues

Business settings, when being the researched site, create many challenges to the researcher, among which is the confidentiality and sensitivity of data collected. Researchers who already collected authentic data, such as meetings or e-mails, from the workplace acknowledge such a challenge (e.g., see Bargiela-Chiappini and Nickerson, 2003). any reference to the identity of the company and the businesses involved in was omitted in both the meeting (see appendix VII) and interview (see appendix IV) transcripts, to abide by rules of good practice (Baude at al., 2006).

In the email corpus, headers and footers including real email addresses of the correspondents, their office address, and telephone numbers were replaced with dotted line

(see appendix V). Even reference to a mechanical equipment or a brand name was cleared. While real names were replaced by xxx in the email corpus and interview transcript, the use of pseudonyms (ICO, MU, MOLT, etc.)⁽³²⁾ was opted for in the meeting transcript to differentiate between turns taken by the latter (see appendix VI). In the interview transcript, interviewees were allocated acronyms that reflect their job position and category for the purpose of the analysis (from a NA perspective). As it were, MM referred to middle manager while HM referred to higher manager and engineer was referred to with I (referring to the French term *ingénieur*). The technical department was referred to with T and Maintenance department with M, and so on for the finance and purchase departments (F and P, respectively). As such, MMM stands for a middle manager from the maintenance department, etc. (see Appendix IV). Finally, confidentiality justifies the researcher's choice not to reveal the identity of the researched corporate setting (exact identity and location) in earlier sections describing the research context in this chapter.

Field visits to the corporate site in quest for specific work-related information from professionals also entailed some ethical procedures. After having clearly explained the broad research theme, tools and intended sample to the staff managers of the human resources departments of the two plants, both of them have sent a message via intranet to the different staff managers of the departments in question. This was done to officially inform them about the researcher's imminent visit to their offices as well as to solicit their cooperation. Nevertheless, the researcher, at each first contact with one of the employees, had to introduce herself and the reason for which she needed their personal accounts. This was coupled with the researcher's showing a printed copy of the aforementioned official email message to some of the busy staff managers of other departments, as a proof of prior official consent from HRD middle manager.

2.6 Ethnographic Background of the Research Context

As informed by ethnographic field notes, desk research, and discussions conducted with different engineers and lower-managers from different departments of the researched site, the researcher was able to provide an initial broad overview as regards language needs in the plant under study. As recommended by Bargiella-Chiappini et al. (2013), Bäck's (2004) Multilevel Approach offers a synopsis of the different factors that provide an explanation to why '*an individual text or spoken event comes to exist in a particular language*' (Bargiella-Chiappini et al: 2013: 131), e.g., in our case French and not English. But in this study, Bäck's

model (see chapter two for more details about his work) only helps categorise the ethnographic information gathered in a bottom-up way through fieldwork observation from the most general to the most specific one. Such a methodological framework is like *‘avoiding the pitfalls of simply collecting large amounts of descriptive information in different unconnected contexts’* (Bargiella-Chiappini et al: *ibid.*).

The researcher has proceeded to the examination of public signage (Shohamy and Gorter, 2008) inside the corporate units, a collection of official and unofficial documents that pertain to corporate English language needs. The aim was to determine which languages are promoted, allowed and/or prohibited, while granting a special focus on the need for English in particular.

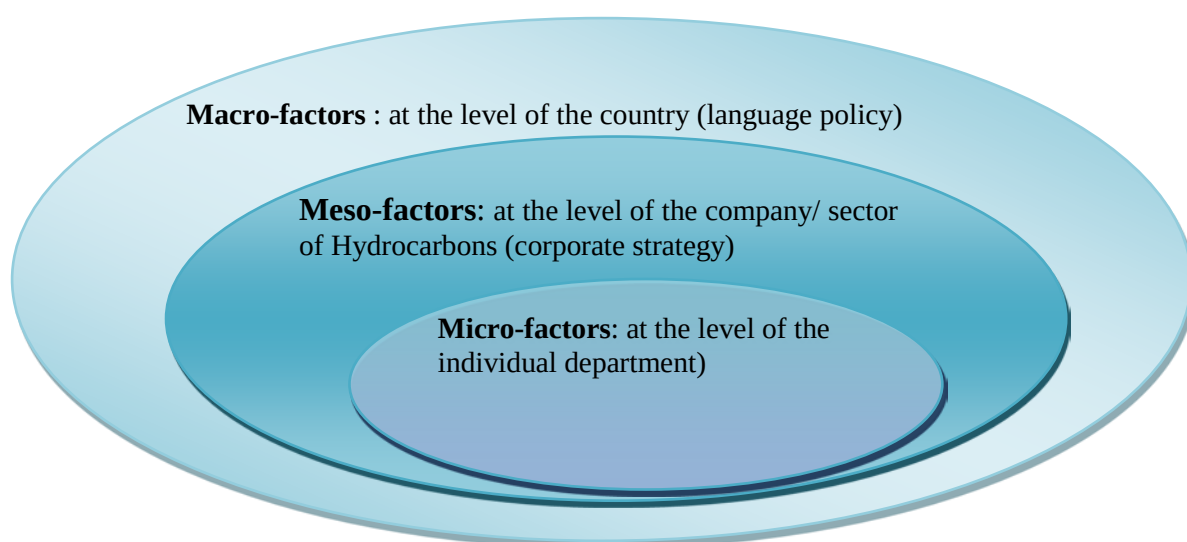


Diagram 2. 10: Language Need Factors (Adapted from Lavric and Bäck, 2009)

The diagram above illustrates the classification of the different factors affecting language use that the researcher gathered from different tools of data collection. What follows is a synopsis of these different elements.

2.6.1 English Language Needs at the Macro-level

The current foreign language skills of the population of a certain country are the result of the long term product its language policy according to Lavric and Bäck (2009). In Algeria,

French, the colonial heritage, is the most widespread foreign language. It is taught as a school subject from the third grade in the primary school until the tertiary setting. In spite of the Arabization policy of all the sectors, French still holds an equal status as Arabic in administration, science, media and culture.

Not only was it their medium of instruction, but practising doctors, biologists keep using French in their daily work even in designing documents and medical reports meant for ordinary, non-intellectual patients. Due to both its geographical proximity and economic strength, France remains an important business partner. This relationship is fuelled by and boosts the important role of the French language. Besides, since “*the knowledge of foreign languages by citizens of a certain country determines the offer of foreign languages on the labour market*” (Lavric and Bäck, 2009: 47) for the company, the French language area remains an important market for the Algerian equipment importers. The knowledge of French by the high majority of the intellectual population has made that the company has adopted it as the working language. Hence, the company applies the non-adaptation strategy even in international written communication (official legal documents). (see suggestions for further research section on the legal department staff limited English ability)

Apart from the company employees, knowledge of English by the Algerian population is far below the average in spite of the government’s attempts to promote its status. Cassel Johnson’s (2012) claim that in promoting English, the corporate language policy in Algeria has influenced not only the employees but even language use within the host country. This claim is disputable especially when comparing the importance given to French in the Algerian educational system which is at the expense of English. English is actually taught starting only from the middle school education. A maintenance engineer confirms this point when he explains a foreign language must be taught at school. He most importantly announces that, since he did not have this privilege, he will do all what he can so that his children will get English language instruction from their primary school education.

2.6.2 Meso-Level Corporate English Language Needs

The importance given to English is plain to see from the company’s language requirements that are present in the official channels of communication such as the company websites and recruitment advertising campaign, corporate training, and to a lesser extent, public signage. These implicit need indicators are properly described below.

2.6.2.1 Company's Official Channels of Communication

The strong demand for workers with good English skills from the sector of hydrocarbon industry is plain to see through its job offers. Through the company's official website, job offers that are published via the internal job exchange mention, in addition to the diploma and qualifications in the job position needed, a good command of English (see appendix IX). Thus, the employer considers English as a necessary professional skill and a condition of recruitment. From another pole, Lavric (2008) postulates that most of the languages proposed in the company's homepage are effectively needed and spoken within the company. In the present study, the case company's official website is proposed in two languages: French and English (see appendix VIII). The symbolic value of English, being the language of business in general and that of hydrocarbon industry in particular, is plain to see here.

According to Lavric and Bäck (2009), language needs at the company level can be implied through identifying the languages that are available in the brochures aimed at customers. The company has created in 2001 an official support or bulletin of invitations to tender and bids circulation that is particular to the energy sector⁽³¹⁾ official newsletter announcements from the energy sector. It involves the publication of call for tender which is written in English to disseminate the call to a wider international audience. Its aim is twofold: to be open up to the world market but most importantly to allow for transparency in contracting procedures. This bulletin of call to tender is published twice a week under an electronic (via the official website) or a printed format. It is available online in both French and English (see appendix VIII) which shows that English language is promoted. The company employees can access its content by a simple subscription, whereas external tenderers have to pay before any access. This invitation is posted online with its reference code in both French and English. Issuing invitations in English not only guarantees its reception by potential suppliers but also a response leading to a service contract.

From the aforementioned contracting support, any local or foreign tenderer can download the book of specifications (called in French '*cahier de charges*'). This book is written in French and it includes the details of the service needed. Additionally, it is mentioned in the specifications that the eventual exchanges are to be made in French. However, there is one page publicly advertising the call for tender that is written in English

(see appendix X for an example). Here it is clear that communicating the advertising corporate message (call for tender) in English aims at targeting international tenderers.

2.6.2.2 Pre-service Training

In Algeria, because French is the main language of instruction for under-graduate engineering students, pre-experience training in the technical institute was beneficial for the engineers. During the two-years of training, English is taught to engineers as a separate subject (Technical English) and sometimes as a language of instruction, too, depending on the speciality (Belkhenchir, 2007). That is to say, this training period during which the engineers are taught the main ‘lexis’ and ‘grammar’ of technical English (Belkhenchir, *ibid.*) has prepared these engineers for the industry by providing them a basic knowledge in technical English alongside specialist training. This being said, it appears that not all engineers can benefit from such training at present. Ethnographic fieldnotes seem to suggest that the dearth of ESP teachers is at the origin of such a situation. The result is that the above training institute provides domain-specific instruction in French.

2.6.2.3 Company in-Service Training

The availability of English training programme that is financially supported by the company is a vivid example of the importance given to English. According to specialists in corporate language strategy, the company’s management of language courses to increase the knowledge of English points to the status or value granted to English (Piekkari et al., 2005). This company’s management of language courses is according to Piekkari et al (*ibid.*) an investment in its human capital “*whether or not it makes any economic sense at all to invest into a given language for one purpose or another is the question of costs and benefits*”(p. 131). Accordingly, there is a desire from the part of the company to upgrade the English skills of its employees.

As regards in-company training, employees at first have to take a test that determines their level (beginner, pre-intermediate or intermediate) according to which they take the course. Prior to that, it is the employer (the staff manager) who selects the employees who are in need of English training. Ethnographic data seems to suggest that most often, the employees’ voices are not heard because of the work load that makes it impossible to attend language class. The candidates attend 120 hours of English class per year, this equals one day

(six hours) per week for a period of four months. The other cause lies in the absence of self-sufficient training centre.

During the year of data collection, 2015, thirty (30) engineers and administration agents were concerned by training in the first plant visited, with a priority given to technical engineers from exploitation). Evidence from ethnographic data supports this finding. According to the 2015 statistics of the HRD, the employees of the first case plant who were enrolled in English training at that year of data collection comprised 8 out of 58 engineers from the technical department; 7 out of 38 engineers from the maintenance department; 5 out of 13 agents from the purchase department; and 3 out of 30 agents from the finance-contracting departments⁽³³⁾.

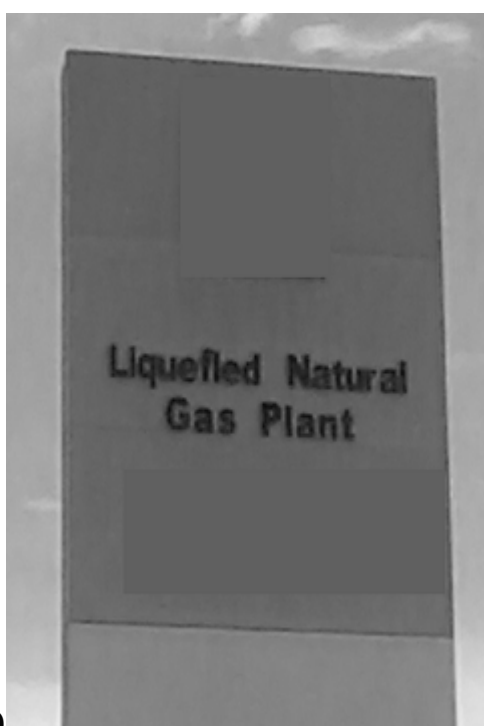
In corollary, many employees seek –or sought- other learning opportunities outside the company private courses of English through their own means. While linking this with the self-sufficiency of the training centre may be a non-issue⁽³⁴⁾, this rush towards private courses is another proof criterion about the importance granted to English at the individual employee level. The training centre hires university teachers, with academic, language qualifications per se. Such a selection criterion, seemingly does not emphasise ESP training or expertise, nor does it demand broad insider, engineering-specific knowledge of the professional context of TL use. This being said, the existence of a company training centre means that the present enquiry will draw on the trainee-employees' accounts to derive data about their learning, working experiences as well as expectations in view of providing ramifications for the ongoing training.

2.6.2.4 Public Signage and Informative Signs

The analysis of the 'linguistic landscape' (Shohamy and Gorter, 2008) through public signage of the company also reveals something about the multitude of languages used and their targeted audience among which English figures. A simple walk through the plant (i.e., the research site) drew the researcher's attention on the public signs, namely place names. In addition to Arabic and French, English does figure in signs referring to places, which is not commonly observed outside this industrial area (i.e., in the Algerian streets for instance).

At the entry of the research site, the plant name shown in picture (1) is clearly indicated in English only. This strategic sign, is made visible to all those who pass by this road, not

necessarily meant to visitors of the site. Emphasising this English-only reference to the plant tells a lot about the value granted to this language seeing that *'the public presence of a language is ... determined by its position in the prevalent language value system...'* (Lüdi et al. 2010: 62). The choice of English seems to project the international character of the plant in the sense that it connotes the globalisation of the energy/industrial sector. It is the subject of foreigners' regular visits. Even though no deeper investigation has been undertaken, but such initial broader exploration of the research site physical make up seems to denote purposive emphasis on the international facet of the plant that is suggestive of a potential use of English for work inside the plant.



(1)



(2)

English is not the only language that is made publicly visible. As shown in picture (2), it combines with both French and Arabic⁽³⁵⁾. Here the use of the three languages is meant to ensure understanding of the security message by anyone who happens to be in this place. While Arabic and French here ensure understanding of the local population, the use of English presupposes the regular presence of English-speaking foreign visitors.



(3)

(1) LIQUEFIED NATURAL GAS PLANT

**(2) ZONE REGLEMENTEE (RESTRICTED AREA) DEFENSE DE FUMER
NO SMOKING**

(3) ENTREE Bt ADMINISTRATIF

English appears in public signs referring to strategic places. However, it does not appear in other less strategic place names as illustrated in picture one referring to the administrative building. In the research site, similar references to the different departments and buildings are all in French and Arabic. These signs are meant for the internal staff. Most importantly, they project the latter's real identity. However, they can be misleading in the sense that Arabic does not prevail in everyday usage at work as French contrarily does. Here, the usage of Arabic in public signage is more a connotative reference to the local identity of the country than its presence in real-life usage - especially because the energy company is the property of the Algerian state. Apart from the linguistic landscape, the use of English is observed under other forms.

2.6.3 Language Needs at the Micro- Departmental Level

Due to the nature of its tasks and responsibilities, the technical department is the major structure whose staff members regularly use English to deal with foreign partners (Field Note data). It is the technical department that is responsible for diagnosing potential technical defects in any equipment during the process of gas liquefaction. Eventually, it recommends solutions to deal with defective equipment and supervises restoration projects. In terms of ordering new equipment from external markets, it is the technical department that undertakes the task of sending invitations to potential suppliers (call for tender) and eventually supervises all the subsequent business operations (organising visits; hosting foreign business partners;

organising meetings, etc.). In other cases when technical problems need a more professional expertise, the department also invites foreign technical experts to proceed to a site inspection.

In the absence of explicit aspects of language policy (i.e., official language policy statement), other implicit aspects (i.e., language/communication practices, employees' beliefs) otherwise termed 'official need indicators' are of equal importance in uncovering which languages are promoted and which others are allowed or prohibited. For instance, a collection of some official and unofficial documents from the oil and gas company shows the languages used for external and internal communication, thus, how its language policy/strategy takes form. Because internal documents analysis provided but rough clues about the types of tasks and English language needed at work, More details that it (documents analysis) failed to provide will be gathered throughout sources (professionals themselves) and methods (interview, questionnaire, direct observation) triangulation.

This background section has offered an initial ethnography-derived portrayal of the need for English within a global energy company from a macro-level perspective. This macro-level perspective looked at the linguistic strategy of the company operating in a global business context. In-service English training; recruitment advertising campaigns; multi-lingual informative signs and official websites all suggest the implicit need for English within the researched company.

2.7 Conclusion

This chapter has depicted the methodological framework of the present study together with a contextual background of the researched site whereby an initial plane evaluation of the present professional and training situation has been presented. In essence however, the present chapter has signalled the present research methodological alignment with innovative needs enquiries for ESP that are more workplace-embedded; emphasise an insider (employee) perspective; and draw their evidence from source-cum-method triangulation as well as direct observation of needs through the discourses analysed. To be able to draw inferences from the findings and in view of collecting rich and detailed data to better inform ESP course contents and materials development, this chapter has further proposed the multi-methods deployed as well as the triangulated sources used to enquire about the specific English and communication needs of energy industry professionals. On one hand, an overall coverage of needs required a combination of the learner, the working professional, as well as the non-expert perspectives.

On the other hand, far from down-grading their usefulness, relying solely on the employees' questionnaire and interview as an indirect method would yield in limited NA data. This is why adopting more evidence-based needs enquiry for ESP is necessary to complement indirect methods of systematic data collection with direct ones. In addition to the interview-provided accounts of industry professionals' daily professional tasks entailing the use of English (through), it has also proposed an examination of the most frequent communication situations that are representative of the professional industry-business related genres of the researched workplace with all the discourse conventions and strategies, communicative tasks, the terminology, syntax and lexis that they carry. Instances of specialised written genre/discourse samples are reflected in the email corpus. This email corpus size falls within the acceptable limits of a small specialised corpus to be representative of the email genre used in the industrial setting under scrutiny. To address the limitation of the single meeting sample, this chapter has also provided sound methodological claims from prominent scholars as to the constraints that individual researchers are faced with when collecting and eventually transcribing oral specialised corpora (c.f., Koester, 2010a) that override claims about acceptable corpus size in this case. Other methodological considerations concern the researcher's necessity to familiarise with and master the skills to manipulate the above empirical data analysis tools (genre and corpus analysis) (c.f., Frendo, 2012) presuppose the time and effort in manipulating these tools, which justifies once more the small size of the present specialised corpora. The following chapter will provide the findings emanating from the methods detailed so far.

Endnote to Chapter Two

1. In spite of the researcher's familiarity with the industry setting, having previously collected data from a subsidiary for her magister dissertation, being still an academic, and not an industry professional makes that she still remains an outsider.
2. On the exception that French is used with French speaking partners.
3. See chapter 2 (Reimer, 2002; Kassim and Ali, 2010, etc.).
4. Even though some themes have already been echoed in the discussion, but the researcher decided to leave this question open-ended lest other themes she has overseen during the first exploratory stage nevertheless appear).
5. However, training attitudes or evaluation remained a secondary or peripheral subject that served only complement the main research interest driven towards target work situations of language use and experience.
6. Dudley-Evans and St John (1998: 127) report on a case study in which the course language focus and content had to be revisited because researchers were most interested in Target needs, or questions like '*what do you need English for?*' rather than, 'what do you expect from the course?'
7. The free software can be downloaded from <http://www.sofastatistics.com>
8. For business professionals, academics asking them about their work tasks and disturbing their tight work schedules may be legitimately viewed as intruders.
9. The few switches to Arabic were intentionally overseen, not transliterated, but translated to French by the researcher for transcript uniformity and ease of reading, and also because of no analytical interest to include such Arabic discourse features.
10. The researcher who was physically present with them could notice that they yearned for opportunities to practice their English or prove their high proficiency.
11. Due to time constraints caused by the work load.
12. To the researcher, the interview and discussions mainly differed in the fact that the former was voice-recorded and the latter was supplemented with field notes only.
13. Mainly prepositions

14. See section below for more explanation of the term concordance within corpus linguistics.
15. The email corpus under study contains an exeption, exception in which the most proficient engineer in the company wrote emails in the name of his non-proficient manager.
16. Lexico-grammatical features are examined using high frequency word search using corpus tools. As mentioned before, the small size of the email corpus, and the length of one email text (which is usually not wordy) did not allow for quantification.
17. Textualisations, otherwise termed 'lexical realisations' in genre analysis literature and in this study, too, were first inserted within, then after move analysis.
18. To be pedagogically focused on at final stages of the thesis.
19. See glossary.
20. CANBEC corpus comprised both external and internal meetings, but Handford separately classified them according to the distinctive features of each, which made it possible for the researcher to identify similarities of the present corpus and representative features of external meetings.
21. See section 2.5.6.3 of this chapter for a review on the thematic analysis process adopted by the author of this work.
22. See Tribble (2010) (in bibliography) for more information on how to search for different types of concordances.
23. See section 2.6.3.1 of this chapter for more details on the way in which actual data from the mini corpus was compared to other benchmark genres.
24. See section 2.6.3.2.1 for details about the meeting main moves and functions.
25. But also for the analysis of email samples to examine how transactional/interpersonal or relational language occurs.
26. Here, Handford states that the terms practices and strategies are the same except for the reason that discourse *strategies* derive from a pragmatic view to communication whereas discourse *practices* derive from a DA view to communication.
27. CA practitioners do not oppose such quantification (see for e.g., Scheggloff, 1993) as long as it is for descriptive purposes only, not for inferential or

hypothetical purposes –as it is the case for DA- that may run the risk of considering it ‘*a substitute for the analysis*’ (Scheggloff, op. cit: 114))

28. It takes one hour to transcribe ten minutes of speech (in case it is a spoken corpus) as experienced by the researcher and confirmed by transcription experts (see www.indianscribes.com for more information about transcription)
29. In the first plant visited, the researcher could renew her visit period for another month, thanks to family contacts. However, for the second plant, the training head of department allowed for supplementary ten days only!
30. For the MA thesis preparation, the video recorded was exploited to principally describe the local engineers’ sense-making code-switching strategies during their work interaction).
31. In French, it is termed BAOSEM (bulletin d’appel d’offres du secteur de l’énergie et des mines).
32. See table of this chapter.
33. It is only recently that the contracting department, which used to be a section within the finance department during the magister’s thesis preparation, has now become a separate, autonomous one.
34. Part of means analysis, Dudley Evans and St John (1998) suggest to capitalise on the strengths and positive sides of the physical readiness of the target setting to undertake training, not on the negative sides or drawbacks that could hamper its good progress, like non-self-sufficient training centre.
35. One of the engineers made a funny comment that as regards the non-official use of Arabic, the latter’s L1, posits that it is needed only in prayer time (fieldnote data).

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CHAPTER THREE: Data Analysis and Findings from the Interpretive to the Direct Turn

3.1 Introduction

This chapter details the data analysis and findings in response to the research questions hitherto raised in the introduction which addressed the occupational (present and target) and, to a lesser extent, learning needs of industry professionals. Under the assumption that was theoretically advocated in chapter two, notably that the industry professionals, engineers in particular, possess enough insider knowledge and work experience, they represent in this chapter the major source of findings about target (situation) needs, lacks, strengths and wants, which will provide the basis for well-founded pedagogical claims in the next chapter. The data analysed in this chapter were collected according to the mixed method research design previously described in chapter one. To start with, the first two sections of this chapter will propose the analysis of data derived from the indirect methods of the questionnaire then the interview. Furthermore, they will also allow for a systematic identification and quantification of the afore-mentioned needs that were roughly identified in the light of preliminary discussions, ethnographic field notes, and the literature review. The interview analysis will be supplemented with thematic software-assisted analysis to offer a more qualitative scrutiny of the type of needs addressed in the research question and also for the sake of corroborating the questionnaire findings as well as cross-checking the interviewee's answers. Finally, sections three and four will propose a closer examination of the industry professionals' authentic instances of written and spoken discourse respectively. The meeting and email samples will be approached using multi-level genre analysis with aim to first triangulate the findings obtained from this direct data collection method with the indirect ones then to sort out representative genre-specific structures to be pedagogical exploited at final stages of the study.

3.5 The Findings of the Questionnaire

The present section details the questionnaire findings. It first aims at validating the engineering category higher representativeness of need in earlier stages. The answers of the questionnaire are mostly approached quantitatively. Where possible, cross tabulations between correlated variables were made. Most of the questionnaire results illustrate the

responses of the most representative departments of regular usage of English only, i.e., the technical, maintenance whereas the finance and to a lesser extent, the purchase department department's employees were included for comparison purposes mainly (i.e., to serve as a counter analysis or a proof criterion for the analysis).

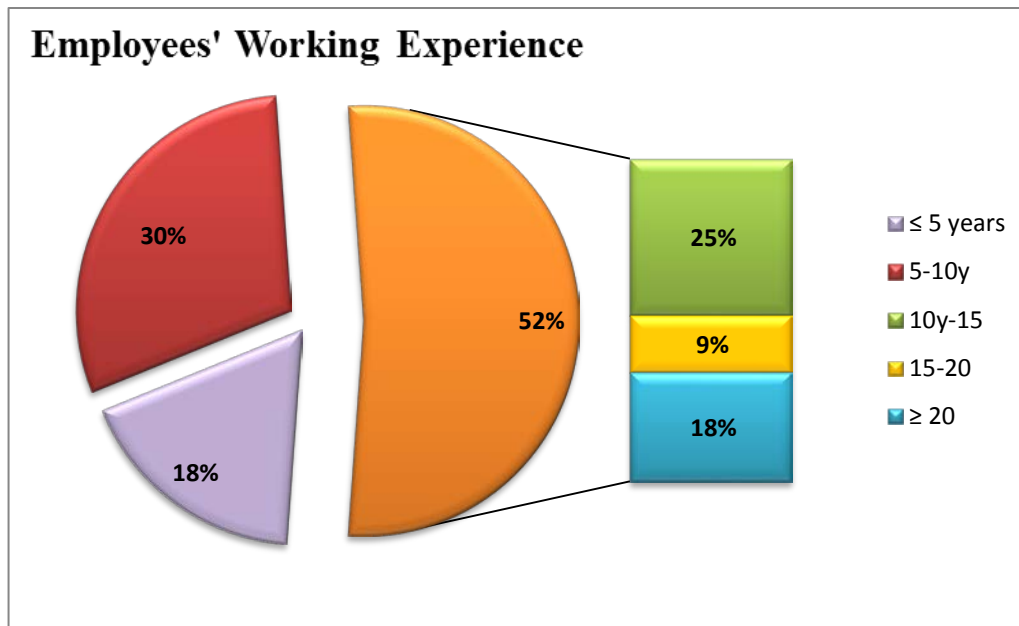
3.5.1 Employees' Working Experience

Among the first questions that required the respondents to provide personal information, the question particularly dealing with the respondents' years of working experience has yielded in interesting responses worth mentioning here. An examination of the answers revealed the results shown in the table below.

Employees' Years of Working Experience	Percentage
≤ 5 years	18%
5-10 years	30%
10-15 years	25%
15-20 years	9%
≥ 20 years	18%

Table 3.1: The Questionnaire Respondents' Working Experience

Regardless their job categories, the questionnaire respondents seem to pertain to varying levels of work experience. For instance, those with 0 to 5 years of work experience represent inexperienced respondents (Long, 2005) whereas a work-experience of 10 years and above grants the respondents the status of 'experienced in-service' respondents who represent *'excellent sources on the content of their job'* (ibid: 27). As regards the engineering professionals, who represent the high majority of the respondents (102 respondents, see chapter one), all those who have 5–20 years of experience are considered established engineers (Male et al., 2009). A more precise visual distribution of the numerical data obtained is proposed in pie-chart 3.1 below.



Pie-chart 3. 1: Employees Working Experience in Percentage

As the pie-chart above assists to show, out of the 132 respondents, 52% have from 10 to more than 30 years of working experience. This latter percentage, when in turn divided reveals an interesting percentage of 18% representing employees with more than 20 years of experience; 9% with a working experience ranging from 15 to 20 years of working experience; and 25% of 10 to 15 years. The remaining portions represent 30% of the respondents whose working experience ranges from 5 to 10 years and only 18% with less than 5 years of working experience. Because the highest proportion of the respondents consists of work-experienced professionals and established engineers, they represent a reliable source for the study. The accounts of these mostly work experienced respondents as regards the communication events taking place as well as the English skills required in their work environment are therefore to be taken into consideration.

3.5.2 Self-Assessed English Skills

To the first question of the second section, the employees' self-assessment in terms of English skills revealed the results presented below in terms of mean satisfaction scores. The researcher obtained the Mean scores (using sofastatistics software) after having recoded the responses according to 3 point scale (3 points for 'very good'; 2 points for 'satisfactory'; and 1 point for 'non-satisfactory'). It is worth mentioning that skills self-assessment here is

regarded as an alternative to a test as both enquire about the present level in English of the respondents.

The Mean of Skills Strength per Department		Listening	Reading	Speaking	Writing
Department	Finance	1.67	1.83	1.58	1.75
	Maintenance	1.83	2.00	1.54	1.92
	Purchase	1.75	1.92	1.36	1.46
	Technical	1.74	2.00	1.56	1.87

Table 3. 2: The Mean Satisfaction Scores for Self-assessed English Skills

According to the table, reading is the skill that records the highest mean satisfaction scores indicating that the employees from all the departments assess themselves to be fairly good at reading English. As regards the writing skill, and apart from the purchase department staff, the employees also qualify it as satisfactory as the mean scores of satisfaction for writing are equally high (mainly in the technical and maintenance departments, 1,87 and 1,92 respectively).

3.5.3 Comparison of the Present Self-assessed Lacks and Strengths

In order to draw a comparison between the respondents present lacks and strengths in terms of skills, the following percentages of ‘lacks’ have been obtained by taking into consideration the negative assessment only (i.e., non-satisfactory ratings).

	Self-assessed Lacks (skills)			
	Listening	Reading	Speaking	Writing
Technical staff	30%	13%	49%	19%
Maintenance staff	21%	12%	45%	20%

Table 3. 3: Self-assessed Lacks

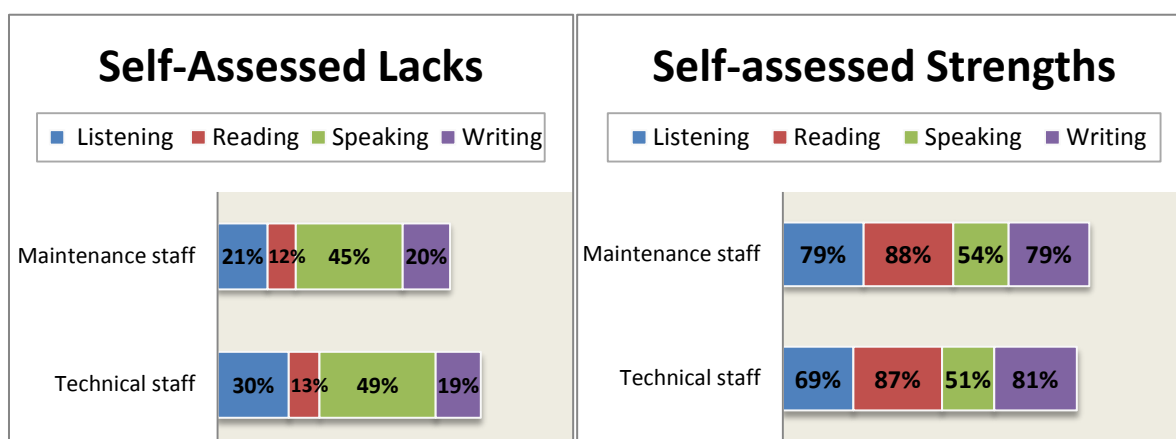
At first glance, the table points to speaking as being the weakest skill. This negative assessment towards speaking is unanimously expressed throughout the two departments represented here. The second weakest skill is listening which suggests that the oral-aural skills

seem to be troublesome for the employees. In the table below, the positive ratings in terms of percentage represent the two options of satisfactory and very good.

	Self-assessed Strength (Skills)			
	Listening	Reading	Speaking	Writing
Technical staff	69%	87%	51%	81%
Maintenance staff	79%	88%	54%	79%

Table 3 . 4: Self-assessed Strengths

In terms of strongest skills, it appears from the table 3.4 that reading is the skill that the respondents most positively assess. A graphic display of table 3.3 above along with table 3.4 is proposed for a better examination of the skills self-assessments percentages obtained.



Bar-graph 3.1: Self-assessed Lacks

Bar-graph 3.2: Self-assessed Strengths

Of interest for the purpose of the present study is that 49% (33 respondents over 68) of the technical department engineers assess themselves as the weakest in speaking whereas the second weakest skill is listening. 29% of them (20 /68) find themselves weak at listening. Similarly, the weakest skill among the maintenance engineers seems to be speaking (45%) and, to a lesser extent, listening (20%).

By contrast, 87% of the technical engineers consider reading as the skill in which they perform the best (74% satisfactory level, 13% very good level). The same strength in reading skill is also manifest among the maintenance staff with an overall percentage of 79% (67% satisfactory level, 12% very good level). In a nutshell, it appears from the above results that

the employees (and more precisely, the maintenance and technical staff) are the least satisfied with their listening and speaking skills.

3.5.4 International Communication

The present question shows the results pertaining to an objective needs indicator (Vandermeeren, 2005), that is, the employees' involvement in English use for international communication. A cross tabulation between the informants' respective departments and the percentage of involvement in international communication are revealed the following table.

	Departments			
	Finance (12)	Maintenance(24)	Purchase(14)	Technical(68)
Involvement in International communication	50%	92%	43%	75%

Table 3.5: Involvement in International communication per Occupation

The use of English for international communication is confirmed by 75% of the engineers from the technical department, and 92% of those from the maintenance department. Surprisingly, 50% of the finance department agents and 42% of those from the purchase department state that they are found in international situations where English is used to communicate with foreign business partners . In the following sub-section, more evidence of such international contacts (communicative events) will serve to corroborate or refute these objective indicators.

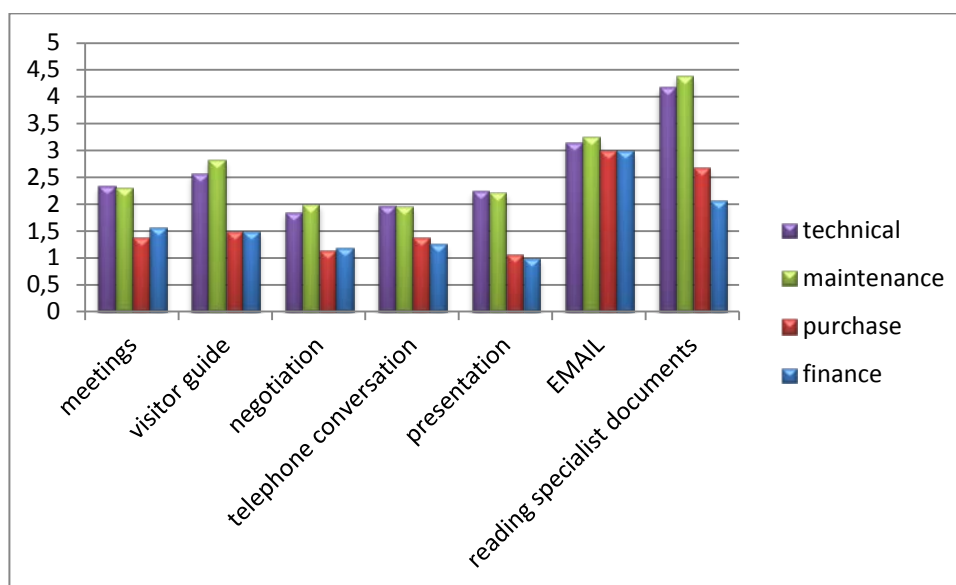
3.5.5 Communicative Events Illustrating the Target Use of English

Based on a 5 point scale (that is: 5 points for regularly; 4 points for often; 3 points for sometimes; 2 points for rarely; and 1 point for never), the frequency means of the informants' responses as regards the communicative events entailing the use of English are presented in the tabular summary below.

	Meetings	Visitor Guide	Negotiation	Telephone Conversation	Presentation	Emailing	Reading Specialist Documents
Finance	1,58	1,5	1,18	1,25	1	3	2,08
Maintenance	2,3	2,83	2	1,96	2,22	3,29	4,38
Purchase	1,38	1,5	1,15	1,38	1,08	3	2,69
Technical	2,33	2,58	1,86	1,97	2,25	3,15	4,18

Table 3.6: The Average Frequency of English Communication Events

As the above table assists to show, meetings, visitors' reception and guide, negotiation, emailing, and telephone conversation, presentation and reading technical documentation denote target communication events that entail the use of both oral and written media. The results show that they are more frequent among the technical professions than among the other professions (that is, the highest frequency mean scores falling within the maintenance department recording along with the technical department recording 2,33 for meetings, 2,58 for visitor guide, 1,86 for negotiation, 1,97 for telephone conversation, 2,25 for presentation, 3,15 for emailing, and 4,18 for reading specialist/technical documents). These results obtained are clearly illustrated in the graphic display below.



Bargraph 3.3: The Employees' Target English Communication Needs across Departments

As it appears from the bar-graph 3.3, the significant difference in the amount of use of English among the industry engineers is plain to see. This suggests that for the technical and

maintenance departments' engineers in particular, the English communication target needs are more manifest than they are for the rest of employees. It is of note that in the technical and maintenance departments mainly, processing specialist or technical documents is seemingly the most frequent activity that is customarily undertaken. This is evident from the frequency mean scores for reading specialist documents for both technical and maintenance department (4,18 and 4,38) respectively that are relatively the highest. Decidedly, reading English engineering materials seems to be at the core of the communicative tasks that the energy industry engineers need to perform.

However, the graphic display clearly shows that email communication is the second communication channel that is largely used. Huh's (2006) study revealed similar frequency indicating that email was one of the most frequently used tasks in business communications. In contrast to reading technical documentation, such widespread use of email communication task figures in all the departments. This suggests that it is not limited to the engineering category as it is the case for English reading materials. At least, in relation to the engineering staff from the technical and maintenance department, this also suggests that the need for emailing is as largely manifest as the need to read technical documentation.

In relation to the communication tasks that require oral English proficiency, the highest frequency mean scores of meetings, presentation, negotiations and visitor guide are noticed within the technical and maintenance staff. Here it is worth noting that meetings and presentations may interfere especially among engineers. This being said, researcher performed a small correlation between the earlier skills self-rating result 'good/very good oral skills' assessment and this question result as to oral events frequency using Pearson's correlation coefficient. Though small, it has nevertheless revealed a positive correlation ($r=0,2$) between the frequency of meetings and good speaking. This shows that the more frequently engineers participate in meetings the better the speaking skills. Similarly, a positive correlation ($r=0,1$) between the frequency of telephone conversation and good speaking skills; a positive correlation ($r=0,1$) between the frequency of negotiations and good speaking skills that the researcher performed point to the same remark.

That is, the respondents who reported on their frequent participation in these events are those who are fairly confident about their oral English performance. However, the researcher could not establish a statistically significant correlation between the respondents' earlier self-assessment of the lacks in oral skills and those with seldom or no participation in

oral communication events. At this stage, it is too early to know whether the lack of oral English skills prevents these engineers with low oral proficiency to take part in oral communication events or vice versa. That is, whether the nature of their work makes that they are rarely engaged in such events. This means that even those with more or less frequent participation in these events can encounter some difficulties or lacks when attending oral communication events. It is hoped that the interview findings will unearth some findings as regard this point.

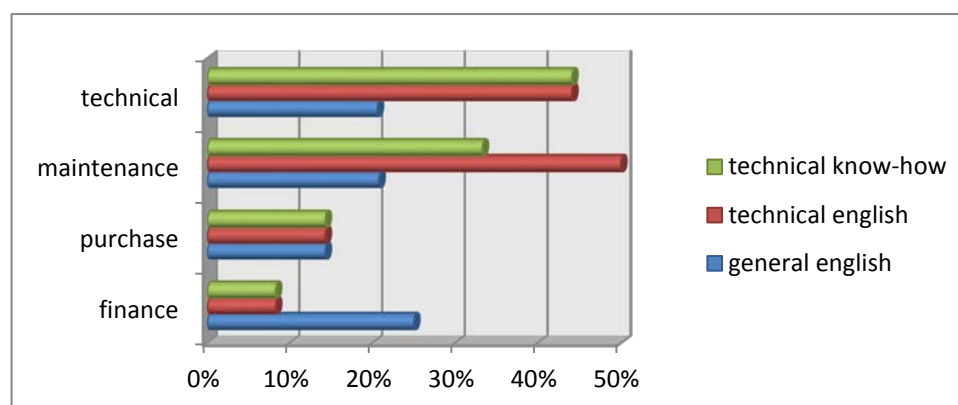
3.5.6 Communication Boosters

To the question requiring from the respondents to choose which elements in their possession (General English, Technical English, or Technical know-how) help them achieve successful communication in English, the following results were obtained.

		General english	Technical english	Technical know-how
Department	Finance	25 %	8 %	8 %
	Purchase	14 %	14 %	14 %
	Maintenance	21 %	50 %	33 %
	Technical	21 %	44 %	44 %

Table 3.7: Elements of Communicative Success

An examination of the numerical data obtained shows different results depending on the job categories of respondents involved. Such a difference is more visible in the graph hereafter.



Bargraph 3.4: Elements of Communicative Success

The main point to be noted is the visible difference between the graphic display of the technical-maintenance (engineering) departments from one side and that of the purchase-finance departments from the other side. Both technical English and technical know-how, in this order, occupy a higher percentage (44%, 44% for the technical department and 50%, 33% for the maintenance department) if compared to the purchase (14%, 14%) or the finance (8%, 8%) departments. This difference shows that, contrary to the purchase or finance departments' staff, the technical and maintenance engineers help themselves with the technical knowledge as well the technical English (terminology) they are familiar with when communicating in English. This particular finding is further validated with the one proposed hereafter.

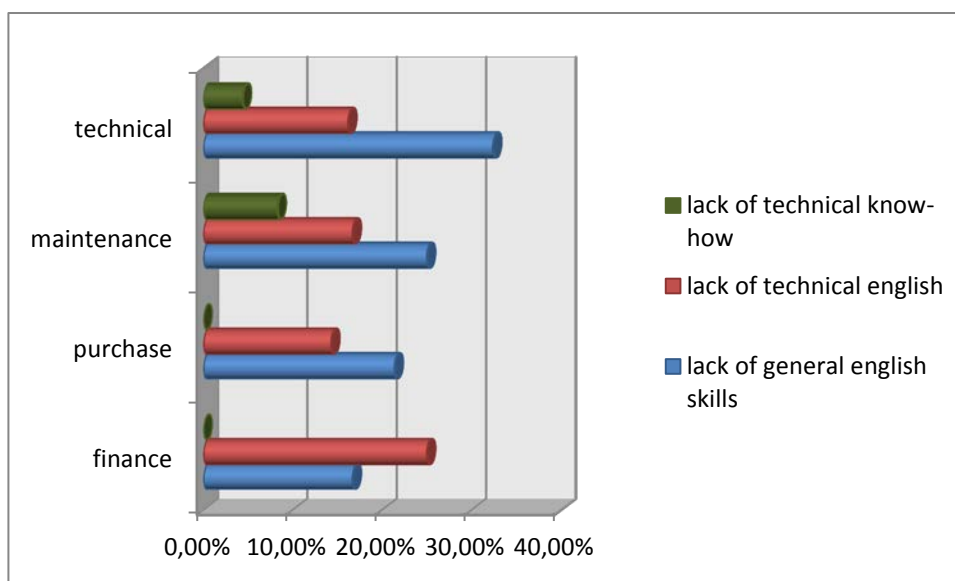
3.5.7 Communication Challenges

For the respondents who reported that they face difficulties during English usage and/or communication, choosing among the three options shown in the table hereafter yielded in the following results:

Challenges	Lack of General English Skills	Lack of Technical English	Lack of Technical Know-How
Finance	17 %	25 %	0 %
Maintenance	25 %	17 %	8 %
Purchase	21 %	14 %	0 %
Technical	32 %	16%	4 %

Table 3.8: Elements of English Communication Challenges

As it is the case for the technical, purchase and maintenance departments' staff, the origins of communication troubles derive more from a deficiency in General English rather than from technical know-how. The graphic display below clearly illustrates these types of English language challenges.

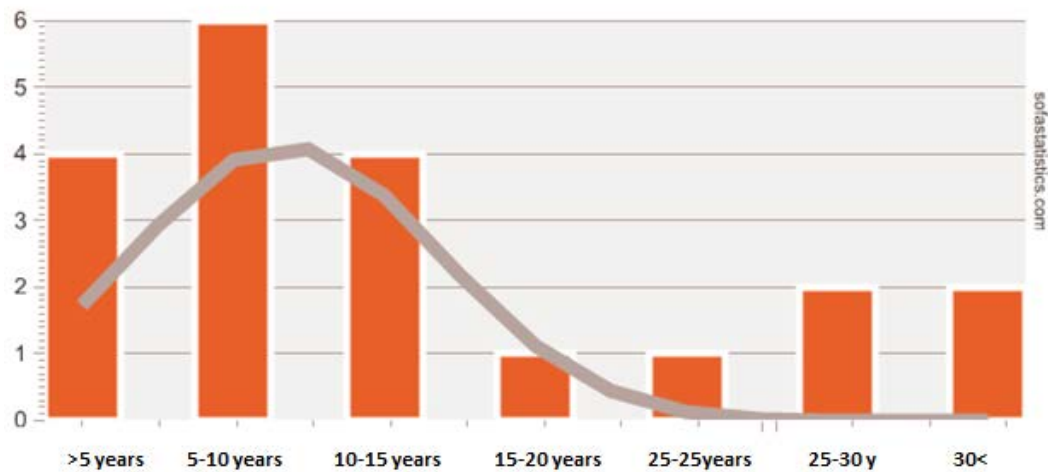


Bargraph 3.5: Elements of Communicative Challenges

Whereas the booster of communication success in professional communication is technical English as shown in the table above, it seems that the linguistic challenge that the technical engineers face lies much more in the general English skills as shown in the bar graph above (25% for the maintenance and 32,4% for the technical department). It is of note that technical knowledge represented with the green cylinder is almost inexistent within the purchase and finance departments' staff. This is not surprising from the moment that the nature of their work is not technical, so they are not required to show expertise in such domain, nor do they suffer from the latter in communication.

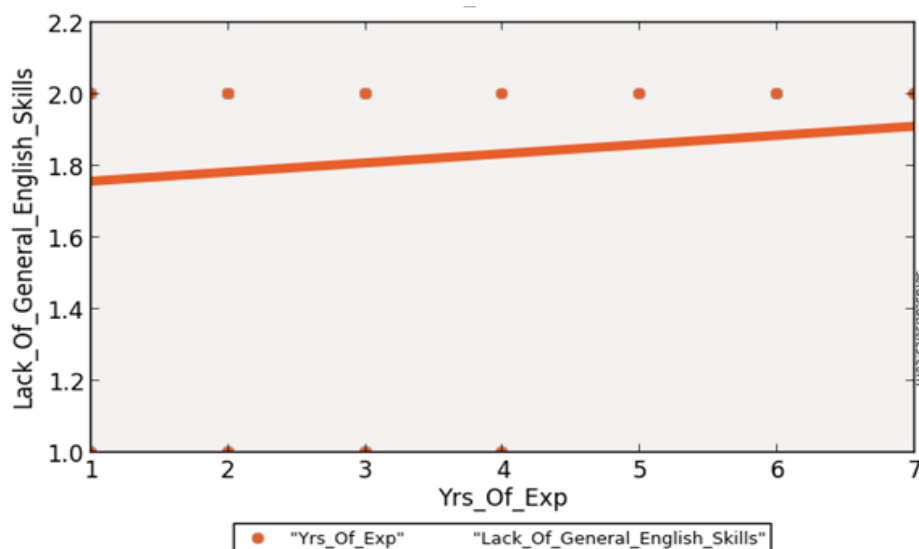
As to the finance department, the results are inversed in that technical English seems to pose problem more than general English. This tends to happen when they occasionally have to go through technical documents. From another part, although a lack in technical English (16% for the technical staff and 17% for the maintenance staff) figures with a lower percentage when compared to general English deficiency percentage, this finding warrants further investigation to know about its origins.

Of the 16% of the respondents who experience difficulties with specialist terminology (technical English), a cross-tabulation performed between the item 'lack of technical English' and the informants' years of experience revealed a correlation that is shown in the graph below obtained with Sofastatistics software.



Bar-graph 3.6: Lack of Technical English per Years of Experience (using Sofastatistics software)

From the shape of the curve in the bar-graph above, one can notice that the peak of the curve is found within the working experience that is less than 10 years. It is evident that the inexperienced engineers with less than 10 years of work experience most frequently report such a weakness in technical English. In the same way, using *Pearson's r* correlation coefficient with the help of 'sofastatistics' software, yielded in a positive correlation with a small effect, $r = 0,1$ resulted between the lack in general skills expressed and the respondents' years of experience. It is illustrated in line graph 3 below.



Line-graph 3. 1: Lack of General English Skills Vs. Working Experience Linear Correlation

Though small, this positive correlation suggests that the need for general English skills occurs within career advancement and not vice versa.

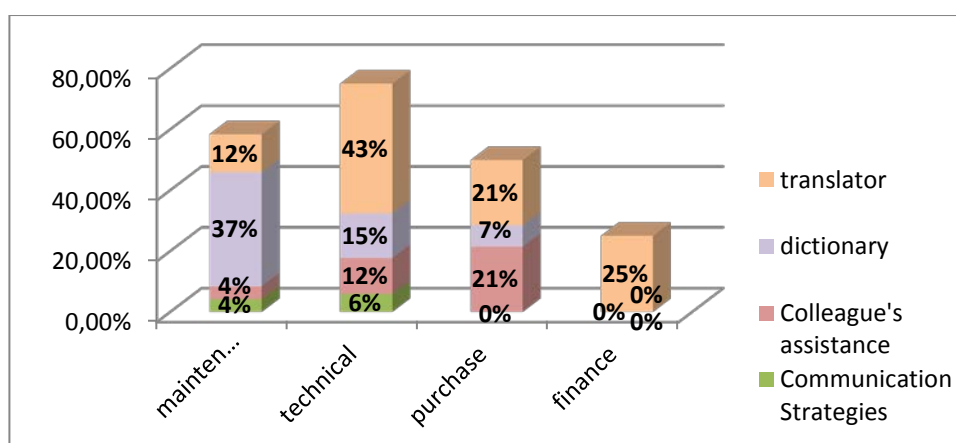
3.5.8 Resources and Coping Strategies Used to Handle English Communication Tasks

Question (d) from section two of the questionnaire, was open-ended, requiring the respondents to report the resources and coping strategies they habitually use to cope with difficulties in English usage. The most recurring responses have been grouped under different categories and classified in the following table.

	Dictionary	Translator	Colleague's Assistance	Communication Strategies
Maintenance	37%	12%	4%	4%
Technical	15%	43%	12%	6%
Purchase	7%	21%	21%	0%
Finance	0%	25%	0%	0%

Table 3.9: Resources used to Handle English Communication Tasks

As the table above assists to show, it is the technical and maintenance, then the purchase departments' staff that record the use of more than two resources. They range from material resources (such as the dictionary and the translation software), to personal resources (such as the colleague's assistance or else individual communication strategies). However their recurrent use is differently distributed among the departments as described in the bar graph below.



Bar-graph 3.7: Resources used to handle English Communication Tasks

The translator (online or application) is the most frequently used resource as reported by 43% of the technical department staff, 21% of the purchase department staff, 25% of the finance department and 12% of the maintenance department staff. As to the use of the dictionary, it is either interpreted as the dictionary of English technical terms or a bilingual dictionary –playing in this case the same role as the translator. In both cases, it figures as another tool that enhances English language usage as reported by 37% and 15% of the maintenance and technical departments’ staff respectively. It is also used, but to a lesser extent, in the purchase department according to 7% of its staff.

Seeking a colleague’s assistance is a coping strategy that 21% of the purchase department staff; 12% of the technical engineers; and 4% of the maintenance engineers opt for when facing difficulties with English usage. As it appears from the graph above, none of the finance department agents seem to use this strategy. Though not as frequently used as the previous ones, the final coping strategy is worth noting. It consists of interpersonal communication strategies (clarification, repetition and slow-down requests). Interestingly these communication strategies are mainly deployed in face-to-face encounters with international partners and are precisely adopted in the technical and maintenance departments where the highest percentages of English use for international communication is recorded (see table 3.5 above).

Both the company resources and personal resources are used to cope with (difficulties in) English usage. The use of the translator being the easiest choice is confirmed in the interview data. The translator is used, as suggested by the interviewees either in reading e-mails, technical reports or operational documents sent by the foreign partners or to respond back to an e-mail query sent by the foreign partners. Thus, both the translator (online or application) and the dictionary enter into play when English is used for engineering or business communication.

3.5.9 Training Expectations

Having thus far dealt with the occupational perspective in terms of specialist informants’ target use of English in the workplace, this section deals with the contribution of the experience of current or previous trainee-engineers with the aim of providing the learner’s perspective in terms of evaluation and expectation. The table below shows the results of the

question dealing with the industry employees' evaluation of their past or current training experience with the aim to cross-check the target use with wants and learning needs.

Training	yes	nbr	91	Training Needs Satisfied ?	Yes	nbr	48
						%	27%
		%	69%		No	nbr	53
						%	36%
	No	nbr	40		Non-response	nbr	8
		%	31%			%	6%

Table 3.10: The Employees' Experience with Training

A quick cross-tabulation between the Yes-No question related to training and the one inquiring about their satisfaction with training reveals that the employees who provided their answers belong to those who are/were enrolled in English training supported by the company (i.e., 69%). The answers of these respondents who represent 69% of the informants reveals that only 27% are satisfied with their training whereas 36% of them are not. This suggests negative evaluation of the training situation warrants further investigations as to the problematic areas that these practising industry professionals report on. This is particularly what the findings below illustrate.

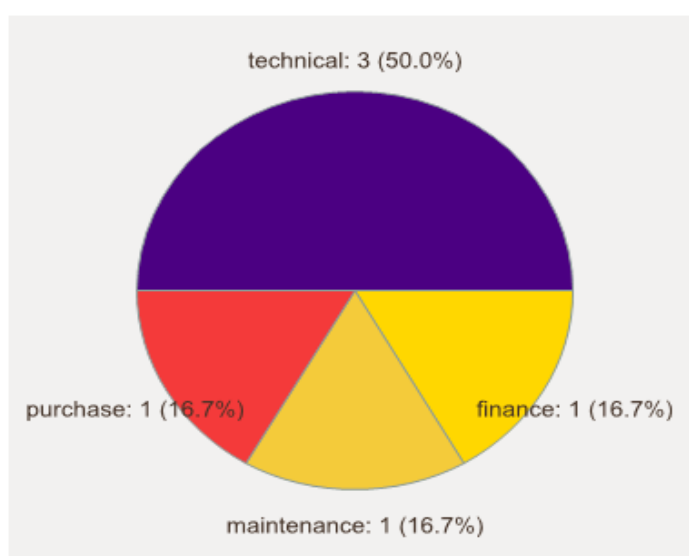
3.5.9.1 Employees' Evaluation of Training

The results of the follow up question (Why?) to the negative responses (NO answer) illustrate the reasons for their negative training that the researcher categorised under different headings in the table below:

Evaluation of Current English Training		No Practice	No Conversational Practice	Did not target Professional Need	Insufficient Period	More Academic (Grammar)
Training Needs Satisfied?	No	7%	19%	23%	39%	16%

Table 3.11: Employees' Evaluation of Training

As the above table assists to show, 39% of the current or prior trainees complain from the insufficient training period. This finding which puts only the duration of the course into question translates an interest in more training. From another pole, more specific feedback concerning ‘no practice’(7%) and ‘no conversational practice’(19%), point to the respondents’ same reference to the, apparently, theoretical aspect of the training sessions in which they presumably were not actively using the target language, with the exception that the second one is precisely targeting the need for conversational practice. To find out where this claim for conversational practice derives from, a distribution of the no-conversational practice responses according to job specialisations revealed the following pie-chart.



Pie-chart 3.2: A Distribution of No-conversational-practice Responses per Departments

Here again, two-third of the responses (67%) derive from the technical (50%) and maintenance (17%) engineers, for the interest of the present investigation. This distribution validates the earlier oral English target needs of this engineering share of employees. Equally, the responses stipulating that ‘*English training was more academic*’ and those suggesting that it ‘*did no target professional needs*’ presumably fall within the same theme whereby their scores are complementary⁽¹⁾. In other words, both suggest that the training programme does not forcibly focus on the type of English they use at work. Having thus far dealt with the working trainees’ evaluation of the quality of English training being currently provided, the following results deal with their training expectations which either validate or refute the aforementioned feedback from training.

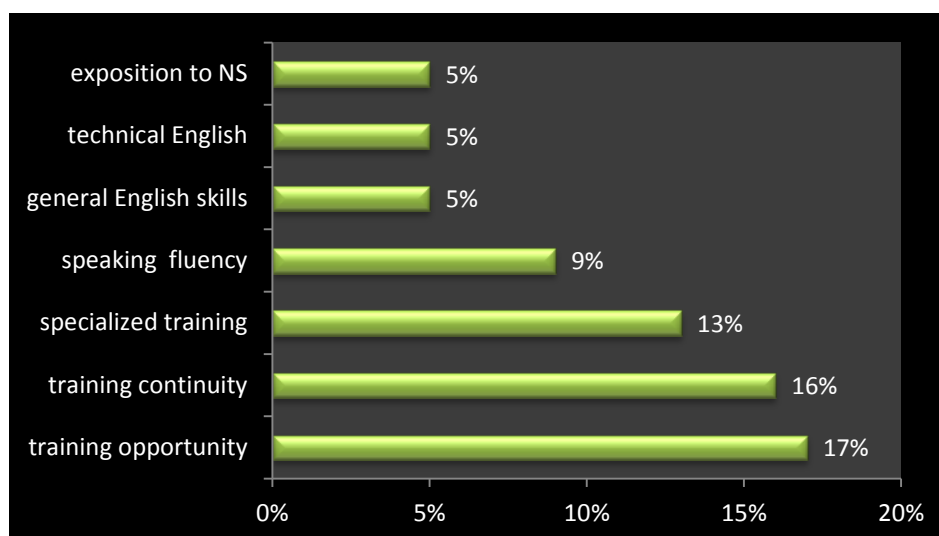
3.5.9.2 Employees' Want from the Course

In the following table, the training expectations of those who are considered work-experienced professionals are proposed. Here again, the researcher proceeded to the categorisation of the respondents' answers to this open-ended question according to the following themes.

Training Opportunity	17%
Continuity	16%
Specialised Training	13%
General English Skills	5%
Technical English	5%
Speaking Fluency	9%
Exposition to Native Speakers	5%

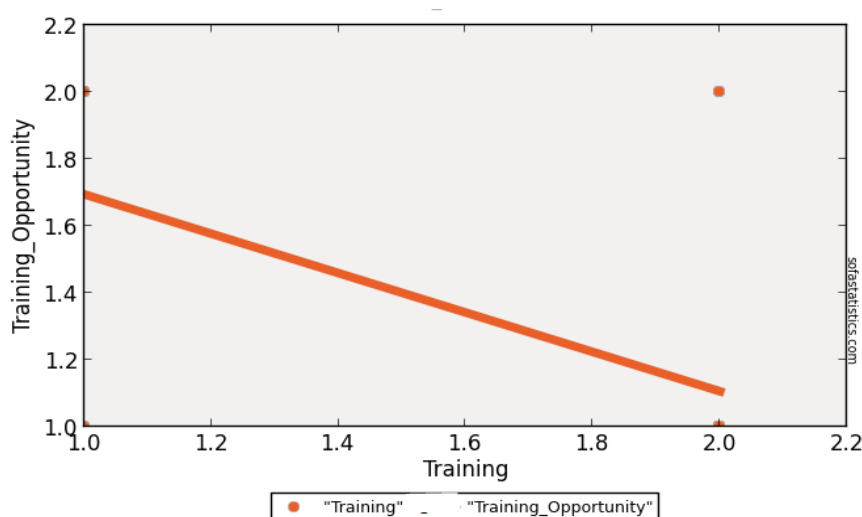
Table 3.12: Employees' Training Expectations

As the table shows, the training needs concern both the opportunity of being enrolled in training; continuing to attend English support courses; together with other specificities about the content of the English course. In the bar-graph below, the employees' learning needs (or specificities in question) are better visualised.



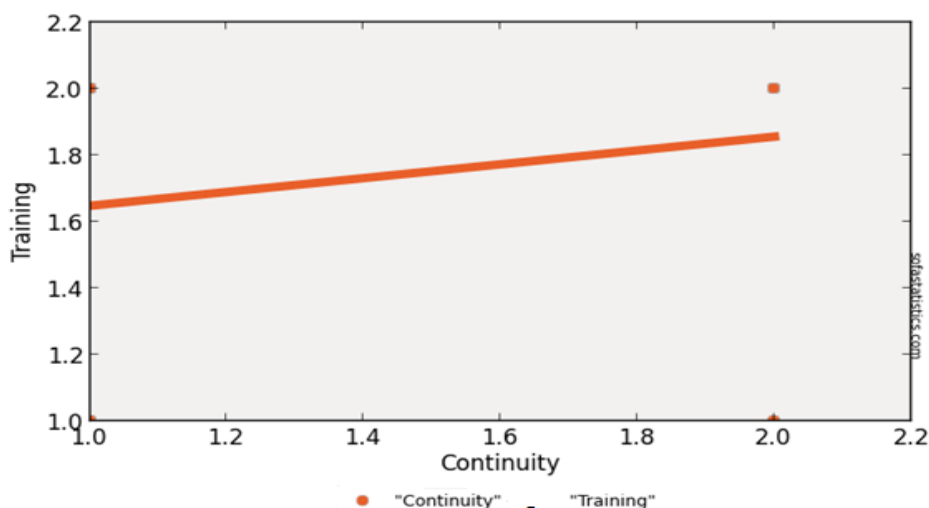
Bar-graph 3.8: Employees' Training Expectation/Learning Needs

As it appears from the bar graph above, both training opportunity and training continuity score the highest percentages with 17% and 16% respectively, which is a clear sign of the employees' interest in training. As to training opportunity, it derives from the employees who still did not benefit from the company English training from the moment that using *Pearson's r* correlation coefficient revealed negative correlation between the respondents' YES-NO answers to this question (i.e., whether they are enrolled in English training) and the training opportunity as a training expectation. The coefficient, $r = -0,5$, which is a large effect ($r = -/+5$, it is large; $r = -/+3$, it is medium, $r = -/+1$, it is small) confirms that the correlation is statistically significant. The line graph below from sofastatistics shows such a correlation.



Line-graph 3. 2: Training-Training Opportunity Linear Correlation

The negative correlation that is illustrated in the falling line of the graphic display above means that training opportunity is a need expressed by those respondents who have not benefitted from training yet. It also suggests that the respondents who did not express this need were those whose positive responses (yes) confirmed they already had that training opportunity. Still using *Pearson's r* correlation coefficient via the software 'sofastatistics', another correlation performed between the items (i.e., training continuity and training) revealed the following graphically displayed results.



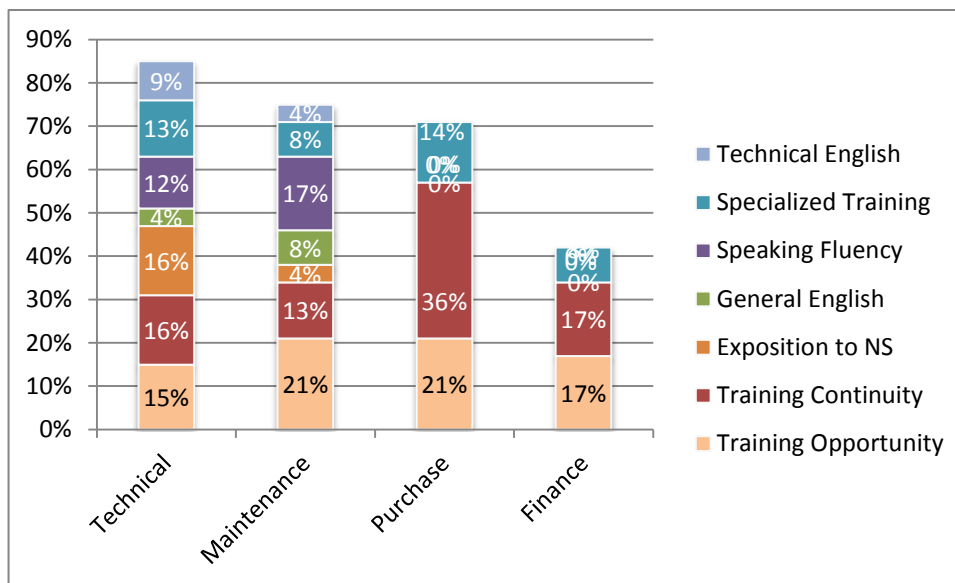
Line-graph 3.2 3: Training-Training Continuity Linear Correlation

As illustrated in line graph 3.2 above, a positive correlation with a small effect, $r = 0,2$ shows that 'training continuity' is what these respondents having been/being enrolled in English training expect. To see to which extent they were specific to certain departments, a distribution of the employees' training expectations resulted in the following table.

	Training Opportunit	Training Continuity	Exposition to NS	General English	Speaking Fluency	Specialised Training	Technical English
Technical	15%	16%	16%	4%	12%	13%	9%
Maintenance	21%	13%	4%	8%	17%	8%	4%
Purchase	21%	36%	0%	0%	0%	14%	0%
Finance	17%	17%	0%	0%	0%	8%	0%

Table 3.13: Training Wants/Learning Needs per Profession

From the percentages shown in this table, it seems that attaining a good level in technical English, general English, and speaking fluency are needs that not all the industry employees share. The following bar-graph better spots the departments where these learning needs originate.



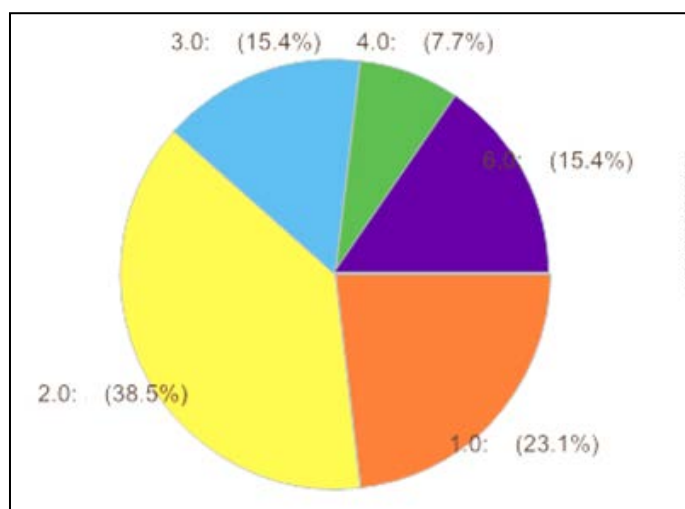
Bar-graph 3.9: Training Wants per Profession

At first glance, the bar graph shows how more varied the training expectations expressed in both the technical and maintenance departments are, than elsewhere. In parallel, though showing diverse percentages, some other training expectations are unanimously expressed everywhere, by different types of employees, regardless their department or professional category. For instance, training opportunity and training continuity that have been noticed earlier to score the highest percentages occupy a considerable percentage in the four representative departments. Interest in (more) training is, thus, shared by all employees.

With a percentage of 15% the technical department's staff is the only one where English training opportunity is the least expressed if compared to the maintenance (21%) and purchase (21%) and the finance (17%). Granted that the training realities are likely to explicate the reason for such percentages, these statistics are worth considering because they suggest that training need is still manifest even in the technical department.

Continuity scores the highest percentages almost everywhere (16% for the technical; 36% for the purchase and 17% for the finance), except in the maintenance department where it scores 13%. This reflects awareness of the importance of English in the workplace. This is also mere evidence that the employees need more training to better their level/be able to perform well at work. The demand for specialised training is expressed by different types of employees. Each in his/her specific domain of work expresses a need that is linked to the nature of his/her work (accountant, technical engineer, purchase agent).

The cross-tabulation between the learning needs and the respondents' respective departments discarded both the finance and purchase (0%) while revealing that speaking fluency was a training priority that the technical as well as the maintenance staff opted for (12% and 17% respectively).



Pie-chart 3.3: Sofastatistics Distribution of Speaking Fluency Need per year of Experience

As it is clear from this distribution (1=0-5 years; 2=5-10 years; 3=10-15 years; 4=15-20 years; 5=20-25; 6= <25), 38% of the engineers who expect to develop their speaking performance from English training, consist of industry employees with more than 10 years of experience while the other 38% expressing the same expectation consists of medium experience engineers (5-10 years). Surprisingly, 23% of inexperienced engineers also report that their aim behind English training is to attain speaking fluency. Equally, being exposed to native speakers (NS) was another learning need specific to the technical (16%) and maintenance (4%) engineers. Here again, such a preference for the Native speaker model deriving from the same job category of informants seemingly translated a yearning for oral proficiency.

3.5.10 Attitudes towards English Likert Scale Data

This sub-section deals with the employees' attitudes towards English, which is also another way to express or not a need to use English (Vandermeeren, 2003, 2005). Converting the Likert scale data to numbers representing the average agreement (on 3 point scale where 3 was allotted to 'agree'; 2 points to 'neutral'; and 1 points to 'not agree') helped make

comparisons and contrasts between the statements. The degrees of difference are plain to see when shown in numbers, i.e., the biggest number/average shows the statements with which the engineers mostly agree and the smallest one shows the statements with which they do not seem to agree.

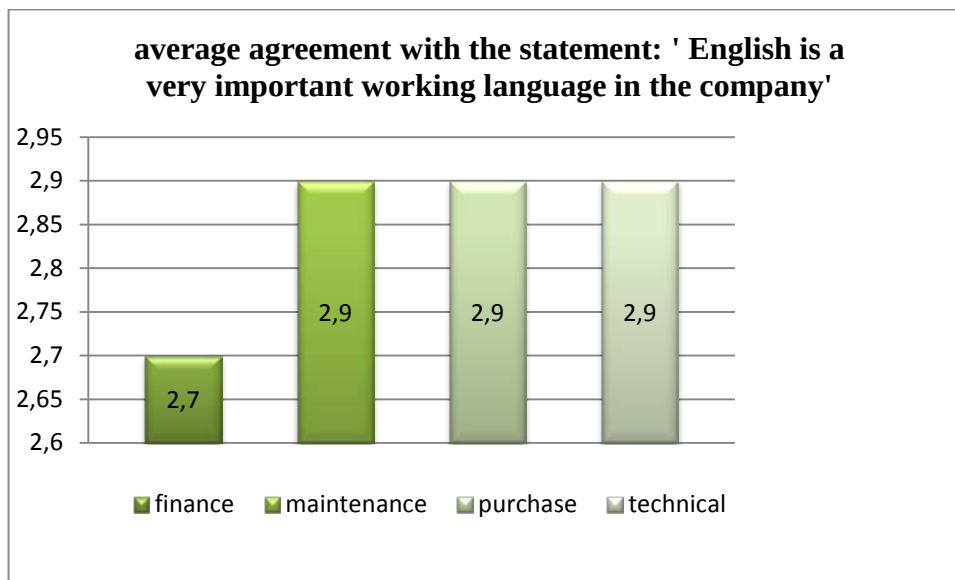
3.5.10.1 Average Agreement with the Statement 1

The average agreement with this statement according to different job categories (on 3 point scale where agree= 3; neutral= 2; not agree= 1) revealed the results shown below.

Departments	Average agreement with the statement 1: 'English is a very important working language in the company'
Finance	2,7
Maintenance	2,9
Purchase	2,9
Technical	2,9

Table 3.14: The Average Agreement with the Statement 1

The highest average agreement scores seem to pertain to the technical maintenance and purchase departments. A clearer comparison is proposed in the bar-graph hereafter.



Bar-graph 3.10: The Average Agreement with the Statement 1

The engineers from the technical, maintenance and purchase departments agree the most with this statement advocating the importance of English as a working language. This

originates from the fact that it is mainly the language of technical documentation in addition to using it in international communication with external partners who are not French-speaking. Earlier results corroborate the need of technical engineers for English, namely the results obtained about the various communicative tasks performed in English.

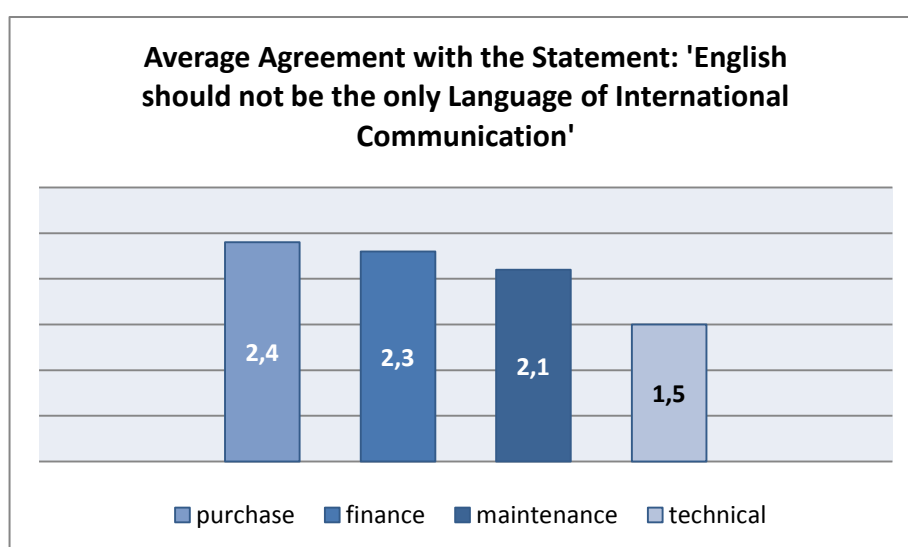
3.5.10.2 Average Agreement with the Statement 2

As regards international business communication, different scores of agreement denoted different needs for English in international communication. The results obtained appear in the tabular summary below.

Department	Average agreement with the statement 2: 'English should not be the only language of international communication'
Finance	2,3
Maintenance	2,1
Purchase	2,4
Technical	1,5

Table 3. 15: The Average Agreement with the Statement 2

Still on 3 point scale where agree= 3; neutral= 2; not agree=1, it seems that the highest average agreement scores with this statement refuting the use of English as a lingua franca of international communication appears within the finance and commercial staff, as opposed to the scores obtained in table 3.14. The results more clearly appear in the bar-graph hereafter.



Bar-graph 3.11: The Average Agreement with the Statement 2

The respondents who show moderate disagreement with the statement contending that ‘English should not be the only language of international communication’ are the technical engineers followed by maintenance engineers with an average of 1,5 and 2,1 respectively. In this respect, a statistical treatment to further validate this finding was performed.

	<i>International communication</i>	<i>English should not be only lib</i>
Statement 1		1
Question 2	-0,20301141	1

Table 3.16: Correlation between Statement 1 and Q2 (International Communication)

Using Pearson's r correlation coefficient, a correlation test was performed between the technical staff's attitudes to the statement ‘*English should not be the only language of international communication*’ and the second question inquiring about their participation in international business situations (Q2). It revealed a negative correlation, $r = -0,2$, which is between a medium and a small effect ($r = -/+5$, it is large; $r = -/+3$, it is medium, $r = -/+1$, it is small). Now that the correlation is statistically significant, there seems a general consensus among the technical staff, mainly those with international contacts, about the important role that English plays for international communication in the sector of energy industry in which they work. In parallel, for the finance department where the employees do not use English on a regular basis, low agreement average with this statement is therefore well founded.

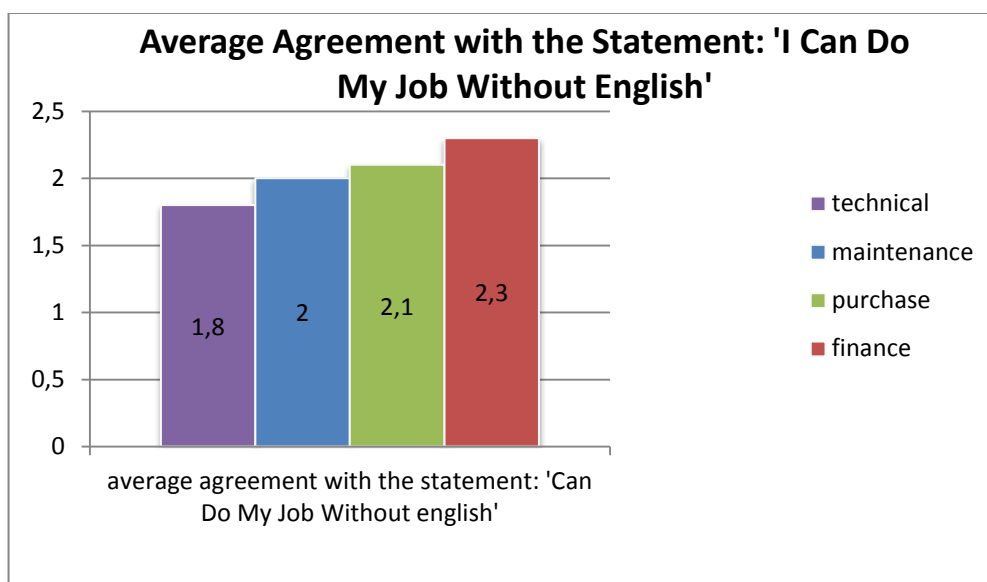
3.5.10.3 Average Agreement with the Statement 3

The following results in relation to the overtly expressed target need for English show here that the lower the average agreement score, the more the need for English in the target situation is expressed.

Average agreement with the statement 3 ‘I Can Do My Job without English’ per Department		
Finance	($n=14$)	2,3
Maintenance	($n=24$)	2
Purchase	($n=14$)	2,1
Technical	($n=68$)	1,8

Table 3.17: Average Agreement with the Statement 3

As to the table shows, the technical engineers score the lowest average showing a clear disagreement with it. Unsurprisingly, the second lowest score fall within the maintenance engineers. This numerical data and more are graphically displayed below.



Bar-graph 3.12: Average Agreement with the Statement 3

In terms of percentage, 50% of the technical engineers do not agree with this statement while 16% are neutral. Because the present statement somehow reconciles with the previous one, it is not surprising from the part of engineers to show the same attitude of disagreement with it. As the regards the engineering staff, the need of English for business communication besides its need for engineering is once again confirmed.

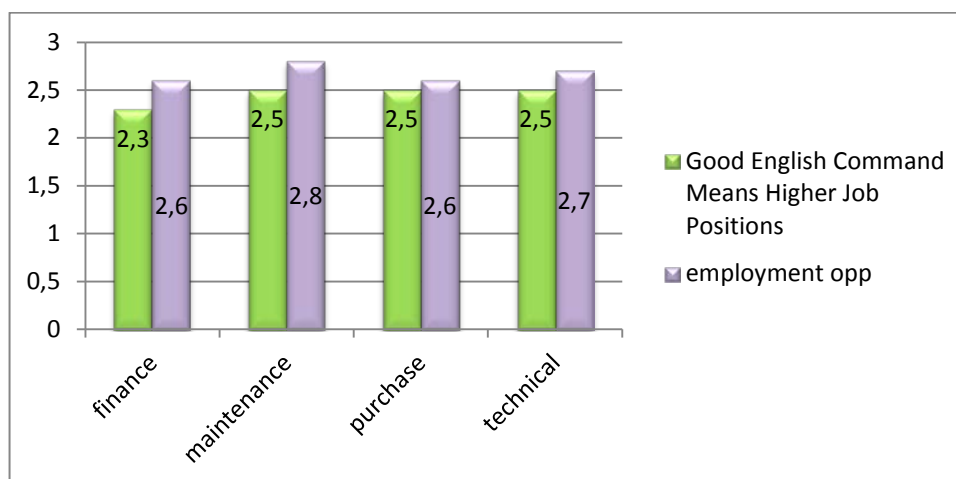
3.5.10.4 English Need for Recruitment and Job Promotion

Because both statements indicated in the table below point to the future need for English, they appear together. Here, the respondents actual use of English does not presuppose the employees approval or not of such statements.

	Average Agreement with the Statement 4	Average Agreement with Statement 5
Finance	2,3	2,6
Maintenance	2,5	2,8
Purchase	2,5	2,6
Technical	2,5	2,7

Table 3.18: English Need for Recruitment and Job Promotion

Again, the technical and maintenance engineers agree the most with this statement, ‘Good English Command Increases Employment Opportunities’. The general consensus among the technical and maintenance engineers as regards the importance of English for work (statement 1) and for international communication English is also repeated here. Hence, another instrumental motivation behind having a good command of English is to be able to seize the employment opportunities in external firms.



Bar-graph 3.13: English Need for Recruitment and Job Promotion

Respondents of the technical, maintenance, and purchase departments share the same highest average agreement in relation to the statement, ‘*Good English Command Means Higher Job Positions*’. As regards the technical and maintenance departments whose views are of particular interest to the present study, this position is not surprising from the moment that the latter represent the departments in which English is the most used. Even though English is less frequently used in the purchase department (only from the external purchasing section), the general attitude prevailing among its staff is favourable to this statement. By contrast, respondents from the finance department seem to agree the least with this statement. This is certainly explained by the fact that the use of English for work/international communication there is not so widespread.

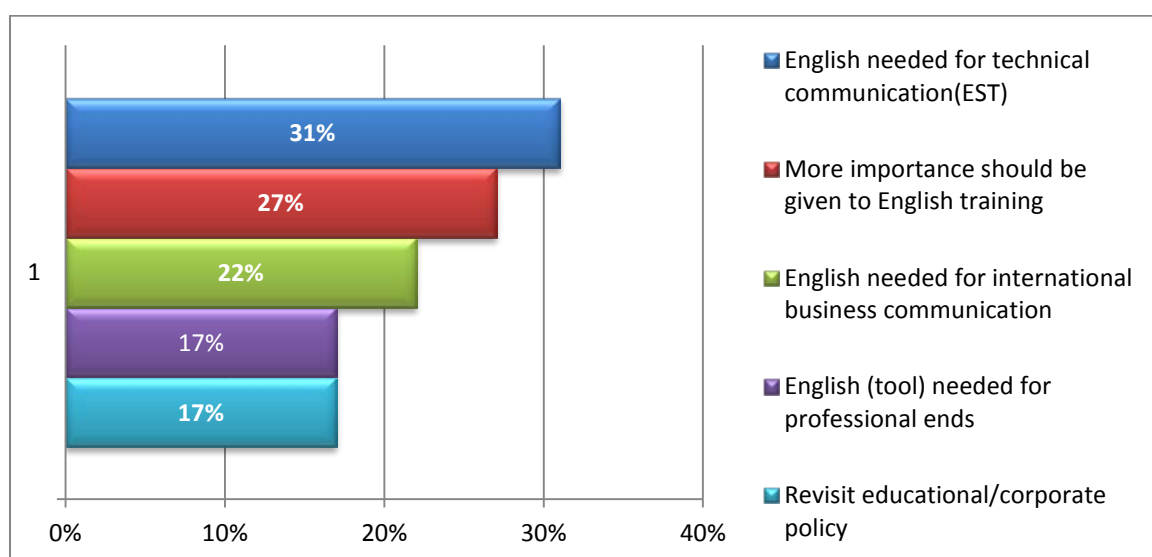
3.5.11 Final Comments

The final open ended question revealed different final comments that the researcher manually recoded⁽²⁾ to the categorical data. Table 3. 18 below show the major themes derived at a glance.

Order	Comments	Frequency	%
1.	English needed for technical communication (EST)	(n=20)	31%
1.	More importance should be given to English training	(n=17)	27%
2.	English needed for international business communication	(n=14)	22%
3.	English (tool) needed for professional ends	(n=11)	17%
4.	revisit educational/corporate policy	(n=11)	17%
5.	On-site practice needed to learn English	(n=3)	5%
6.	personal effort needed to learn English	(n=2)	3%

Table 3. 19: Final Comments on English Use in the Engineering Workplace

As it appears from the table, the results are shown in a decreasing order from the highest to the lowest percentage showing the proportion that the themes above occupied in the comments. Because they scored only two answers, the last and penultimate comments are discarded from graphic display below and the analysis leaving way for the top five comments. However, their analysis will figure below.



Bar-graph 3.14: Final Comments about the Use of English in the Engineering Workplace

In 31% of their comments, the respondent emphasise that they principally *need English for science and technology (EST)* in the engineering work setting under study. Their commenting⁽³⁾ for instance that, ‘95% of technical documentation is in English so English mastery is compulsory to facilitate professional interpreting and information sharing’; that ‘the use of technology requires a good knowledge of English’; that ‘English vehicles

knowledge' or simply that, *'English is important in the technical domain'*, point to the restrictive use (and therefore need of) English for technical communication, for knowledge access or technical information exchange at work.

27% of the comments suggest that *more importance should be given to English training*. To put it in the respondents' own words, their invoking that *'the company should invest more in training workforce'*; *The company must give compulsory training to all its employees'*; or *'training must be provided'* bear the responsibility on company to provide them access to training. Others' explicit comments such as, *'we have never studied this kind of [technical] English at school nor at university,' 'to invest in English training is to invest in human resources'* seem to put into question the actual corporate training policy besides bearing high expectations on English training. Training is, apparently, the only way for the industry employees to have their English practised and/or their English level bettered.

In 22% of the final comments, the respondents also provide feedback about the supplementary need of English for international business communication. Evidence from the respondents' statements, *'we use it [English] for external communication in our company'*; *'[English is] the language used for international communication with Anglo-Saxon partners'*; or else, *'all those having a regular contact with foreigners must have a good level in English'* indicates that besides its primary but limited need in engineering, English is also needed for international business communication in the energy industry sector under scrutiny.

The respondents invoking in 17% of their comments that English is a tool that adds up to their professional performance denotes how much this language is instrumentalised to facilitate daily tasks in likewise work settings. Their stating notably that *'English is a means to accomplish work tasks. Its mastery is part of professional competence'*; *'English is a complementary tool for the technical engineers in the company'*; *'English is an additional professional skill'*; *'...a necessary working tool'* and that *'the non-mastery of English is a handicap'* seems to reflect the extent to which the informants may interpret the presence of English language skills among the professional skills of an industry employee as an asset whereas their absence may be seen as a handicap.

Finally, the respondents proposing in 17% of their final comments to reconsider the educational policy in general and the corporate policy in particular towards further promotion of English. Suggestions in relation to corporate policy include comments considering that

‘English should replace/must be at the same level as French at work’; that ‘English should be valued as a profitable element’; or else that ‘company authorities should give more importance to English’. As regards the national educational policy, some comments suggest that, *‘the Algerian government has to encourage the citizens to learn English’* whereas others went further to propose that, *‘English must replace French at school and at university’.*

3.6 Interview Findings

The interview findings attempt to provide deeper insight into the utilitarian purposes for which English, under its different forms, is used in the case plants under study. First, an examination of the target language needs from a corporate or meso-perspective is first proposed to highlight the overall corporate needs for English and their target tasks. Then, the individual industry professional’s perspective is presented. This will involve a triangulated account from interviewees of different job positions (managerial versus non-managerial) and categories (engineering versus non-engineering) of the target English language needs. This is done through an introspection into the easy-to handle as well as problematic communication situations. Finally, a qualitative sketch of the training interest and expectations is also offered.

3.6.1 Co-occurrences and Concordance Data of the Term ‘English’

In view of highlighting the most significant themes emerging from the interview data, the researcher was able to create concordances of the terms invoked by the interviewees. In an attempt to know how the interviewees used the term ‘English’ (originally under its French version, *‘Anglais’*) in conjunction with other themes that are of interest to the study, TXM, the software-assisted analysis tool, helped sort out all the co-occurrences of the above term. This revealed a number of co-frequent terms that the following screenshot illustrates:

The screenshot shows the TSM (Term Structure Manager) interface. The query is set to [word=".*anglais.*"]. The co-occurrences properties are set to word, with thresholds Fmin ≥ 2, Cmin ≥ 2, and Score ≥ 2. The context is set to word, and the use of left and right windows is checked. The results are displayed in a table with columns: Cooccurrent, Cofrequency, Score, and Mean distance.

Cooccurrent	Cofrequency	Score	Mean distance
en	544	66	2.4
l'	504	38	2.6
maitrise	53	11	3.6
documentation	62	10	4.9
parlent	33	8	2.9
L'	52	6	1.7
langue	77	6	3.5
apprendre	35	6	3.2
maitrisent	19	5	2.4
parler	42	5	3.6
français	117	5	5.6
bien	68	4	4.3
utilise	33	4	4.0
documents	31	4	3.5
parle	28	3	4.2
ucane	11	3	2.3

Screenshot 3. 1: TSM Co-occurrences of the Term ‘English’

Of the interest to the analysis, the second term displaying high co-frequency is ‘*documentation*’. It co-occurs with the term English 62 times as highlighted in the screenshot above. Ten lines below, the term ‘*documents*’, which refers to the same meaning, is worth mentioning as it co-occurs with ‘*English*’ with a co-frequency of 31 times. This means that the reference to work-related documents or documentation occurred with a frequency of 93 occurrences in total. For more insight into the context in which the interviewees invoke the terms *documentation/documentation*, sending the afore-mentioned co-occurrences to concordances revealed concordance data that the following screenshots illustrate.

s_n	Left context	Keyword	Right context
1338	à la bibliothèque, la majorité de la	documentation est en anglais	. Si tu cherches une information il faut passer par l' anglais
1346	utile dans le domaine technique parce que la	documentation est en anglais	. Cette usine a été construite par une société Américaine, B
1505	. Même, même ici, beaucoup de	documentation est en anglais	, parce que la plus part des partenaires sont des américains.
1539	domaine technique dans le domaine technique, la	documentation est en anglais	. On a des difficultés pour comprendre les termes techniques parce
1814	on utilise dans les machines. Généralement la	documentation est en anglais	. D' ailleurs les plus récentes sont en anglais. Avec le
1944	pour faire le (barème). La	documentation est en anglais	. Même le partenaire nous envoie en anglais. Donc ici,
650	avant. Au technique y a de la	documentation en anglais	principalement, j' état au département technique pendant, pendant
2178	avec les étrangers. Moi, devant une	documentation en anglais	, je peux la lire et la comprendre, mais j' ai
2186	de problème. Il y a de la	documentation en anglais	, je la maîtrise bien, je la comprends normalement. Mais
2189	que je ne sais pas faire. La	documentation en anglais	, je n' ai pas un problème avec, parce que,
1261	Généralement, l' anglais c' est, la	documentation elle est toute en anglais	c' est-à-dire les normes, par exemple les codes xxx les codes
1280	traductions, donc nous, on préfère la	documentation d' origine qui est fournie en anglais	. D' accord donc, la maîtrise d' anglais elle est importante

Screenshot 3. 2: TXM Concordance Data for ‘Documentation’

The above screenshot is a representative illustration of the context in which the terms *documentation* and *English* co-occur. As it appears from the caption above, the same French phrase ‘*la documentation (est) en anglais*’, which stands for ‘*documentation (is) in English/English documentation*’, is used by different interviewees. Within the same concordance lines, another screenshot illustrating the co-occurrence of english with documents is shown below.

s_n	Left context	Keyword	Right context
1237	des travaux, c' est l' utilisation des	documents en anglais	puisque le complexe a été construit par la société américaine, donc
1250	. On trouve des ingénieurs qui comprennent les	documents en anglais	, mais quand il s' agit de parler, c' est (
1256	a besoin d' information, on trouve des	documents en anglais	. Dans l' utilisation des codes et des normes, à 90
1528	. La majorité des fournisseurs nous donnent leurs	documents en anglais	, même les manuels sont en anglais, les manuels opératoires des
1601	télécommunication qui avait du mal à traiter des	documents en anglais	, je me rappelle bien, il lui a dit: '
1680	équipements et tout, il y a des	documents en anglais	. Des fois les fournisseurs ne fournissent pas un document en français
1682	en français. Des fois ce sont des	documents en anglais	vu que l' usine vient des américains et tout. Donc dans
1798	maîtrise l' anglais, tu peux consulter des	documents en anglais	et apprendre vite., pour être toujours à jour avec la

Screenshot 3. 3: TXM Concordance Data for ‘Documents’

The concordance line above illustrate the contextual environment in which the two terms ‘*documents*’ and ‘*English*’ co-occur under the phrasal expression ‘*documents en Anglais*’ (i.e., ‘*documents in English*’). A more legible English version proposed in the table

beneath to reveal what is in common between the uses of English documents and documentation.

1) Concordance Data for ‘Documentation’ vs. ‘English’		
1. In the library, the majority of documentation is in English . If you search for any information (online), you have to use English		
2. English is useful in the technical domain because documentation is in English . This plant was built by an American company		
3. Even here, a lot of documentation is in English because most of the partners are Americans		
4. In the technical domain, documentation is in English . we have trouble understanding technical terms		
5. In relation to machinery, documentation is generally in English . After all, the most recent one is in English		
6. Documentation is in English . Even the business partner sends us English (documentation)		
7. In the technical department, there is a documentation which is predominantly in English		
8. I can read and understand documentation in English .		
9. There is documentation in English . I manage to read it and understand it.		
10. I don’t have any problem with English documentation because I read it every time.		
11. Generally speaking, English has to do with documentation . Its entirety is in English, that is, norms, codes...		
2) Concordance Data for ‘Documents’ vs. ‘English’		
1. onsite work requires the use of	documents in English	from the moment that the plant was built by an American Company
2. When searching (online) for information, we find	documents in English	dealing with codes and norms...
3. Among the documents that accompany (ordered) equipment, there are	documents in English.	Even operational manuals are in English
4. We consult documents on the net or those accompanying equipment. There are	documents in English	Sometimes suppliers do not provide a document in French.

5. Sometimes, they are	documents in English	as the plant was made by the Americans
6. There are engineers who understand	documents in English,	but when it comes to speaking it is difficult
7. ...when you master English, you can consult (online)	documents in English	and learn quickly to be up to date with technology

Table 3.20: Concordance Data Sample of the Term ‘Documentation/Documents’ Vs. ‘English’

As the tabular account above shows, the terms ‘documents’ and ‘documentation’ seem to be interchangeably used by the industry professionals to refer to different domains in which English is used in the professional setting under study. The first use, that line 2 from the first table and lines 1 and 4 from the second table illustrate, relates to the origin of this industrial plant in which the engineers work. As it was built by the Americans, all the original documentation, including manuals, plans, data sheets, and the like exist in English.

The second use of English documents, which is illustrated in lines 3, 6 from the first table and line 4 from the second table, takes effect when dealing with foreign suppliers. This meso-level need manifests itself when ordering equipment from these foreign partners, who send their equipment specifications and operational manuals in English.

The third use of English technical documents occurs when the engineers are browsing the internet or visiting the library/documentation room. As illustrated in line 1 from table one and lines 2, 6 from the second table, referring to the library or doing internet searches is either meant to seek more information on any equipment or else, to look for international norms and standards. This seemingly enables the engineers to be constantly up-to-date with the latest technological novelties and to ensure that their respective plant’s equipment abides by the international standards.

Aside from that, the interviewees’ perspective as to the non-problematicity of reading work-related documents/documentation as a communicative task appears in lines 8, 9, and 10 from table 1 and line 6 from table 2. In parallel, the challenging side of technical reading materials appears in table 1, line 4. Prior to dealing with the cases in which reading technical

English is either fostered or hampered, an elaboration of the earlier themes related to the use of English for technical documentation are first offered below. Quotes representing both a managerial as well as the employee's perspective that is needed to validate the findings are proposed as a result of a supplementary manual examination of the interview transcript.

3.6.2 English as the Language of Technology: An objective Need

This sub-section throws light on the utilitarian purposes for which English is used in this particular professional setting under investigation.

Since the Americans' expertise, qualification, technological monopoly are transmitted via the English language, both their language and technical knowledge represent a reference to the Algerian engineers who yearn for professional efficiency.

TI12 In this industry, the Anglo-Saxons or, say, the Americans dominate this field. This means that all the documentation and expertise, 80% or 90% is generally in English.

For professional growth, the Algerian engineers have to adapt to this industry requirement and use English to access such a flow of technical know-how (see: English as a tool of knowledge transfer). Not only this, but also because the Americans are the ones who constructed the particular case plants.

TI7 From the moment that the complex was constructed by the American company, the majority of technical documentation is an English one.

TI10 Sometimes, there are documents in English seeing that the plant derives from the Americans. In this case, too, we use English.

TI12 This complex was from the beginning conceived by the Americans whereby the big majority of equipment has an original documentation that we consult in English.

TMM1 *This plant was built by an American company. So original documentation, the one that is of a real value, is an English documentation*

According to the above engineers' explanations, industry requirement is less a matter of strengthening the bond with the American fabricants, but that of imposing their English language as a necessary working tool.

3.6.2.1 Triangulated Perspectives on the Engineering staff Need for English

The managerial objective perspective as regards the engineering category of staff permanent need for English is plain to see below, starting first with the finance department higher manager's perspective.

FHM English use for engineers from the technical and maintenance departments; I confirm it to 100%

In his turn, the purchase department high manager confirms that the technical department has the most frequent contact with English speaking partners

PHM in the technical department, there is a lot of communication in English

MMM1 in the technical department, they are a bit closer to English than the maintenance department though our principal documentation normally in English"

The head of the contracting department confirms to 100% the use of English among the technical category of staff:

(CHM): As to English use among the technicians, technical and maintenance engineers, I confirm this to 100%.

FMM For engineers, the use of English is a requirement that is on the agenda , second, they have more opportunities to communicate (with international partners).

Common to the managerial perspective from the different departments, it is unanimously confirmed that the technical department staff, followed by the maintenance department, witness a regular use of English. This is what the questionnaire findings have previously revealed.

3.6.2.2 Reading Technical English Materials as a target need from the Management's /established engineers' Perspective

Management confirms that engineers are required to be acquainted to technical/engineering English since the high majority of English usage is directly linked to technical documents. This is well explained in the quotes below:

MMT1 90% of the documentation, manuals, data sheets is in English

HMT Almost all technical documentation is in English : the norms, references.

English target needs, as identified by above employer's perspective that quoted middle and higher managers exemplify, require knowledge of basic technical English or terminology as the majority of technical manuals and other documents are read in English. This management's perspective validates earlier questionnaire findings, notably that engineers' work is first and foremost reading-oriented and technical in nature. The following subsections elucidate the utilitarian purposes for which reading technical materials is needed.

3.6.2.3 Reading-Oriented Engineering English as a Tool for Knowledge Access

Because technical documentation originally exists in English, a good command of English is a way for the engineers to look for expert information; to acquire more knowledge in their specialist domain of work; thus, to be acquainted with the latest advances in technology. The interviewed engineers report two ways through which they consult English documentation to further their technical skills and knowledge: visiting the documentation room or doing internet search.

TMM3 If you have the chance to visit the documentation room you'll see [that] there are many manuals in English that we use in our operations

TI18 Research is done via internet or via our library here...As in our case, all manuals related to our system are written in English

TI18 English is 'number one' in the world even in the field of industry. Information is mostly in English, if you just go to the library, the majority of the documentation is in English. If you seek information (via internet) you have to use English. That is, English ability is mandatory requirement in industry, especially in petrochemical industry.

The documentation room where most of the technical documentation is in English, is found in both the technical and maintenance department (ethnographic fieldnote). Engineers regularly visit it to seek technical information or to refer to details in manuals, norms and codes from one part. From the other part, different construction plans in English serve as references that are necessary for work tracking or in the accomplishment of their other work-related tasks. An illustration of such technical references taken from the documentation room appears in appendix XI (Parametrics: User's manual).

3.6.2.4 Browsing the Internet

In addition to the documentation room, browsing the internet to acquire the needed information -related to a new equipment technical characteristics- is the norm rather than the exception according to the interviewees' accounts.

TI17 Sometimes we do internet searches because we need information, we find documents in English. In the use of codes and standards, 90% of them are American standard inspection norms

TMM1 On the net, the information we search for is available to hundred times in English (than in French), for an engineer it is capital ...The required information is far richer and more abundant in English. It is much more technical.

For a professional working in the industry, it is not sufficient to work with a dearth of technical information that languages other than English afford (i.e., French). Because English vehicles technical information and knowledge, reading authentic technical materials is, definitely, a customary target task that the engineers need to undertake on a regular basis. Appendix XII contains some technical texts taken from electronic sources. Having uncovered them as target tasks, it will be interesting to discover the engineering staff present level in and experiences with reading authentic technical materials.

3.6.3 Established Engineers' Familiarity with (Strength in) English Reading Materials

Familiarity with technical English seems to be a source of strength from perspective of the work-experienced or established engineers, including their middle managers. Their own introspection of the origins of such a strength is proposed below:

TMM1 Here, by dint of working with English, to read technical documents of course, we haven't any trouble. We understand to 100% without the help of the dictionaries.

TI19 I have no problem with English documentation because I am used to reading it. I rapidly understand technical vocabulary but if I read an English newspaper, I will not understand it.

TI16 When an engineer comes to work here, he is obliged to get familiar with technical terms. All engineers have in their personal computers a technical English dictionary. Technically speaking, I think all the engineers master their domain-specific English.

Reading technical documents is reported, from the established engineers perspective, as a customary task for established technical engineers because they are constantly working with the same technical vocabulary. This familiarity with technical literature enables the elder to easily understand their work-related technical vocabulary. This same fact results in limited competence in English. If exposed to a new situation where they are required, for instance, to use ordinary English or as the engineer exemplifies to ‘*read an English newspaper*’, he couldn’t understand. However, this familiarity with technical English reading materials does not seem to be the case for new entrants to energy industry as suggested below.

3.6.4 Reading Technical English Materials as a Lack from Inexperienced Engineers’ Perspective

At their early years of career, engineers with little experience and practice in the energy industry in question specifically express this concern as regards technical English:

(TMI1, 9 years) What we need here is technical English. It is purely specific to engineers from the technical department

TI18 I do not understand technical English very quickly

TI15 Now when they (foreign suppliers) send us all the documentation (related to new equipment) in English... (because) I do not have a good command of English. How to do? I find it difficult. I have been working in the technical department for four years

TI10 when the only working tool is an English document that I cannot read until the end, so my work will stop there. The most important thing that I want to master is technical English. I really need technical English. I am in the current position for two years and a half.

In sharp contrast to their elders, it is clear that the inexperienced engineers’ need to cope with technical English reading materials is still a major challenge. It transpires from the above quotes that inexperienced engineers are aware of their needs (here seen in terms of lacks) as they rate themselves as non-proficient readers of technical texts. At the same time, they are also aware of the professional utility of having a good command of reading-oriented technical English. For them, understanding technical documents seems to be as a *sine qua non* to progress in their work whereas the opposite, according to them, seems to directly hamper the fulfilment, hence, the quality of their work tasks.

Having thus far identified the present needs (strengths and lacks) as regards technical English reading-related tasks, a sketch of the energy industry professionals' linguistic strengths and lacks in other target communication situations will be proposed hereafter, together with the resources used to cope with linguistic challenges. To set the scene for these business situations, an interview data-driven account of the need of English for business communication is first proposed.

3.6.5 English as the Language of International Business Communication with Foreign Suppliers

As mentioned so far, English being the language of hydrocarbon industry grants it a supplementary role. That is, it is used for business communication with foreign suppliers, too. Two types of business partners have been identified to use English for international communication: the 'Anglo-Saxons', particularly, the Americans, and the non-native speakers of English:

THM Apart from the French, all the other partners speak English. That is to say, the Italians or the Chinese or Singaporean or Korean, all of them use English... Currently we are on several contracts, they are English, American, Singaporean, Italian, so communication is conducted in English.

TMM1 Recently, there were Italian, Japanese, or Dutch visitors. English is the universal language of communication used with them...(besides) the British and the American, so English is needed to communicate with them.

The American partners represent a considerable proportion of regular foreign visitors to the plant to conduct business as the local staff always needs their services in case of expertise, revision or replacement of equipment. Such a business partnership with the Americans also originates, as mentioned earlier, from the fact that they are under the origin of the case plants creation. Naturally, they represent the potential equipment and expertise providers.

IM5 As a lot of equipment is provided by American fabricants, most of the interveners who come to the plant speak English, be them supervisors or technicians.

TI17 Our complex construction, the majority of equipment and energy exploitation is American

Hence, the Americans' representing 'the potential business partner', who deals with the Algerians in this field, as the local workforce qualifies them, is henceforth no surprise.

However, the American are not the only business partners to offer their services to the company. The industrial plants under study are open to the global market in terms of ordering equipment. In this case, English is also used when the partner is non-native English speaker (Italian, Dutch, Japanese). Engineers invoke the origins of the English speaking partners who make visits to their plant:

TI12 90 % of our business partners speak English, Chinese and so on- because this domain has initially been boosted by the Americans

TI15 All our equipment comes from foreign countries. Generally, they are Americans, Japanese, Filipino, British. All these people generally speak but English, even the Spanish. The language used everywhere is English.

Because the company is also open to the world market, service providers from other parts of the world and speaking different tongues are involved in business with the case plants too. The result is that they usually adopt English as the common language of business communication. The following middle manager's statement constitutes a summary of what has been stated:

TMM1 The whole world communicates in English. English language should not be a handicap, but a means of transfer, a bridge, a tool that should be easy to use

According to the interviewees' accounts, besides its being the language of worldwide communication, English, is also a tool that serves different purposes: it is either used as a tool of knowledge transfer or a tool of international business communication. Hence, knowing English is more helpful whereas not mastering it is seen as a handicap.

3.6.6 Interviewees' Accounts on Target Communication Situations

This section reports on the employees' feedback on some communication situations two of which will be the object of a closer analysis in the coming section the situations exemplified are email communication, telephone conversation and meetings. They range from challenging to manageable situations from the informants' vantage point. This section is divided into two parts. It first proposes a triangulated account (i.e., from different sources including the engineers' and their managers' as well as the administrative staff's perspective) of the ordinary communication situations in which English is needed before dealing with the resources used to handle the most ordinary target situations. The second part deals with the challenges emanating from demanding communication situations from the senior engineers' and managers' perspective.

3.6.6.1 Managerial (Employer's) Perspective on Target Communicative Tasks

The different target communicative tasks that are needed in the engineering workplace under study are first offered from the management's perspective. Below, the head of the technical department or higher manager confirms that his fellow staff needs to undertake different communicative tasks. In a similar vein the maintenance middle manager quoted in the second position lends support to the same oral and written tasks.

***THM** Almost all our business communication with foreign partners takes place in English ...emails, telephone conversations... in meetings with English-speaking business partners... there is mutual help.*

***MMM2** An engineer needs to write (email) messages in English; to speak in English, to assist other persons when foreign partners are present onsite...*

Besides the higher and staff managers, other views proposed below derive from the non-engineering departments, including both the finance department middle managers and the HRD training organiser. Interestingly, they explain the different communicative tasks that are required of an engineer in the target situation

***FMM1** in terms of international business transactions, we have already made a step forward. Have you seen the level of our engineer? Sometimes we do not know who is the real English-speaking partner, the British or our engineer himself. They have a good English level... be it in speaking, writing, listening, so, they have a good level.*

***FMM2** Engineers use English for their work-related tasks like doing internet search, dealing with specifications and features written in English at the international level. In meetings, ...on technical aspects it is mainly the engineers who speak.*

***(HRD training organiser)** In the technical department, there is a regular contact with foreign partners; and in the purchase department, too... even when there is no direct contact, they still need documents which are typically in English... an engineer really needs to understand and make the visiting foreign partner feel comfortable*

By invoking the most English proficient engineers in the plant, the first above quoted finance middle manager indirectly indicates that both oral and written media of communication are involved in the target tasks that are required of an engineer in international communication with business partners. Noteworthy is also the certification of the second finance middle manager that engineers regularly take part in meetings. From her part, the HRD training organiser provides an objective perspective on the engineers' particular need to host, entertain and successfully communicate with the visiting business partners. She also mentions the purchase department as another department where English is needed.

However, the purchase need of English seems to be expressed to a lesser extent. The technical department higher manager confirms the need of English there when he states that, “*English is vital in all departments with an external interface, namely the purchase department due to its purchase activities*”. According to him, English is needed in the international activities of the purchase department. Similarly, the purchase higher manager offers an employer’s perspective of the percentage to which English is needed there:

(PHM) We deal with a lot of Anglo-Saxon tenderers. Let’s say that 50% of our work is conducted in English... (mainly through) email correspondence with Americans...

As the management’s perspective seems to confirm, the amount of English use that occupies 50% of the work tasks in the purchase department is limited to email communication. Such usage is less important than in the engineering departments where percentages have thus far been reported to reach 90% to 100%.

The above triangulation of different sources reporting on English use and need in the energy industrial plants under study unanimously indicate that the engineers from the technical and maintenance departments are the ones who mostly need English in their regular job tasks.. It is of note here that besides dealing with technical documentation, it seems that these industry professionals need to use English in other communicative tasks such as emailing or engaging in domain-specific conversations with international partners that meetings are the most representative of. To a lesser extent, the purchase department specifically recorded the need of English for emailing mainly. More insight into the emailing as a task undertaken in the engineering workplace under study is offered hereafter.

3.6.6.2 Employees’ Feedback on Easy-to-handle Email Communication

This sub-section mainly deals with the informants’ perspective of non-problematic email communication. Before going any further, more details from the informants’ insider perspective is offered here for the sake of validating its target use by different categories of employees. In the quotes below, the managerial perspective confirms that email communication medium is of widespread use among the engineering category:

MMM2 An engineer needs to write (email) messages in English

MMM1 The use of Emails is needed in the technical department to get into contact with foreign suppliers and manufacturers

While the first middle manager offers an employer's perspective from the maintenance department of the need to write email messages as a target task, the second one supplements this with the international business situation in which this emailing task operates, that is, in international communication with foreign business partners. It is also of note that email communication is the regular medium of communication that is used in the purchase department, too. The purchase middle manager confirms his superior's statement in the subsection above, about the need of English in the purchase department, which is centred on email communication mainly:

PMM English is needed in correspondence with the Americans, the Japanese, that is all those who do not speak French. We are obliged to send them emails in English... Concerning purchase operations, communication is most often conducted via email.

According to the middle manager above, email seems to be the most appropriate medium of communication in the purchase department in covering the transactions related to ordering equipment or spare parts from foreign suppliers. Now that it has been reported to be used in both engineers and purchase agents, additional information about the language features of this electronic form of communication is provided in the interviewees' feedback below for more insight into its successfulness.

3.6.6.3 Straightforward Language

The industry professionals were able to provide a detailed account about their language in use as regards emailing be it in structure or in communicative purpose:

TI9 Technical English is simple, including short sentences, which do not have a semicolon ... what is important is that the message is clear; the request is clear; the concern is clear. That is it.

(SHM) These are e-mail exchanges with the Americans (concerning) valves,... ' I need to know what is the size between ...'

(TMM1) Short emails, to request information, or in response to a (question). we easily write them. They are a few words, one is accustomed to using them.

As far as the communicative purpose of technically-oriented emails is concerned, it seems that requesting technical information is the customary topic. In corollary, the related sentences used to fulfil such a communicative purpose seem to be simple and easy to use. Seemingly, when using English for domain-specific communication with their international

business partners, no ‘*foreign-language acrobatics*’, to borrow Falter’s (1991: 12) expression, are required of the local engineers.

From another pole, it is of not that clarity is an important feature that apparently marks specialist communication. Its absence seems to be detrimental to information sharing in a similar professional setting. Assuming that clearly communicating ideas concerns any form of professional communication is only possible when gathering further evidence from other sources (such as observational data), and about other media (such as technical conversations). This being said, other reasons which are highlighted below seem to make of email communication a less troublesome task.

3.6.6.4 Resourcefulness in e-Mail Writing

Apart from its language features, an additional issue that makes of emailing in English an easy-to-handle task concerns the compensating resources that accompany it. In the following introspections about emailing, the interviewees below appear less self-conscious about their English use:

***TI8** Writing is not a problem. Everyone can write in English, but conversation is the most important*

***TI6** ... I can communicate via e-mail. I cannot write advanced English, I make mistakes; I look for the translation; I ask the help of colleagues. And they (foreign partners) normally send back a reply. It means that they understand (my English).*

Whereas the first quoted engineer compares the unproblematicity of email communication to troublesome speaking tasks, the second quoted engineer details the resources that make of email communication a successful medium. Hence, the confidence that the interviewees seem to project as regards e-mail communication derives, according to them, from the fact that they seem to successfully handle the situation. Be it with the assistance of the translator or their colleagues, their foreign business partners’ response a compelling evidence that they understood their English and that work was successfully achieved. However, contrary to what the above quote may suggest, it seems that successful emailing is also conditional on uniformity of form. This is what the following content suggests.

3.6.6.5 Correct Language

In spite of the fact that the industry professionals manage to convey their message in e-mail communication, they seem to pay more attention and to give more importance to language correctness in writing:

PHM: When the employees reply to an incoming e-mail in English,...I am always in carbon copy. If there is a mistake, I intervene. The risk (of making mistakes) is minimal.

T4: it (the subject of the e-mail) has to be clear. We just have to avoid making spelling mistakes because it is not acceptable from our part to do so. We have to write properly ...

T17: Since the image of the company is at stake, we must write quality e-mail messages.

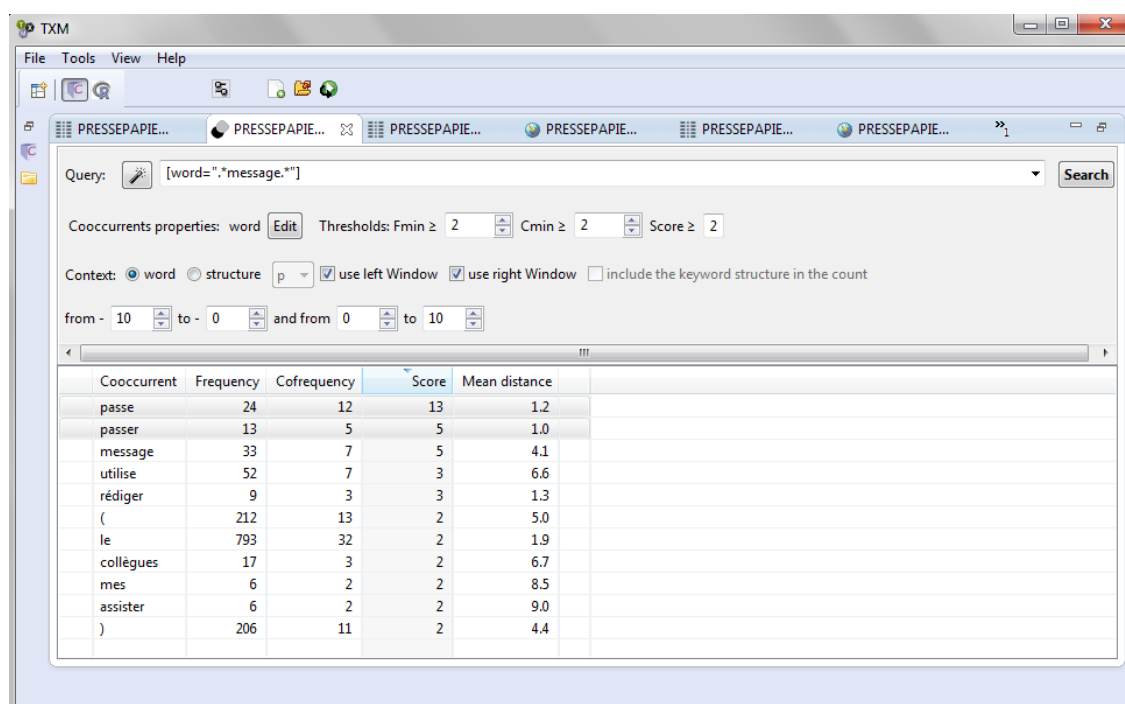
Be it from the managerial or employee's perspective, language uniformity as regards this electronic medium of communication is unanimously emphasised. In international email communication, as the above quotes suggest, the image of the company seems to be at stake when it comes to writing in English. Seemingly this channel of communication is regarded as a formal medium of international exchange whose language and style are carefully chosen.

Common to what has been revealed thus far about email communication, the apparent resourcefulness (colleague's language assistance or translation software) that emailers from both the engineering and purchase departments enjoy while engaging in email writing tasks, seems to be helpful. Another reason for which email is an easy-to-handle communication medium is that technical information sharing coupled with simple technical English language seems to enhance message transmission as long as the use of English is limited to technical/engineering purposes. Notwithstanding, uniformity of style and language is another feature that the emailers in question insist on while involved in international communication. Having thus far examined the supportive peculiarities of such a professional written medium communication, it is worth discovering how the industry professionals similarly reported about successful domain-specific talk.

3.6.7 Reasons for Success in International Technical Conversations

As regards their introspection on technical conversations with English-speaking foreign partners, the researcher, when actively listening to the interviewees⁽⁴⁾, repeatedly heard the sentence ‘*the message always gets through*’ that they originally stated under its French version, ‘*le message passe*’. This was an incentive to create concordances of the terms that figure in the said sentence for a data-driven portrayal of its related themes and context.

After having examined the co-occurrences of the French term ‘*message*’ (message in English) using TXM software, it revealed that the highest co-frequent words are ‘*passe*’ and ‘*passer*’ (meaning to ‘convey/get through’) with a co-frequency of 12 and 5 respectively, as shown in the screenshot below.



Cooccurrent	Frequency	Cofrequency	Score	Mean distance
passe	24	12	13	1.2
passer	13	5	5	1.0
message	33	7	5	4.1
utilise	52	7	3	6.6
rédiger	9	3	3	1.3
(	212	13	2	5.0
le	793	32	2	1.9
collègues	17	3	2	6.7
mes	6	2	2	8.5
assister	6	2	2	9.0
)	206	11	2	4.4

Screenshot 3.4: TXM Co-occurrences of the Term ‘Message’

Sending the most frequent word (i.e., *passe* (gets through)) to concordance data was a way of closely observing its significance from the engineers’ and their managers’ perspective. The results obtained are shown via a more legible, English, version in the table below.

Concordance Data for ‘Fr. passe’ (convey / get...through) (12 Occurrences)		
1. There is no problem, I mean, MMT1	the message gets through	from a technical side because the words are known
2. T18 Form the technical side	the message gets through	When there is technical know-how
3. IM5 (5yrs) There is no problem (of comprehension) from a technical side.	The message gets through	in spite of our limited vocabulary
4. We understand technical English. HMT	To convey the message,	we do not talk too much
5. IT16 We manage	to convey the message.	Technically speaking, I think that all the engineers master their English domain

Table 3. 21: Concordance Data for ‘Fr. passe’ (Eng. convey / get...through)

As it appears from the above table, among other ways that the engineers rely on to convey the message or to get it through, knowledge of technical English figures (lines 1, 4, and 5). Besides knowledge of basic technical terminology related to their field of work, their technical know-how appears to be another pre-requisite for engineers to perform well in the target situation (lines 2 and 3). Additionally the type of English that is used for engineering, as most of the respondents stress out, seems to have its specific features that qualify it as a kind of technical English (line 4). The engineering specialists’ accounts on these particular features of technical talk with their foreign partners are elaborated on below.

Many of the specialist informants being interviewed have described the characteristics of technical English as being simple and concise. Below is a combination of both the managers and the engineers’ acquaintance to English for engineering in oral performance:

TMM1 when talking about technical topics, the words are known, the context is known, so we can understand ... At first, it was more with gestures, drawings, and a bit by bit, (we managed to express ourselves better)

TMM2 The main conversation topic, the reason for which we met that day, say, concerning machinery or equipment, and all the related terminology for which we are prepared, we are able to handle it.

MMM1 Technical English, say: compressor, turbine, even the tooling, say, hammer, we can explain them, we can show them.

The above managerial perspective of the features of technical conversations as revolving around machinery-related topics is revealing. Not only does it officially denote how is the engineering community accustomed to it, but it also suggests that visual supports, like drawing or showing mechanical parts is also possible. Such a perspective is cross-checked with the accounts of engineers themselves below:

TI13 Technically speaking, English is better. The less we talk, the better we understand

MI2 When we are in a situation, when for instance, there is a problem with the compressor and we want to speak in English, we do it without any problems. We can talk in English.

MI1 When it comes to speaking about a particular, technical point, it is manageable. That is, by using a scheme they explain to us “you have to fetch this, to obtain this”, [these are] simple words.

Like their managers, engineers unanimously report on the common characteristics of technical English that make it easy to understand. First, the absence of ‘foreign-language acrobatics’ (Falter, 1991: 12) that has thus far been noticed in email communication is reiterated here to denote purely technical conversations whose language is direct and simple. Besides, familiarity with technical English and domain-specific discourse, according to both management and engineers, seems to be another major reason for which professionally oriented conversations are successful. Furthermore, the use of explicatory drawing and technical objects is apparently another strategy between engineers and their foreign partners that particularly adds up to face-to-face communication success lest it seems to compensate for any gaps in language. Still in line with the engineering community’s strength in technical conversation, more feedback specifically concerning one recurrent communicative genre in which English oral performance is needed is offered below.

3.6.8 Interviewees’ Accounts/ Feedback on Meetings

Before offering insight into the doings of business meetings, the representativeness of meeting as a regular oral communicative event is first highlighted. Taking part in meetings, as

one aspect of target usage of English, is not only confirmed by the technical engineers and their management, but also by other sources from other departments. Besides the technical department higher manager's feedback, the first quote of the finance department middle manager confirms that during meetings, it is the technical engineers who are actively involved:

FMM2 In meetings....concerning the technical aspect of the conversation, it is mainly the engineers who most often speak in English

THM in meetings with English-speaking business partners, we often request the proficient engineers to attend...in direct contact, it is the English-speaking partner who adjusts to our English level, you speak and he tries to understand, but we estimate that we convey the message, we try to, there is mutual help.

What is interesting to note about the second quote is that the role of the linguistically ablest colleague is confirmed by the management. From another side, it seems that even the English speaking partner collaborate and adjust to the non-proficient speaker so as to get the message through. Such an involvement from the part of the English speaking interlocutors shows how consensus-oriented such business encounters tend to be.

3.6.8.1 Linguistic Support of English Proficient Colleagues

Another perspective from the part of the engineers seems to go in line with the management's emphasising on the role of the proficient colleague in easing communication:

(TI14) In meetings, there is always someone to explain to us (what is said in English)

(TI16) Sometimes there is a participant who is a bit good (in English) as during the day of propane, compressors where there were Americans. Fortunately, there was Mr. (name), the department head, who mastered English. He spent three years in England.

It seems that bringing assistance to the less proficient colleagues in face-to-face encounters is almost a target communication task, or a job duty of the most proficient colleagues. This is clearly shown in the words of the maintenance department staff manager who explains below the different communicative tasks that are required of an engineer in the target situation

MMM2 An engineer needs to ... assist others when foreign visitors are present on site, at any moment...even the foreigners, when they know that there is a local engineer who shows a good command of English, they prefer to refer to that person to have an information and the like.

According to the above manager, reverting to colleagues' linguistic support to convey the message constitutes a regular practice among the engineers in face-to-face work encounters -that the meeting represents here. This results in an additional responsibility that proficient engineers need to fulfil as part of doing their work-related tasks. A counter-example proposed in the quote below shows how difficult communication was in the meeting that because of the absence of language assistants among the colleagues.

TI14 Communication in meetings was difficult for me because both I and those who were with me did not have a good command of English

Ultimately, the real difficulty emerged from the absence of colleagues' language assistance. The latter's pivotal role is further validated in the quote below in which a technical engineer went further to state that communicating via a mediator or an interpreter does not work technically.

TI13 To be objective and concrete in the professional world, we need to understand each other; otherwise, it is no need to meet. Nor is it possible to have an interpreter as a mediator, technically, it does not work because we need to immediately get the response and understand each other...

It seems that, in terms of technical know-how, only the technical professionals -and not the language expert or interpreter- need to understand themselves. This is perhaps the reason for which, the English proficient colleagues who possess both linguistic and technical knowledge, may be better positioned to play the role of language assistants than the language-only experts or interpreters.

3.6.8.2 Communication and Discursive Strategies Enacted during Meetings

In relation to the reported online enactment of strategies, regular participation in international meetings and hands-on-experience also seem to gradually help the engineers manipulate the language which is related to the meeting genre. This is explained through the middle manager's own words quoted below:

MMM1 meetings were conducted in English... we sometimes used gestures when we could not find the right word, at other times we borrowed the words just used by a previous speaker, a person sitting next to us, or a Japanese sitting a little farther, and then, we used these words for our own purpose... Our colleagues also helped us convey the message. And progressively with the number of meetings that multiplied we understood better and therefore learned better and we gradually reached a certain communication autonomy with which one could conduct a meeting.

To strive for communicative success, the above middle manager's feedback about the different communication strategies that professionals activate are worth mentioning. To cope with any linguistic gap, the use of gestures and one of multimodal resources which were reported earlier is apparently present in any face-to-face encounter to help convey the message. Another strategy consists of borrowing the words of the previous speaker. Hence, it appears that language behaviour of the active participants is purposively chosen and tactfully deployed.

Other Communication strategies that engineers particularly self-reported in the interview to ease communication are repetition or clarification requests. In the words of the maintenance engineer below, the consensus-oriented character of conversations derives from the interlocutors' need to wholly rather than partly understand the conversation:

(MI1) when the (visiting expert's) explanation is difficult to understand, we use the famous sentence, 'could you speak slowly?', 'Please, can you repeat?'... Even when we do not understand a word, we ask our interlocutor to choose another one, to use a synonym, I mean, we must absolutely get the message across. The topic of conversation must be clear for us, so we make effort for that, we request clarification, and they [our interlocutors] cooperate.

Seemingly, while engaged in professional conversations, having recourse to clarification requests and other communication strategies is a way to avoid any problem of misunderstanding in their authentic face-to-face conversations with English-speaking partners. The managerial confirmation of such a practice is plain to see in the account of the technical department middle manager, TM1, who reiterates the same strategies mentioned in the quote above, "so, I am obliged to request them to speak slowly, or to repeat". Decidedly, the national professionals quoted above report the use of many interpersonal communication skills *in situ* for the sake of clarity of either conveying a message or getting a message across. It is important to highlight how such an effort undoubtedly contributes to increasing their opportunities to learn the target language and hence be a confirmed member of the specialist community.

Having dealt with the engineers' feedback on the online enactment of strategies used to ease communication, further insight into the discursive manipulation of the meeting during international encounters is proposed from the perspective of the most proficient engineer⁽⁵⁾:

TI2 During the meeting, I talk to the foreign partner in English. But sometimes as my colleague does not understand, I explain to him in Arabic or in French. In meeting we

are obliged to translate for each other, or sometimes, to take a private decision, I talk to my colleague in French or in Arabic so that the other could not understand. But this is quite normal, this is normal. Even the Japanese do that; they talk to us in English and use their native language among themselves. It's –I mean, it's normal

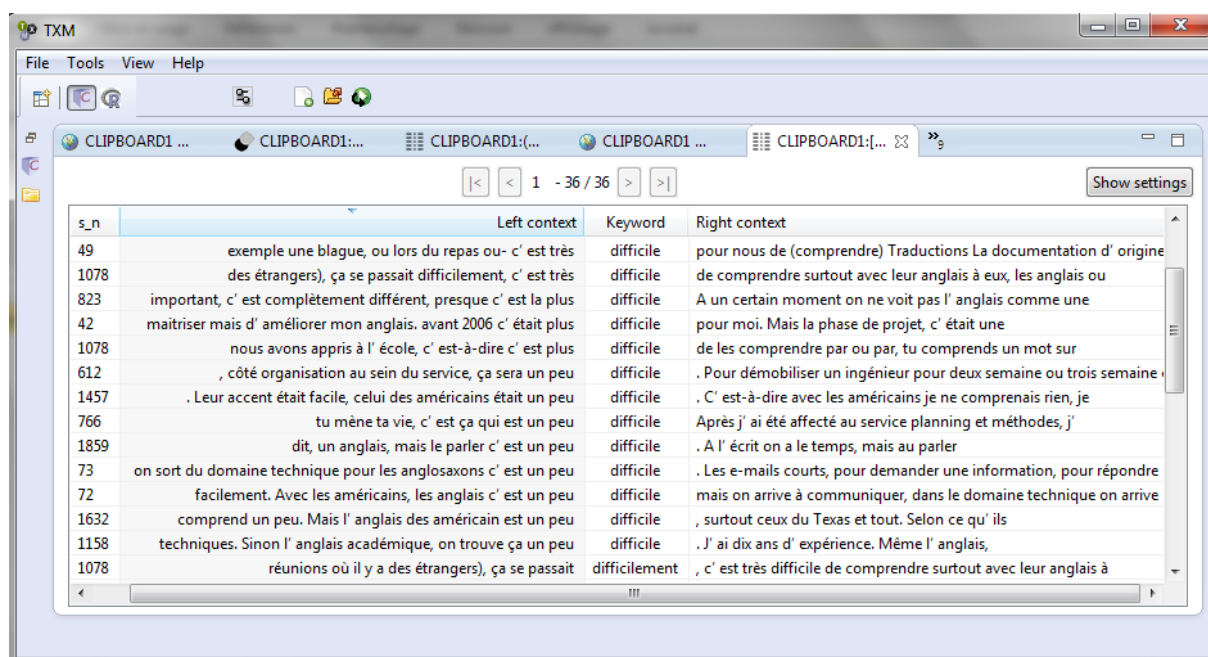
The role of the proficient colleague in providing linguistic assistance is clearly illustrated here. Since many work groups take part in international meetings, the professionals' introspection above projects a common practice among multilinguals in international meetings that consists of the participants' using their own languages besides the common language, English, to serve different purposes. One such practice consists of reformulating what has been said in a local language (here, French or Arabic) to guarantee shared understanding. Alternatively, the use local languages is said to limit the audience to an internal circle, as when talking about private topics. According to the English proficient engineer in question, this is an 'ordinary' practice that occurs in case of 'private talk' or when taking 'internal decisions'.

Common to what has been said in this sub-section, it seems that many features make that engineering-specific conversations, that meeting as oral genre is representative of here, are easy to handle from the professionals' perspective. These communication skills include reverting to multimodality like gestures and most importantly drawings. Otherwise, the presence of another resource that consists of the English proficient colleague together with his communication skills and language assistance apparently has a bearing on the discourse and the fulfilment of different communicative and professional goals. In later stages, it will be interesting to closely examine the above-mentioned interviewees' interpretations of discursive actions and interpersonal communication skills through a direct observation of a meeting sample. Having thus far dealt with the strengths and resourcefulness that foster oral communication success, below is a detailed account on the difficult-to-handle communication situations.

3.6.9 Employees' Feedback on Difficult-to-Handle Communication Situations

Part of identifying the present lacks of the engineering community of energy industry professionals, uncovering the difficulties that accompany English usage, as both inexperienced and experienced engineers reported in the interview data was deemed necessary. To this end, the investigator undertook a TXM concordance data search of the word '*difficult*' (originally appearing as '*difficile*' under its French version) to reveal the

different areas of difficulty encountered by the informants. A sample from the results is proposed for public scrutiny in the screenshot below.



Screenshot 3.5 : TXM Concordance Sample of the word ‘Difficile’ (Difficult)

As the present screenshot shows, among the 36 occurrences of the French word ‘difficile’ (difficult) that are shown for public scrutiny, the most representative sample about difficulties that concern English only are chosen. Hereafter is a table proposing a more legible English version of the most relevant examples in question. They are put in a numbered list for the sake of the analysis.

Concordance Data for ‘difficile’ (difficult) (36 Occurrences)			
1.	, we understand them[the British], but American English is a bit	difficult,	especially that of Texas.
2.	Initially it [communication in English] was	difficult	But since Japanese English is easy...to understand, learning with them was easy.
3.	In e-mail communication,...It was not (complicated) English. but speaking is a bit	difficult.	In writing we have time, but in speaking we do not.
4.	Their [Hindu and Pakistani’s] accent was easy, that of the Americans was a bit	difficult.	That is, with the Americans, I understood nothing.
5.	We understand technical English. otherwise, we find general English a bit	difficult.	I have a working experience of ten years.

6.	When we get away from the technical domain with the anglo-saxons, it is a bit	difficult.	We write short e-mails to ask for information or in response to a question.
7.	when it comes to speaking it is a bit	difficult.	Sometimes, there are workshops, seminars
8.	sometimes we find it quite	(difficult)	to perform every day conversation if you want
9.	Technically, communication channel was done but general English (communication) is a bit	difficult.	We can divide English (communication) into two types...: technical and interpersonal communication.
10.	It [telephone conversation] is important. It is totally different. It is almost the most	difficult	At times, we do not consider English as a language that we must (excel in).
11.	In communication, talking about your life, how you lead your life, this is the most	difficult.	Then I was sent to planning and methods service.
12.	Meetings with foreigners happened with difficulty. It was	difficult	for me to understand, especially their English [the British or the Americans].it is different from our school English.

Table 3. 22: Concordance Sample of the Word ‘Difficult’ (English Version)

As the table above assists to show, the concordances of the word ‘*difficult*’ point to many areas of difficulty in relation to English use in industry. As illustrated in lines 1, 2, 4, and 13, the first kind of difficulty is in understanding the different accents deriving from the business partners’ different varieties of English, namely the NS’ accent. Other difficulties have to do with general English conversation that lines 5, 6, 7, 9, 10, and 12 illustrate (i.e., when diverging from professional/technical talk to general conversation or small talk⁽⁶⁾).

Finally there are difficulties to carry out communication events that require proficiency in the speaking skills, mainly telephone conversation. This is illustrated in lines 3, 8, and 11. Noteworthy is that each of these communication challenges point to problematic oral medium of communication. Effective oral communication skills. Besides reading (technical documentation) and writing (e-mails), effective oral communication skills are therefore needed by the engineers to do their job. Hereafter is an elaborate account on each of these conversation-related problems.

3.6.9.1 Problematic Telephone Conversation

One problem that the concordance lines unearthed concerns telephoning. Whereas engineers hitherto affirmed that they managed to write e-mails and conduct meetings, though

not always autonomously, they conversely find it difficult to participate in telephone conversations. This difficulty is first confirmed from the management's perspective:

MMM2 It [telephone conversation] is important. It is totally different. It is almost the most difficult.

While the manager quoted above acknowledges the difficulty of conducting telephone conversations, engineers from their part, elaborately provide explanations on how this medium of communication is difficult:

TI14 To write e-mails, I don't face difficulties ... but speaking English on the phone is a bit difficult. In writing we have time but in speaking we do not.

TI16 I avoid telephone conversations because I know I will get stuck, I will get stuck. I understand whoever is on the line but I have trouble finding my words.

TI18 Sometimes on the telephone I got stuck and my officemates laughed at me.

During telephony, the quoted engineers above find it more challenging to put their English into practice than when involved in e-mail communication. Here, the problem with telephone conversation seems to lie much more in time pressure in that they do not have time to think about the words to choose. Whereas in e-mail writing, they have more time to read, translate from French to English, or even seek the assistance of a colleague, it seems that the engineers are the least resourceful during telephony. Ultimately, the main source of difficulty deriving from conducting telephone conversations is the language autonomy it requires, as well as the resourcelessness it suggests in its being a dyadic exchange involving only two interlocutors-which is not the case of work meetings. Another source of difficulty, which is decidedly, still related to oral communication, is elaborated on hereafter.

3.6.9.2 Difficulty in Listening to NS' Accent

As lines 1 and 12 from table... show, the engineering employees of different job positions and work experience most frequently reported difficulties with NS English or the 'Anglo-Saxon' accents as they termed it, namely that of the Americans. A stratification of those interviewees' into inexperienced engineers from one part and work-experienced engineers (occupying sometimes management positions) revealed two distinctive perspectives which are presented below.

a) Inexperienced Engineers' Perspective

Listening seems to be the most troublesome skill mainly with English-speaking partners of Anglo-Saxon origins who visit the industrial plant as explained in the interviewees' feedback below.

(MI5 5yrs) The Americans speak fast, not like the British. We understand British English a little but that of the American is a bit difficult, in particular Texan English.

(TI5 5yrs) I happened to attend work meetings with foreigners. It was difficult for me to understand their English, mainly that of the Americans or the British. It is not the kind of English that we learnt at school.

The most problematic accent for inexperienced engineers seems to be the American, and in particular, the Texan one. With their school-level English and less regular contact with international partners, it seems that the engineers with no work experience find it hard to understand (listening) this NS talk even in professionally-oriented talk that the meeting here represents. This misunderstanding occurring namely in professional conversations does not seem to be particularly true for their elders, i.e., senior engineers quoted below.

b) Senior Engineers and Management's Perspective

Unlike inexperienced engineers, the problem of native speaker's accent, that work-experienced engineers with regular international contacts have, concerns one particular type of communication:

TMM1 It is easy to understand the English of the Italian, Dutch, or Japanese. American English is a bit difficult but we manage to communicate, within the technical field we can communicate. When we depart from technical topics it is a bit difficult with the Anglo-Saxons.

MMM2 Among the US you find different accents, one is easy but the other is not... when you get used to this accent, you can understand it. Technically, communication channel was made but general English (communication) was a bit difficult.

According to the above accounts, when English usage departs from the professional/technical work domain with which they are familiar, senior engineers report to have trouble with understanding what they hear from NS. From the other pole, the NNS accent is less problematic from the moment that it is easier to understand. However, the employees still consider the native speakers as their best reference, perhaps because the Americans have the lead in the industrial sector in which they work and use English.

(TMM2) : My personal satisfaction is nurtured when the native speaker says, ‘sir, you talk English very well, when my interlocutor understands me. Here, I do not need my colleague’s evaluation. My evaluation derives from fieldwork.

MI3 (8yrs) Once we conducted a meeting in English with a business partner who came from India. Even if you understand his English it’s not like that of an American

Successful interaction with NS is a positive sign for the Algerian established engineers of an acceptable English proficiency. In addition to preferring to be involved in communication with NS as their potential business partner and interlocutor, it appears that this difference between the variety of Algerian English especially in terms of accent. Apparently, the awareness of such a difference seems to project the international status of English that is used both among NS as well as NNS.

3.6.9.3 Problematic General Conversation Topics or Small Talk

Conversation with foreign partners can turn to be problematic in some situations. More insight is offered in the light of the accounts of the middle managers quoted hereafter:

(TMM2) It happens that we depart from the main conversation topic, the main reason for which we met that day. When it is about machinery or equipment, we can handle the situation with the related terminology for which we are prepared, however, when they (NSs) talk about the weather or, say, their pet, engineers will bug because this subject is not part of their customary use of English.

(TMM1) With the Anglo-Saxons, we find it hard to communicate outside technical topics....when talking about a technical topic, terminology and context are known, so we can understand. As soon as we depart from the technical context, say, when telling a joke or over a meal, it is very difficult for us to (understand)

(MMM2) In communication, talking about your life, how you lead your life, this is the most difficult

Decidedly, it is more difficult to move from business-related topics to small talk or social talk. Using the above-quoted middle managers’ own words, ‘joking’, ‘talking about the weather’, or else, about one’s ‘pet’, reflects what Koester (2010: 97) termed ‘relational episodes’ that occur in the midst of professional talk (during a meeting for example). Another example of small or social talk according to the above introspections consists of prolonged sequences over a ‘meal’ that similarly replicates what Koester (ibid: 97) calls ‘non-transactional communication’.

The problem with most of the employees in the interview data appears to be more in understanding small talk and in producing it, especially when their interlocutors are native

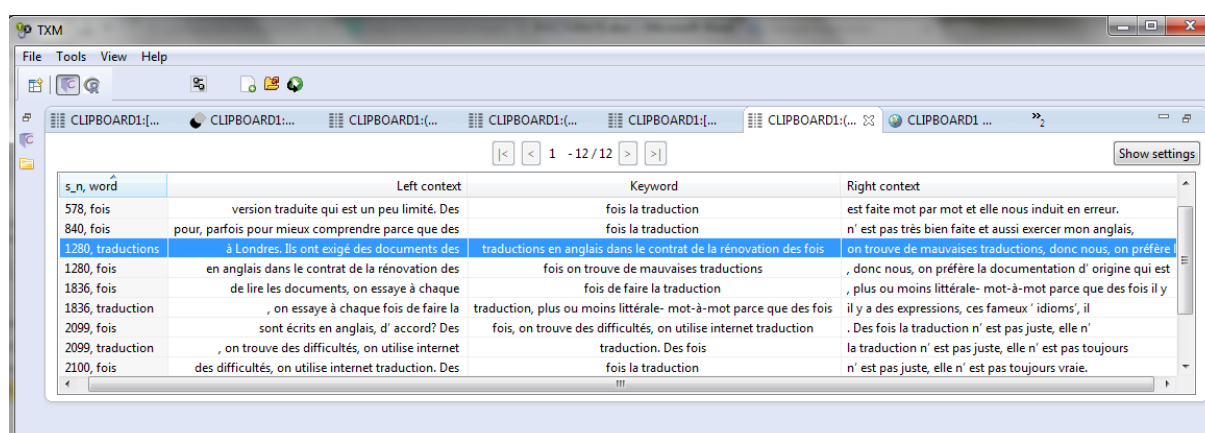
speakers, or ‘Anglo-Saxons’ in their own terms. This is because the latter may use new words and new expressions that the engineers are not accustomed to hear and use in their work routine. Equally, understanding such unfamiliar lexis is rendered even more difficult to understand due to their NS English accent.

3.6.9.4 Problematic Translation

Though translation has been reported so far as one of the resources that the industry professionals use to cope with English language usage, this sub-section highlights their negative attitude towards it appears from the interview data that translation is the least preferable way of dealing with problems of communication. Translation is mostly reverted to when the company employees produce or read written texts. To a lesser extent however, some employees use the translator to help themselves in reading original English manuals or technical descriptions. Furthermore, the company receives a lot of documentation translated to French. A data driven account of how translation is sometimes seen as a temporary rather than the best solution is offered hereafter.

3.6.9.5 Data-Driven Accounts on the Negative View of Translation

Using a TXM data run in search for the co-occurrences of the word ‘translation’, the term ‘sometimes’ (fr. *des fois*) denoting a somehow critical attitude was found to co-occur with the term ‘translation’ (fr. *traduction*) 10 times while ranked 3rd as regards the most co-occurring words with ‘translation’. Sending both of them to concordances revealed the following data:



s_n	word	Left context	Keyword	Right context
578	fois	version traduite qui est un peu limité. Des	fois la traduction	est faite mot par mot et elle nous induit en erreur.
840	fois	pour, parfois pour mieux comprendre parce que des	fois la traduction	n' est pas très bien faite et aussi exercer mon anglais,
1280	traductions	à Londres. Ils ont exigé des documents des	traductions en anglais dans le contrat de la rénovation des fois	on trouve de mauvaises traductions, donc nous, on préfère
1280	fois	en anglais dans le contrat de la rénovation des	fois on trouve de mauvaises traductions	, donc nous, on préfère la documentation d' origine qui est
1836	fois	de lire les documents, on essaye à chaque	fois de faire la traduction	, plus ou moins littérale- mot-à-mot parce que des fois il y
1836	traduction	, on essaye à chaque fois de faire la	traduction, plus ou moins littérale- mot-à-mot parce que des fois	il y a des expressions, ces fameux ' idioms', il
2099	fois	sont écrits en anglais, d' accord? Des	fois, on trouve des difficultés, on utilise internet traduction	. Des fois la traduction n' est pas juste, elle n'
2099	traduction	, on trouve des difficultés, on utilise internet	traduction. Des fois	la traduction n' est pas juste, elle n' est pas toujours
2100	fois	des difficultés, on utilise internet traduction. Des	fois la traduction	n' est pas juste, elle n' est pas toujours vraie.

Screenshot 3. 6 : TXM Concordance Data sample for ‘sometimes’ (Fr. *des fois*) and ‘translation’ (Fr. *traduction*)

The two terms ‘*sometimes*’ and ‘*translation*’ co-occur 12 times as highlighted in the screenshot above. A more legible English version of the most representative lines shown above is proposed in the table below.

Concordance Data for ‘sometimes’ (12 Occurrences), Keywords: <i>sometimes, translation</i>		
1...there is the translated version which is a bit limited.	<i>Sometimes the translation</i>	<i>is word-for-word and misleads us</i>
2. (the original English version is easy) to understand because	<i>sometimes the translation</i>	<i>is not very well done</i>
3. They demanded English translations of documents during the renovation contract.	<i>Sometimes the translations</i>	<i>were bad. we prefer the original documentation provided in English</i>
4. when trying to read the documents, every time we do	<i>the translation</i> , more or less literally word for word because <i>sometimes</i>	<i>there are expressions, 'idioms'</i>
5. In case of difficulties, we use internet translation.	<i>Sometimes the translation</i>	<i>is not correct, it is not always right</i>

Table 3.23: Concordance Data Sample of the Terms ‘Sometimes’ and ‘Translation’

Two types of translation tasks have been identified, translation from and to English. the industry professionals’ above related clues are dealt with in detail below.

a) Translating from French to English

The translator (online or computer software) is used in writing tasks. In writing for instance, it is used “...in writing long e-mails which provide detailed descriptions of a (technical) problem...” as a technical engineer puts it. To the e-mails sent to them in English, some of the engineers interviewed maintain that they comply with the language choice of their e-mail correspondents. To this end they resort to translation software to help them formulate the message. They acknowledge that it is time and effort consuming because the translation software is not totally reliable as they assume. However, this is not as troublesome as other situations in which they deal with translation.

b) Translating English Documents to French

To some engineers, reading technical documentation in English requires the help of the translator. Still, as line 4 of the table above illustrates, the online translator seems to be of little help in reproducing the correct meaning of the original text. A middle manager from the maintenance department distinguishes between the original English version of technical documents and their French translation:

(MMM1) In my opinion, the French translation is not really useful. By contrast, if one takes the (technical) document as it was originally produced in English, and makes some effort, one will understand the system better than when reading its French translation.

Accordingly, the established engineers and their managers qualify the translated French version of technical documents as less valuable if compared to the original English version. However if compared in terms of frequency to other cases, this problem is not so recurrently reported in the interview data as that encountered when processing documents translated to French.

c) Processing Documents Translated to French

As shown in the concordance data from the table above, technical engineers receive technical specifications in French from international partners on demand. However, the most experienced technical engineers who possess enough English language skills recognise the imperfections in translated documents. This is illustrated in their accounts in line 1, 2, 3, and 5 above.

Most of the employees interviewed maintain that they prefer to rely on the original (English) versions of the technical descriptions because the documents translated into French (the language they more competent in) are often inaccurate, thus, misleading.

The researcher's visit to the documentation room and her consulting some manuals confirms such inaccurate French translation that foreign, non-french-speaking partners provide. To conclude these findings with the words of a former higher manager...

'A former head of the department who was very good in English once said to a telecommunications engineer who had trouble processing English technical documents. I remember that he said, 'This is the opportunity to learn English here

now', he said, 'we must make efforts to learn English here. You cannot translate all this documentation room in French

Accordingly only a sound English command is likely to reduce the reported pitfalls of mistranslations, from the moment that technical documentation is better read in English, as the interviews have mentioned earlier. While the above quotes suggests that English be learnt on the job, increasing one's English level through training is another opportunity that engineering professionals yearn for. This particular issue is addressed below.

3.6.10 Training Needs

In view of all the needs (lacks and strengths) addressed in the interview findings, the related training expectations are unsurprisingly relevant. The following quote first outlines what the majority of training candidates expect from English training, that is, frequency and continuity.

TI13 I am in office for five years...we need business, technical English... we expect that training will be more present, more frequent, and more extensive... because our documentation is mostly in English, we feel this need to learn English all time.

By continuity, professionals from the researched industrial plants would like to have more pointed lessons that tackle their special uses of English at work rather than elementary teaching. This engineer with little work-experience (five years) and representative of those who at their earlier years of recruitment, needs to be first familiar with technical English for the sake of assuming the principal technical nature of their job, relying on a great deal of documentation reading.

Additionally, there is a general consensus among the technical engineers about the need to develop their conversational skills, for them, writing is not that difficult as speaking. However, the need for conversational proficiency seems to vary from one engineer to another, depending on their actual level, as well as their direct contacts with foreign visitors to their plant. For the engineer quoted below, it is rather technically-oriented conversation which is still at issue:

TI8: when a foreign business partner visits us, I prefer not to depend on the interpreter's assistance to communicate, to convey the message...I need to develop my conversational skills. Writing is not a problem. Everyone can write in English, but conversation is the most important

Whereas writing in English is no more a worry for the above-quoted engineer, the need to develop his conversational skills probably concerns the challenge he may face in formulating and/or conveying the message successfully to foreign visitors. This engineer is therefore representative of those who still yearn for *autonomy* when conducting domain-specific conversation, i.e., without seeking assistance of an intermediary (colleague, language expert).

MMM1 Learning English is must. My expectation from English training is to be able to write and speak without any kind of assistance. Compared to others, I do it very well.

It is clearly stated by the engineers that the risks entailed in misusing a word are more fatal when it concerns business communication like in emailing or meetings. As they contend, the risks of misunderstanding in interpersonal communication are more important than when dealing with technical literature. From another part, the engineers do not want to constantly rely on the translator that was already said to serve as a temporary solution to cope with linguistic difficulties. To the long term, they want to attain certain *autonomy* in using the language, without relying on the sometimes defective services of automatic translation.

That said, this need to develop his speaking ability in professional conversations means that their oral proficiency has not yet reached an advanced level that the engineers mentioned hereafter enjoys:

MI1 I would like to have specific English training for general English conversation et cetera but I can handle the situation. I sometimes play the role of an intermediary in conveying the idea of an American engineering specialist to other technicians...if I have access to training, I would like to be able to talk more fluently...I can express myself, I can write, but I would like to do better.

Having reached a seemingly acceptable level of English thanks to which she is able to write, express herself, and even play the intermediary (language assistant) between local and foreign engineers, the expectations of the above cited engineer would be to benefit from specific training that is tailored according to her need. It is rather conversational fluency in terms of managing social or everyday talk which is at stake, transcending specific professional communication to more general conversational skills. Hence, she is representative of the type of industry professionals (including work experienced engineers and middle managers) with sound English and professional knowledge, who have thus far reported about their trouble in undertaking interpersonal communication or small talk (see

section...). Some specialist informants went even further to propose that the trainers should be English-speaking to guarantee conversational oral fluency. Otherwise, it is through recruiting a staff with better English proficiency.

TMM1 if the company wants to invest in English training, it is through guaranteeing constant contact with English-speaking partners ; recruiting people who master English; programme weekly discussions/conversations

For this middle manager who owes his actual English level to regular contact with foreign visitors to the plant, guaranteeing a constant contact with an English-speaking interlocutor is estimated to be the only way to improve the staff's English level. This is another confirmation, from an insider perspective, about the learning opportunities that the direct interaction among collaborative groups provides. From another part, his suggestion that English proficiency should be one condition for recruiting employees is clear sign of the importance granted to this language.

In a nutshell, it seems that the interviewees expect from training to become more frequent but also more specialised according to their varying levels to respond more to the needs emerging from their daily tasks. As it has been suggested from the quotes thus far cited, different categories of engineering staff report about different needs. Whereas inexperienced engineers still expect to strengthen their command of technical English that is required in reading technical documents, language autonomy in technical conversations for medium experience engineers then in general conversations for more experienced engineers respectively, is what is expected from training. Surprisingly, it appears that the immediate specific need of English in the restricted technical domain manifests itself earlier. Then, the need for general English skills is expressed later.

Having thus far provided the respective interviewees' accounts about their lacks, strengths and own perspectives of training needs, the section below makes a shift from this interpretive method to offer a more direct window on a real target situation of English use, i.e., email communication. As will be shown in the section below, the authentic email samples will be approached with genre analysis.

3.7 Email Sample Genre Analysis

The analysis below draws on Bathia's three levels of linguistic analysis. First Bhatia's (1993) third level of linguistic analysis, move analysis will first be dealt with to uncover the

communicative purpose of email genre that goes in line with its moves, structure, and sequence. Within move analysis, the main lexico-grammatical features (first level of linguistic analysis) will be qualitatively⁽⁷⁾ processed with reference to similar email genre research. This will pave the way for their textualisations, that are Bhatia's (1993) second level of linguistic analysis. Hence, the textualisation of the lexico-grammatical and discursive strategies of the email genre will be proposed to in the light of previous research into the email genre.

3.7.1 Move analysis of a Representative Email Genre Sample

Move analysis draws on Bhatia's (1993) third level of linguistic analysis that determines how email genre is structured according to a sequence of moves that serve its communicative purpose.

The following move sequence fuses Nickerson's (2000) and Kankaanranta's (2005) moves⁽⁸⁾ identified to be typical of business email communication. Using Nickerson's moves identified in emails whose purpose main was to exchange information helped enrich Kankaanranta's (2005) move sequence of the 'postman' and the 'dialogue' messages (see glossary p....). At the same time, because the moves characterising 'postman messages' are embedded in the dialogue messages of the email sample under scrutiny, Gimenez's (2005, 2006) textual (lexico-grammatical) features of 'embedded emails' are also reported in the move analysis throughout embedded topicality and threaded communication. The moves sequence identified in the authentic email sample examined for this study is as follows:

- Move 1:** identifying subject
- Move 2:** Salutation
- Move 3:** referring to previous contact (message/person/event)(response message)
- Move 4a:** providing information /comment on information (response message)
- Move 4b:** Indicating enclosure
- Move 4c:** (justify action) justifying request
- Move 5:** (identify action) Requesting for action/verbal response
- Move 6a:** pre-close component
- Move 6b:** Closing
- Move 7:** Signature

Table 3. 24: Move Structure of the Present Meeting Genre

Below is an example of embedded or dialogues messages. The email sample is between an Algerian technical staff manager and his international business correspondent, an Italian engineer. In the authentic emails analysed for the sake of this study, an examination intersecting the informational content, the linguistic as well as contextual features of the moves composing the emails is offered. Then a summary of the main lexical features identified in the emails is proposed in the end for more practical use. For the ease of analysis, the order in which emails normally figure is reversed⁽⁹⁾, showing the initial message in the first position and the message terminator the last position (see Gimenez, 2006: 160).

From: [rbaiche@.....](#)
 To: [.....parapetti@.....](#)
 Cc: [.....sinisi@.....](#), [abdelkader.....@.....](#), [mbelhadj.....@.....](#)
 Date: 10/02/2013 11:08

Move 1: **Subject:** Demande d'assistance
Move 2: Dear, Mr Parapetti
Move 3: As explained to Mr. Sinisi
Move 5: we need your help to identify spare part of our O2 analysers.
Move 4A: The analysers were furnished by I.H.I during boiler project (2007), the manufacturer is ABB K.K (Japan).
 • Project N° 61566023
 • Cable reference 6638420D1-66
 • S/N : 07W012042 et 07W012042
 Information from manual (not confirmed on site):
 • Smoke O2 Analyser : Type SMA 11211NS Bailey Smart Analyser 90
 • Analyser reference PT N° 6638860-
Move 6: Best regards.

Email Sample 3.1: Dialogue Message 1

Move 1: Identify subject

Move 2: Salutation

Move 5: (identify action) Requesting for assistance /verbal response

Move 4 A: Exchange information

Move 6: Closing

Whereas moves 1, 2, and 5 represent framing (layout) moves, moves 3A and 4 constitute content moves (Kankaanranta, 2005). In email sample 2, the opening message of this chain of dialogue messages, the moves sequence is identical to that identified in Nickerson's (2000) and Kankaanranta's (2005) typical corporate/business email communication. This opening message directly starts with a content move 6 (a request for

action) that directly invokes the main purpose of the message. Then move 5A comes after to provide information that backs up this request. Opening the message with a content move helps the reader understand the communicative purpose of the message earlier (Kankaanranta, 2005). As it appears from the email sample above the opening sentence also elaborates on the subject line whose code (i.e., in French) is different from the message text code (i.e., in English), thus, may otherwise be incomprehensible to the international email correspondent (Nickerson, 2000).

From : parapetti@
To: G..../T/SIM
Cc : [abdelkader.....@.....](#); sinisi@.....; G..../T/TE/ BELHADJ
Date : 27/2/2013 17:58

Move 1: Subject : Re: Demande d'assistance

Move 2: Dear Sir

Move 4a: Unfortunately we are not able to understand what was delivered originally.

Move 5: Please let us have the serial number of the unit.

Move 4b : that is not the number you provided us.

Move 6: Best regards
 Roberto Parapetti

Move 1: Identify subject

Move 2: Salutation

Move 4a: provide information/feedback : comment on information

Move 4b : Justify action

Move 5: identify action (Requesting for verbal response)

Move 6: Closing

Email Sample 3. 2: Dialogue Message 2

Unlike the opening message (see email sample 2), the absence of subject identification at the outset of the response message (email sample3) denotes the straightforward, conversational nature of business emails that many researchers have identified as the key characteristic of emails (Louhiala-Salminen, 2005, Nickerson, 2000; Gimenez, 2000, cited in Gimenez, 2005). Besides, the foreign business partners directly starting with move 4a which is a feedback in the form of a comment on previous message indicates shared knowledge of the professional context (Nickerson, 2000). In other words, the emailer in question does not need to elaborate on the subject again to convey the message successfully. The same straightforward message denoting the spoken nature of emails is also present in the email below.

In spite of using straightforward language, in move 6 the email writer uses a polite request instead of the imperative (e.g., *send me*) to request for action (here information, or serial number of the spare part in question). Its textual realisation, '*please, send*' is the most commonly used realisation that Nickerson (2000) also noticed in her emails.

De: rbaiche@.....
Envoyé: 06/03/2013 14:17
À: parapetti@.....
Cc: sinisi@....., belhadj.....@.....
Move 1: Object: Re: Re: Demande d'assistance

Move 2: Dear, Sir
Move 4: Please find here by [sic] two pictures of the name plate attached to the analyser and sensor cable.
Move 7: Best regards

Move 1: identifying subject
Move 2: Salutation
Move 4: providing information (enclosure)
Move 6: Closing
Move 7: Signature

Email Sample 3. 3: Dialogue Message 3

The lack of subject identification that is noticed even in the email textualisation of the Algerian email writers does not seem to be a sign of non-mastery of this genre. Contrarily, it reflects the corporate situation and projects a 'pre-existed shared knowledge' among the professional correspondents (Nickerson, 2005:)

The linguistic realisation of the email above is typical to the features of embedded emails in which the internal emails that follow the 'chain initiator'⁽¹⁰⁾ are shorter (Gimenez, 2005, 2006). Another instance of embeddedness⁽¹¹⁾ takes effect through the email sender's referring the reader to another text that he attached to the email as a response to his correspondent's request in the previous email. Here 'postman messages'⁽¹²⁾ are embedded to the chain of 'dialogue messages'⁽¹³⁾. This replicates what Gimenez (2005) reported about 'embedded topicality', that is, the emergence of '*micro topics*' throughout the progress of the chain messages, that adds up to the complexity of this genre, even though the subject line of the original message remains the same.

Without such attachment of technical documents to back up the email message, email communication cannot succeed. In terms of content, it seems that the email genre enhances the use of other genres exemplified here with the enclosure of technical documentation

(mainly technical specifications). Seemingly, the senders' referring to other genres within the email genre contributes to '*the communicative furtherance of its aims*', in Swales's (1990: 28) sense of the term.

From: parapetti@.....com
To: G.../T/SIM
Cc: G.../T/TE/ BELHADJ; cappi@.....
Date: 13/03/2013 13:12
Move 1: Subject: Re: Re: Re: Demande d'assistance

Move 2: Dear Sir

Move 4: Here attached the offer for the spares.

Move 7: Best regards

Move 8: Roberto Parapetti

Move 1: identifying subject

Move 2: Salutation

Move 4: providing information (enclosure)

Move 6: Closing

Move 7: Signature

Email Sample 3. 4: Dialogue Message 4

The dialogic exchange between the emailers reveals that the move content in the response messages depends on the previous moves in earlier messages. This is the case of the email sample 5 above in which move 4b is an immediate feedback or reaction to the previous message. The linguistic realisation of Move 4b takes the form of a minimum response⁽¹⁴⁾ as the email above starts with the one-sentence providing the information (requested in email sample 2, move 5) under attachment. In terms of the lexical realisation of this email sample, the choice of simple lexical items (Gimenez, 2005) is typical of the shorter internal emails, exemplified here with the phrase '*here attached*'. This lexical phrase, like '*here is*', is a more modern alternative to the full form *please, find enclosed*, thus, recommended in modern business communication (Bovée et al., 2003). Mulholand (1999: 74, cited in Nickerson, 2000: 171) qualifies the afore-mentioned economical use of lexical items in terms of '*the preference for minimalism*' that characterises this electronic medium.

De : rbaiche@.....
Envoyé : 26/03/2013 15:28
À : parapetti@.....com
Cc : [mbelhadj.....@.....](#) cappi@.....
Move 1: Objet : RE: RE: RE: RE : Demande d'assistance

Move 2: Dear Mr Parapetti
Move 3: Thank you for your reply,
Move 4a: but the offer contain [sic] only 3 spares.
Move 4b: Please find here by [sic] the list of articles
Move 6: for which we need the part number.
Move 7: Tanks [sic].

Move 1: Identifying subject
Move 2: Salutation
Move 3: Referring to previous contact/message (response message)
Move 4a: Providing reaction/comment on information = Move 4c (Nickerson's (2000) justify action)
Move 4b: Providing information (Indicating enclosure)
Move 6: Identify action (request)
Move 7a: pre-close component

Email Sample 3. 5: Dialogue Message 5

The response mes pre-close component at the expense of closing (which is a necessary layout move) is not the most appropriate for the formal realisation of the email genre (Kankaanranta, 2005; Nickerson, 2000). Using '*thanks*' instead of the full expression 'thank you in advance for your help/response', is a mere evidence of '*preference for minimalism*' that characterises the email medium of communication (Mulholand, 1999: 74, cited in Nickerson, 2000: 157). Notice that the grammar mistake in contain (suppression of final 's') and the spelling mistake in the pre-close component (t-a-n-k-s) represent a common feature of 'emailism' (Mallon and Oppenheim, 2002).

From : parapetti@.....com
To : G...../T/S...M
Cc : G...../T/TE/ BEL....J; [l.....torrisi@.....com](#); cappi@.....com
Date : 15 /04/ 2013 11:05
Move 1: Subject : Re: Re: Re: Re: Re: Demande d'assistance

Move 2: Dear Sir
Move 4b: Here attached the revised offer including spare parts as per your document and some other recommended parts.
Move 6: Please read the offered list
Move 7a: and if you have any question do not hesitate to contact us.
Move 7b: Best regards
R.....o Parapetti

Move 1: Identifying subject

Move 2: Salutation

Move 4b: Providing information (Indicating enclosure)

Move 6: Identify action (request for action)

Move 7a: Pre-close component

Move 7b: Closing

Move 8: Signature

Email Sample 3.6 : Dialogue Message 6

Out of the 5 dialogue messages examined up to now, this is the 4th message in which the use of attachments provides necessary information about the problem discussed. Decidedly, the use of attachments throughout email communication is a typical practice among the engineering community of emailers. Starting the email with an opening move in the form of an immediate feedback, *'here attached the revised offer....'*, shows the conversational nature of email communication and shows previous shared knowledge of industry professionals, which constitutes the business relationship between sender and receiver.

The insertion of a polite request for action in move 6 (*please, read...*) together with pre-close component (move 7a) from the part of the foreign email correspondent is again a marker of politeness which signals reciprocal corporate distance between the emailers (Nickerson, 2000). Conversely, such a corporate distance in question was not unearthed in Kankaanranta's (2005) study based on internal emails only (within the same company).

3.7.2 Textualisation of Moves Identified in Email Sample

Two types of moves were identified: Layout moves and content moves. Whereas the first group frames the physical layout of the email, the second group is responsible of determining its communicative purpose. The moves that represent the two groups are described below.

3.7.2.1 Textualisation of Layout Moves

The layout moves consist in the opening and closing moves which frame the physical layout of the email. These moves are: move 1: identifying subject; move 2: salutation; move 3: referring to previous contact; move 6a: pre-closing; move 6b: closing; and move 7: salutation.

a) Subject line

The information provided in the subject line constitutes the first move of the email message. It is already set up by the email system as forming part of the email template. Due to the language settings of the email system, the code of this automatic element, like the other email headers (cc, to, etc.), happened to be different from the code of the message text. That is *sujet* (fr.) instead of subject. According to Nickerson (2000), the different code of such automatic elements is not a deviation from the formal realisation of the genre. When the subject line itself was in French, the first sentence of the message identified the subject. An example from email sample 1, dialogue message 1 above is shown below:

Sujet: demande d'assistance [needing assistance]

As explained to Mr. Sinisi, we need your help to identify spare part of our O2 analysers.

Email Sample 3.7: General Subject Line

In the emails under scrutiny, the linguistic realisation of the subject line was through a noun phrase. In terms of specificity, the use of specific lexis in subject line is better than using general expressions (Kankaanranta, 2005). An example of a specific subject line from the email sample is proposed below:

Objet: UPS failure - Tag 064-V-UPS-5A

We have a new problem with one our (brand name)UPS.

Email Sample 3.8: Pointed Subject Line

As the example above shows, using specific wording not only helps the reader know in advance what the message is specifically about, but also, such engineering-bound lexis denotes a shared specialist knowledge and communication context between the international emailers.

b) Salutation

The salutation that represents move 2 was present in all the email messages under scrutiny. In the Algerian English emails, the dominating form of salutation was under two forms, one including the recipient's title and surname ('Dear, Mr Parapetti') and the other

employing the word ‘sir’ with the salutation (*Dear sir,*). However, first name usage never figured in the salutation. By adopting the salutation of conventional business correspondence, the textualisation of salutation depicts formal wording, hence the choice of a formal style used in international communication. However, no instance of first name usage exists. Not only the Algerian email writers but also their foreign correspondents most frequently used surnames (otherwise ‘sir’) with salutations. This formal textualisation which points to the sender’s emphasis of social distance in most of the emails examined is typical of external email communication between professionals from different corporate settings.

Even if there were potential recipients in the carbon copy (CC) field, salutations textualised in a way to greet multiple recipients (*dear sirs, dear gentlemen, dear all, hello everybody, or hello all*) were not found in the email sample, nor were there any such salutations in Nickerson's (2000: 156) larger corpus. Hence, directing the salutations to the primary recipients only denotes the passive role of the CC recipients in the email interaction.

In the authentic email sample used in this study, some salutations ended in commas, some did not, some others involved the misplaced positioning of the comma. Instances of each case are shown in the table below.

Comma Present (3 instances)	Dear Sir, Dear Mr. Yaniglos,
Misplaced comma (4 instances)	Dear, Mr Parapetti Dear, Sir
No comma (6 instances)	Dear Mr Parapetti Dear Mr Baiche Dear Sir

Table 3. 25: Sample-based Email Salutations

Whereas the conventional ending in salutations is either with or without comma (Kankaanranta, 2005), it seems that the international email correspondents do not favour the use of comma. By contrast, the Algerian emailers seemingly prefer to use the comma at the end of the salutations. Only, here, the misplaced comma may reflect either an oversight or a repeated email mistakes that exemplify ‘emailism’ (Mallon and Oppenheim, 2002).

Though seemingly deviant, the lack of salutations in some response messages is not problematic but seem to be evidence of dialogic messages. An example of such a case from the authentic emails under study is shown below:

De:	G..../T/TE/KAOULA
Envoyé:	jeudi 30 août 2012 10:37
À:	Ken Y..... [ken.....@.....]
Cc:	G..../T/TE/MAZA; G.../T/TE; G..../T
Objet:	UPS failure - Tag 064-V-UPS-5A
Dear Mr. Yaniglos,	
....	
Best Regards	
M. Mouâd K.....	
....	
-----original message-----	
De:	Ken Yaniglos [ken.yaniglos@tnb.com]
Envoyé:	jeudi 30 août 2012 15:57
À:	G..../T/TE/KAOULA
Cc:	G.../T/TE/MAZA
Objet:	Re: UPS failure - Tag 064-V-UPS-5A
I would advise that the fuse be replaced, the transistors checked with a meter to verify that none are shorted, and that the System Control board (p/n 90-41-121471) be replaced.	
Ken	

Email Samples 3.9: Email Response within a Short Time Span

Within a short time span (the same day of the message reception), the email correspondent above starts his response message in the form of an immediate feedback without using the salutation move. In this case, this is not problematic. Kankaanranta (2005) who found similar instances in her email samples suggested that it is that straightforward answer within a short time span that justifies such economical use of salutations. Apart from this instance illustrated above, the majority of email writers of the dialogue messages still seem to maintain the use of salutations that they apparently consider as a necessary part of their messages.

c) Closing

In terms of layout moves, and more specifically, the use of complementary close with or without the sender's name and the related information, all the examined English emails produced by the Algerian writer groups seem to reflect the formal realisation of this genre. However, Whereas the wording of salutation reflected that of the conventional business letter (Bové et al., 2003), the phrases used for the closing were not that formal. Similar to Kankaanranta's (2005) email corpus features, the different levels of formality between the salutation and the closing are therefore evident.

The complementary close used by the Algerian professionals and their foreign correspondents appeared under the same textualisation, '*Best regards*'. None of the alternative closings shown below that Kankaanranta (2005: 351) identified, were used in the present emails.

<i>Kind regards</i>
<i>Kindest regards</i>
<i>With regards</i>
<i>With best regards</i>
<i>Regards</i>
<i>Rgds</i>
<i>Brgds</i>

Table 3. 26: Closing Expressions Based on Kankaanranta's (2005: 351) Data

All the same, Kankaanranta's (2005) findings lend support to the present ones in that the above closings were less frequent in her data than the habitual, '*best regards*'. However, the email data under scrutiny contained no instances of the shorthands '*rgds*', '*brgds*' standing for '*regards*' and '*best regards*' respectively that were identified in Kankaanranta's email corpus (ibid: 351). It seems that the use of '*best regards*' has become a conventionalised discursive practice in such a written professional genre (Bhatia, 2004: 23) mainly among the Algerian emailers.

d) Signature move

At times the signature is accompanied with the sender's additional information like the professional address, the occupation or the office telephone number. The code of the signature happens to be in a different code (in French for example) from the English message. This is shown in the example below:

((some lines omitted))

Best regards.

R.B_____E

Chef de service S_____et M_____

TEL : _____

Sample Email 3.10: Signature in French

Even when it is written in another code, as it is the case for the signature and informational part of the complementary close shown above is in French, this email layout is acceptable and adheres to the formal realisation of the genre (Nickerson, 2000). It is of note that in case it is pre-programmed, the signature also includes the complementary close. Different versions of pre-programmed signatures appeared in the email samples, ranging from simply adding the full name, to including other information, such as the professional address and the office telephone number as shown in the extract below:

Dear Mr. Yaniglos,	(A)	Dear sir,	(B)
...		...	
Best Regards,		Best regards,	
M. Mouâd K_____A		Roberto Parapetti	
<i>Instrumentation & Control engineer</i>			
<i>Technical Department</i>			
_____ Plant - _____			
B.P_____, ALGERIA			
e-mail : m_____la@			
Tel. : _____ Office Number : _____/ _____			
Fax : _____			

Table 3. 27: Pre-programmed Signatures in English

As shown in the samples above, Mouâd and Roberto signed their messages using a pre-programmed signature in which their full name figured. Pre-programmed signatures could

be easily identified as they accompanied all the messages send by the same emailer without any modifications. When it was not pre-programmed, the signature move was at times missing. As result, not all the email messages produced by same email correspondents were marked by the signature.

The frequent use of full names in the signature, not only from the part of the Algerian email writers but also from the international business partners' part, reflects common practice in such an international communication context. The only signature move that used a first name only is the one of the response message to the email whose extract (A) is shown above. Whereas the email communication initiator used formal salutations and signatures, his international business partner closed his emails with the first name signature 'Ken', which apparently was more an idiosyncratic usage that would seem to translate a personal attempt – rather than typical practice- to emphasise a collegial relationship (Kankaanranta, 2005).

e) The Pre-Close Component

Instances of pre-close components identified in the email sample range from '*Thank you for your collaboration*' to a simple '*Thanks*' that Nickerson (2000) qualified as a marker of the formal style characterising external emails and the corporate politeness used to show distance relationship.

3.4.3 The Textualisation of the Content Move

The content moves which indicates the communicative purpose of the email has been found to fulfill different communicative functions. Providing attachment or asking for a favour are its main manifestations. The latter's lexical realisations are proposed hereafter.

3.5.3.1 Indicating Enclosure Move

The communicative purpose of this move is to deliver documents for information and/or for comments. The linguistic realisation of the enclosure move in the email sample under study is illustrated by the phrases shown below:

(A)	<i>Here attached all information we have</i>
(B)	<i>Please find here by [sic] the list of articles...</i>
(C)	<i>Please find here by [sic] two pictures of...</i>

Table 3. 28: Present Meeting-Derived Attachment Expressions

The above lexical phrases represent an evolution of what Brown and Yule (1983: 69) termed ‘formulaic expressions’ used business letter phraseology, ‘*please, find enclosed*’. In examples (B) and (C), the linguistic realisation of the move combines the word ‘*find*’ with ‘*here*’ in the form of a polite request with ‘*please*’. Another alternative textualisation identified in the authentic email samples is the more economical linguistic realisation of the full expression ‘*please find here attached*’ in example (A), which directly combines ‘*here*’ with ‘*attached*’. However, it is important to bear in mind that these ‘*linguistic features are not randomly distributed but seem to be connected specifically with ...[the email genre]*’ (Louhiala-Salminen, 2005: 415).

In other words, though ‘*please, find...*’ is a remnant of the traditional business correspondence (Bovée et al., 2003), its almost systematic use makes the expression sound more polite while implicitly engaging the recipient through the imperative ‘*find*’ (Miller, 1984: 157). Moreover, the innovative wording ‘*here*’ is useful for the situation. Not only does it emphasise the easy access to the message at hand, but it also reflects the immediacy of the context that new electronic medium fosters (Kankaanranta, 2005), as if the international email communication participants share the same location and time while communicating with each other.

However, there is no apparent usage of the full expression ‘*please, find enclosed*’ that is typical of the classical business letter and no more recommended in modern business communication (Bovée et al., 2003: 120). Whereas Louhiala-Salminen et al (2005) found similar instances of the above quoted ‘*outdated... phrases*’ (ibid: 415), it seems that the rather updated phrases ‘*here attached...*’/ ‘*please find here...*’ that were identified in the present email sample are, conversely, of common usage in modern business communication (Bovée et al., ibid.).

3.5.3.2 Textualisation of Requesting Moves

Though comprising relational language, the requesting move identified in the emails sample between engineers contributed to the informational purpose of the message (Kankaanranta, 2005). The requests asked for either a verbal response (email sample 3) or action (email sample 7)

The commonly used realisation of politeness strategies accompanying requests that are found in the messages under scrutiny are similar Salminen et al's (2005) data.

Email Correspondents' Professional Status/Relationship	Type of Request
1) Engineer-Engineer (Requester-Requestee / Requestee-Requester)	Direct Request <i>"Please, read the offered list."</i> <i>"Please, find here by the list of articles."</i> <i>"Please, let us have the serial number of the unit."</i>
2) Engineer-Expert (Requester-Requestee)	Indirect Request <i>"Could you please give us assistance?"</i> <i>"Could you please give us your diagnostic and your recommendations?"</i>
3) Client-Supplier (requester-requestee)	Indirect Request <i>"I expect to receive both repairs contracts signed before the end of this week."</i>

Table: 3. 29: Polite Requests Identified in the Present Email Data

In the first type of email communication, both the Algerian engineers and their foreign business correspondents' polite requests appear in the direct imperative preceded by the adjunct 'please' in 'Please, let us have...'. The roles of the requester-requestee are alternated all along the chain of emails characterising this first email communication. In the light of this equal exchange of information that is important for both parts, using direct polite requests seems to be the norm rather than the exception. Because email communication is external rather than internal, using direct requests rather than the 'imperative' belongs to the formal realisation of the business email genre (Nickerson, 2000). Such textualisation 'strengthens the aspect of politeness and adds to the exchange an atmosphere of extreme formalism, respect and face saving' (Santos, 2002: 182, cited in Merhpour et al., 2013: 2258).

On the other pole, the unequal distribution of technical expertise led the Algerian technical professional in the second email communication to use a more indirect formulation of the polite request, 'Could you please give us your diagnostic...?'. This was not the case for Kankannranta's (2005) internal emails in which direct requests presupposed equal information exchange. The modal initial showing that the request is indirect also suggests both the social corporate distance between the correspondents in external emails that characterises the first email communication.

Because the third type of email communication falls under the category of contractually-bound rather than technical communication, the unequal client-supplier relationship makes the Algerian email writer, representing here the client, adopt a more indirect request through the want statement '*I expect to receive...*' with his potential supplier. This indirect want statement is, once more, typical of business communication discourse used in business communication textbooks (Bovée et al., 2003).

3.5.4 Summary

This section has proposed a genre analysis of an authentic email sample that represents one target situation in which industry professionals are using English for international business communication. Under the banner of NA enquiry (Long, 2005), it looked at instances of language in use in order to inform materials development and tasks preparation. Using Bhatia's (1993) three levels of linguistic analysis, the moves framing the emails (move analysis) and their lexical realisations together with lexico-grammatical features were qualitatively approached. The move sequence of the emails under study was similar to that of Nickerson (2000) and Kankaanranta (2005). In majority, the email messages under scrutiny took the form of Kankaanranta's (ibid) dialogue messages whose main move was requesting action/response. Within the same messages, additional moves were representative of the postman message that mainly included a move indicating enclosure/attachment. Document attachments figured either in the response messages as a feedback to the previous message; otherwise, they represented a move that justified action (Nickerson, 2000) and paved the way for the request. Because constantly attaching documents appeared to be a typical feature of the engineering corporate setting, their linguistic realisations were highlighted in view of incorporating them in the training tasks. Similarly, the content moves of requesting which denoted relational language had also their lexicalisations highlighted as they represented a typical feature of business email communication. Other linguistic realisations that were worth highlighting concerned the layout moves of salutation, pre-closing and closing that denoted a formal style that was also representative of social distance in international business exchanges. Their structures and functions were similarly suggested in the pedagogical treatment.

3.6 Genre Analysis of the Meeting

Different levels of analysis will be undertaken in this section. An initial linguistic or lexico-grammar analysis using corpus tools aims to check the most frequent type of specialist vocabulary and most common lexical chunks that are typical of the business meeting examined. The analysis will also propose how these features compare to other meetings in other professional, corporate contexts that will serve as reference data. Then, a more qualitative analysis in terms of discursive practices and strategies, that the quantitative examination overstepped, will offer more insight into the contextually-sensitive interpersonal nature of the discourse and how participants realise the business meeting genre. These significant features that represent both universal and local doings of the business meeting being analysed will then be pedagogically addressed.

3.5.2 Lexico-grammatical Analysis

The present sub-section offers an inferential statistical account of the main lexico-grammatical features characterising the business meeting genre under study. While attempting to replicate the methodological procedures undertaken by prominent specialised corpus researchers, it also draws on their findings to compare them with the present data-driven descriptions. Hereafter, an overview of the main key words will be proposed with the attempt to categorise them into domain specific as well as interpersonal language. Then, an outline of the most frequent clusters as well as their discursive function will be proposed later.

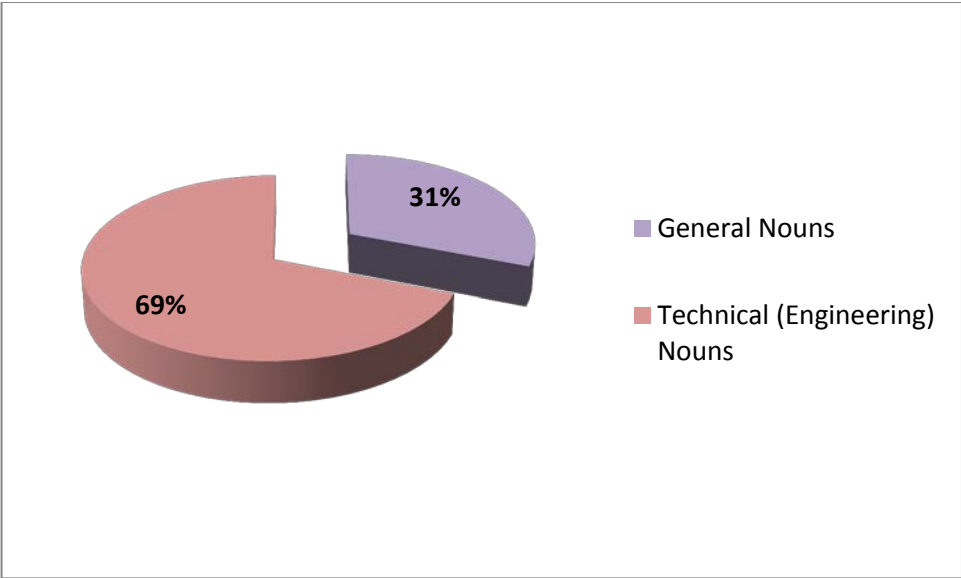
3.5.1.5 Keyword Nouns

Nouns are the main grammatical units to be looked at via a quantitative lexico-grammatical analysis (Scott, 1999). The following table proposes a classification of the most frequent nouns identified in the meeting corpus under study.

	Number	Percentage
General Nouns	240	31%
Technical (Engineering) Nouns	541	69%
Total	781	100%

Table 3. 30: Most Frequent Keyword Nouns in the Meeting under Study

As shown in the table above, the quantitative keyword analysis allowed for a categorisation of the most frequent nouns into technical nouns reflecting the specialist engineering context as well as general nouns. This is shown in the pie-chart below at a glance.



Pie-chart 3. 4: Most Frequent Keyword Nouns in the Meeting under Study

The preliminary statistical description reflects the high proportion of specialist vocabulary that the meeting participants use (69%) if compared to general vocabulary (31%). More detailed stratification of the types of nouns identified is proposed below.

3.5.1.6 Categorisation of Keyword Nouns.

The most frequent nouns used in the meeting are classified under different categories, following Handford and Matous (2011: 93) and Handford’s (2014) classification.

Organisational Abbreviations:	P.T.F.E (0,12), P.D.S.V (0,08), ESV (0,04), PCS (0,03)
Engineering process Nouns:	inspection (0,39), aspiration(0,19), process (0,19) assembling (0,07), calculations (0,07)
Engineering Object Nouns:	piston (0,49), liner (0,29), material (0,29), compressor (0,23), rings (0,13), valves (0,11), cylinder (0,08)
General Occupation Nouns:	report (0,16), suppliers (0,08), meeting (0,05)
Evaluation Nouns:	problem (0,23), cause (0,15)

Table 3. 31: Categorisation of Keyword Nouns

In addition to the purely technical and sub-technical nouns denoting organisational abbreviations⁽¹⁵⁾, engineering process nouns, or engineering object nouns, nouns of general meaning are also proposed. Note that the technicality of some though seemingly general nouns (e.g., material(s), temperature) lies in their high frequency and in their specific meaning (Dudley-Evans and St John, 1998; Hutchinson and Waters, 1987) related here to the engineering mechanical domain. Such specific meaning that makes the technicality of these highly frequent general terms needs to be closely scrutinised in context in the next section and why not, be the subject of pedagogical treatment.

As to the evaluative nouns, the high frequency of ‘*problem*’ and to a lesser extent, ‘*cause*’ were, interestingly, also statistically significant in Handford’s (2010b) benchmark corpus of business meetings (CANBEC). To Handford, they characterise the problem-solving tendency of business meetings seeing that they are professional encounters directed towards making a decision. As regards the meeting under scrutiny, the term problem seems to refer to problematic technical or mechanical defects in the energy production machinery. That said, it seems that the keyword nouns reflect the transactional, business-related side of communication. In parallel, they are not the only linguistic constituents of the meeting genre as the following sub-section will show.

3.5.1.7 Interpersonal Keywords.

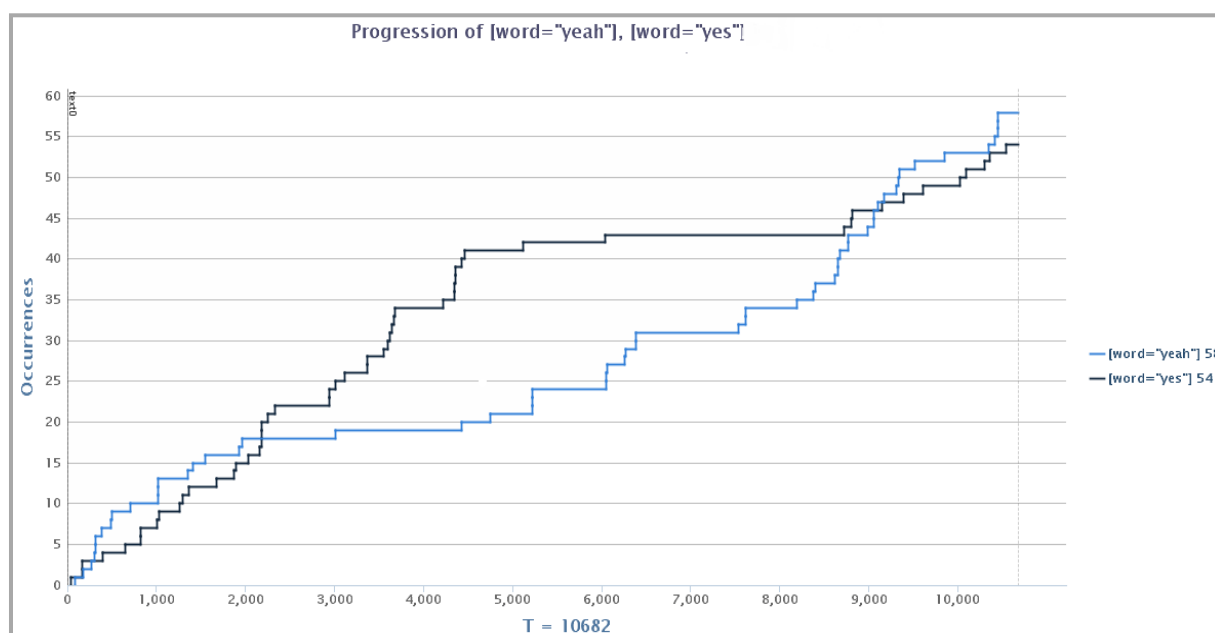
In addition to the afore-mentioned nouns, other textual keywords featured with high frequency in the meeting. They are proposed under different categories.

Back Channels: yeah (0,77), yes (0,71), okay(0,14), uh-huh (0,11), huh (0,05)
Modal Verbs: can (0,37), may (0,14), will(0,19)
Pronouns: we (2,71), you (0,89)
Articles: the (4,66), a (1,35)
Conjunctions: because (0,23), also (0,19)
Fillers/Hedges: err- (0,17), eu (0,33), er (0,17), eh (0,09) I think (vague language)
Place Deictics: this (0,46), here (0,21)
Action Verbs: machine (0,25), check (0,16), protect (0,09) , change (0,07), find (0,07), stop (0,07)

Table 3.32: Categorisation of Meeting Interpersonal Language

The high frequency of the above items is characteristic of the *interpersonal* communication that is equally an interesting constituent of business meeting genre⁽¹⁶⁾. Take for example the predominant number of the definite article '*the*' which accounts for 4,66% of the corpus words, which is no surprise in business meetings (ibid.). Whereas the indefinite article '*a*' that accounts for only 1,35% of the total words denotes the speakers' reference to new information, the high frequency of the definite article suggests a very high level of shared knowledge among the participants (Handford, 2014). In relation to the participants of the meeting under scrutiny, this shared technical know-how comes from the fact that both groups belong to the engineering professional community.

Other interpersonal language items like back-channels and hedges also predominantly figure. A progression of the most frequent backchannels in present meeting (yeah (0,77), yes (0,71) is proposed hereafter.

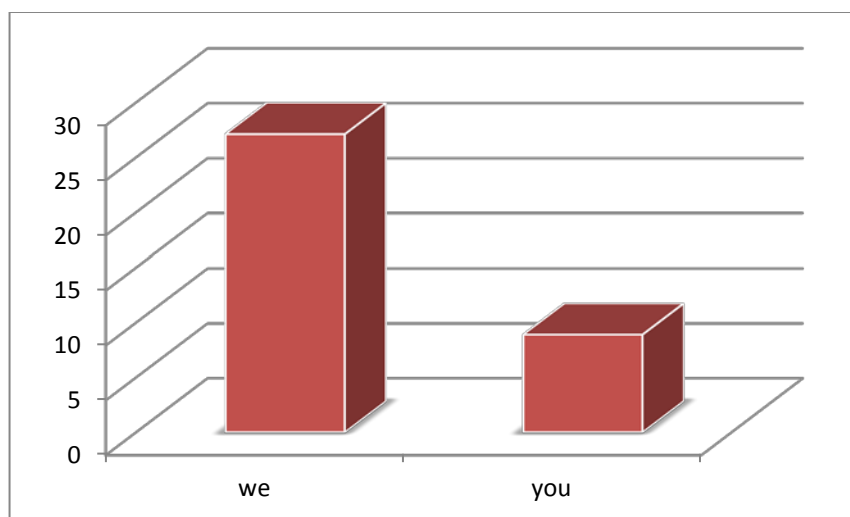


Line-Graph 3.4: Progression of 'yeah' and 'yes' Using TXM Corpus Analysis Software

As the graph above suggests, the progression of the most frequent back channels shows how the participants resort to them all along the progress of the meeting talk. This means that the speaker's turn was frequently interrupted by back channels. However, *yeah* and *yes* can sometimes be used as a response to a question, at the beginning of a turn or at the end of the turn that follows a question as Handford (2010a) found out about *yeah*. Hence,

whether the highly frequent *yeah* and *yes* are used as back-channels to denote supportive listenership or in response to the previous speaker's question needs to be examined qualitatively within the progression of turns.

As to the personal pronouns that prevail in the present meeting data, the distribution of such interpersonal choices, namely as regards the pronouns 'we' and 'you' appears in the graphic display below.



Bar-graph 3. 15 : Density of Personal Pronouns (per 1000 words)

The higher frequency of the pronoun 'we', if compared to the pronoun 'you', is a mere evidence of business communication in general (Drew and Heritage, 1992) and of external business meetings in particular (Handford, 2010) that the present data represent. At this level of quantitative analysis, it is too premature to qualify whether the pronoun 'we' is used as '*corporate we*' to refer to collective identity within the company instead of '*I*'. If used, I denotes individual identity or agency (Drew and Heritage, *ibid*: 30) and it is also considered as a '*softening device*' that avoids the straightforward nuance in comparison to the pronoun 'you' (Holmes and Stubbe, 2003: 38), or else, to mobilise the *inclusive* or *exclusive* role.

3.5.1.8 The Most Frequent Clusters in the Meeting Data

Using an online corpus tool (Online-Utility Text Analyser Software) to sort out the most frequent two-word and three-word clusters revealed the results proposed in the table below.

Two word clusters	Occurrences	Three word clusters	Occurrences
1. we have	48	1. we have a	12
2. of the	36	2. weight of the	9
3. the piston	23	3. we have to	8
4. have a	21	4. of the piston	8
5. in the	21	5. the weight of	8
6. at the	20	6. machine the liner	8
7. there is	19	7. we can do	6
8. I think	15	8. at the moment	6
9. the liner	15	9. to machine the	6
10. have to	14	10. to see if	5
11. it is	14	11. take out the	5
12. you have	14	12. you have to	5
13. yeah yeah	14	13. there is one	5
14. we can	12	14. it's in the	5
15. maybe	10	15. do we have	4
16. we are	10	16. out the piston	4
17. If you	9	17. is one thing	4
18. If we	8	18. have a look	4
19. uh huh	5	19. you want to	4

Table 3. 33: The most Frequent Clusters in the Meeting Data (Online-Utility Text Analyser Software).

In turn, a classification of the most frequent clusters following Handford and Matous (2011) procedures revealed the following list.

Categorisation of Clusters

Hedges, Fillers: I think (15), maybe (10)

Deontic modals: we can (12), we have to (8)

Back channels: yeah yeah (14) uh huh (5)

If expressions: (hypothesising, speculating): if you (9), if we (8), to see if (5)

Nominalisation: of the (36), in the (21), at the (20)

Table 3.34: Categorisation of Clusters

Among the top 5 two word clusters, the preposition + definite article (at the, of the, in the) suggest a high degree of nominalisation. The total of these three clusters account for 1,03

per cent for all the words in the meeting. Similar nominalisation features appear in Handford's (2014) meetings (1,7 per cent). In the context of the meeting examined here, the reason for which speakers use nominalisations that was offered by Jaworski and Coupland (1999: 497 cited in Handford, 2014: 125) seems to stand. They put forward that the speakers' use of nominalisation aims at putting more emphasis on the '*causality of events*' rather than their own agency. In the meeting under study, a contextual assumption that this causality of events owes to mechanical defects which seem to be caused by the short term resistance of materials rather than engineers' agency.

A noteworthy interpersonal feature is the third most frequent cluster that consists of the inclusive pronoun '*we*' + *have to*. This form is a typical feature of action-oriented collaborative genres (Koester, 2010a) which points to suggested actions that are collectively agreed upon. Notwithstanding, though showing a more objective style, the presence of *you*+ *have to* – rather than '*you must*'- among the top 10 clusters is also a '*common business chunk*' in Handford's (2014: 120) sense of the term because it mirrors the goal-directed (transactional) nature of professional encounters. In line with the context of meeting examined here, the use of *you have to* which after all denotes obligatory action, suggests more a friendly advice to associates rather than a directive which is not appropriate in external business communication⁽¹⁷⁾. These two alternative communicative purposes of '*you have to*' are also replicated in an extensive larger meeting corpus analysis (Handford, 2010).

As it appears from the above list, hedges are also frequently used in the present meeting. This feature which is also typical of professional discourse is used to loosen the force of the message (Koester, 2010) and prevent face threats that business interaction (Holmes and Stubbe, 2003). While it '*I think*' assumes many discourse functions, such as summarising, disagreeing, clarifying, responding, and expressing an opinion (Handford, 2010), following Koester (2010), the situational function of hedges has to be found out in context, through qualitative analysis, not quantitative one. Thus, '*I think*' will be examined later within the qualitative analysis under a turn sequence of the meeting.

To conclude, the quantitative descriptive examination of the highly frequent lexical features undertaken this sub-section used ended up with the identification of specialist discourse mainly through the high frequency technical terms used. Besides, interpersonal discourse was manifest through modality, hedging, and back channels⁽¹⁸⁾. Below is a more

qualitative analysis proposed for a closer verification of the enactment of these statistically significant features in a representative extract.

3.6.2 Discursive Practices within the Sample Meeting Genres and their Textual Realisation

Following Handford's (2007, 2010) framework, this section proposes the qualitative analysis of the discursive practices that emerge out of the meeting in the light of some representative practices⁽¹⁸⁾. An examination of *expectation* will be first proposed, followed by *formulations*, then *instantiations* in which an overlap with other practices like *recollection* also occur. A special focus will be put on the local engineers' enactment of these practices rather than on the foreign partners'. As has been previously mentioned in the previous chapter, the participants' names have been replaced by pseudonyms (MU, MI, FO (the chair), RA, referring to the national engineers whereas MOLT, and MOLT ASS. refer to the foreign engineers).

3.6.2.1 Expectation: Planning the Meeting

FO: [I think e::rh MU↑] (.) I think we'll er (.)take a meeting in *final* of the[day]-end of the
 MU: [yeah]
 FO := [day] and we- we try to planify the afternoon(.) OK? according to
 MU: [yeah]
 FO :=inspection (.)to:: (0.5) OK?
 MU: so at e::r-
 FO: attend the/*réyniõ*/ °w *neprogramūha* °
 meeting and we programme it
 MU: at fifty
 FO : fifteen
 MU: at fifteen we:: make a report- err a meeting and er-(.)we discuss about (.) today

Extract 3.1: Planning the Meeting

In the extract above, the chair's orienting to the informal agenda in a prospective way is a type of expectation whose linguistic realisation is evidenced by the use of term '*meeting*' (Handford, 2007: 152). When referring to the programme of the second phase of the meeting, '*we'll take a meeting in ... the end of the day*' whose content depends on the inspection, '*according to the ... inspection*', the chair describes the type of activity that the participants will be involved in (i.e., to discuss the main points of the inspection). Here, signaling the meeting expectations in terms of activities seems to be the prerogatives of the chair

(Handford, 2007). Meanwhile, MU's supportive listenership is evident through his repeated supportive overlap or back-channels using 'yeah'⁽¹⁹⁾. It seems that there was an overlapping between summarising (which is a formulation type) and expectation. To pave the way to the expectation, the chair proceeded to a summary to the previous stretch of the discourse that MU produced in French. In doing so, the chair was actively doing the genre through the discursive practice of summarising whose recurrent linguistic realisations "*I think*" appeared in the statistically significant lexico-grammatical features.

This convergent communication initially signaled through positive back-channelling⁽²⁰⁾ (Handford, 2014) eventually takes effect when the main speaker takes the turn to show alignment with the chair's announced agenda using the discourse marker 'so... e:r', which is a transitional move signaling a new topic (Bargiela-Chiappini and Harris, 1997). While invoking the timing, 'at fifteen', FO's overlapping speech initiates a repair to reformulate and confirm the chair's previously announced expectation at the same time. Setting the agenda (Holmes and Stubbe, 2003: 72) of the second phase of the meeting during the meeting (first phase) as well as talking in advance about content is an appropriate way of doing the meeting genre.

3.6.2.2 Instantiation: Topic Shift

```

1. MU: so (1.5) we er-(0.4)on passe au planning?
2. We move to the planning?
3. RA : planning yes↓
4. MU : yeah (0.8) we have two days
5. RA: two- two days
6. MU: and we planify our:: (0.4)
7. MOLT: yes we will work >we have to do it ourselves<
8. MU: we'll work hhh heh hah ((laughter))
9. MOLT: hhh heh hah ((laughter))
10. MU : speak e::h↑ (2.5)
11. MOLT: o::kay ↓ (1.2) we want to have er- inspection of ( )to see
what- what happens
12. MU: okay↑
13. MOLT: want to have a look at the floats, look at the- at the- at the::
(temperature), inspection (trouble)/(cover) of the dental motor, inspection
trouble/(cover)
14. FO: inspection of the site
15. MI :inspection sur site
16. Site inspection
17. MOLT: Five minutes
18. MU : test the valves? test? Or just er:: °see°
19. MOLT:Test of valves
20. MU: a:h (.)we test

```

Extract 3.2: Topic Shift

So, *..er* marks the transitional move according to Bargiela-Chiappini and Harris (1997). Handford (2007) found other examples : ‘*Okay. Erm yeah*’. According to him, this discourse marker is used to show the interlocutor’s signaling that a new topic is to be introduced. The new topic introduced is planning and it shows Mu’s concern to follow the unwritten agenda when he operationalizes this topic shift. Here, by using the inclusive pronoun ‘*we*’ in ‘*we planify*’ followed by a pause of 4 seconds, the first speaker involves the external group, that his partner Molt represents, to participate in the next (more serious work-related) action, that is, planning.

All along this extract, the predominance of pronoun, ‘*we*’, in ‘*we have two days; we will work, we have to do it ourselves; we’ll work*’, is typical of business communication in general (Drew and Heritage, 1992) and of international business meetings in particular (Handford, 2010). In the above examples, ‘*we*’ mostly projects an inclusive function, referring to two work groups present and projects the collaborative nature of work for which they gathered in this meeting. The only exclusive function of ‘*we*’ in this extract appears in the foreign expert’s referring to his respective work group’s tasks in ‘*we want to have er-inspection of...*’.

The Algerian engineer expects his interlocutor to speak about his inspection plan. However, the partner instead of directly passing to transactional languages, uses relational language in signaling his acknowledgement of the serious side of the matter through his reference to ‘*work*’ in a humourous way (‘*yes we will work, we have to do it ourselves*’ + laughter). Such ‘relational episodes’ of humour in the midst of serious business or transactional talk are one example of ‘small talk’ that typically occur in the business meeting genre, inter alia (Koester, 2010b: 67). In his turn, the Algerian interlocutor takes part in the relational exchange to loosen the situation through collaborative humour ‘*we’ll work*’ + (laughter) (Holmes, 2006, cited in Koester, 2010b). Then, he proceeds to a sudden topic shift by adopting a more transactional language. Using a directive with the imperative ‘*speak*’ that he hedges using ‘*e::h*’, MU requires his partner to reveal his inspection plan.

While a more interpersonal lighthearted mood (laughter) characterised the conversation a moment ago, Mu’s sudden shift to a more serious tone with his directive that signals moving to a more work-related topic made Molt align with the proactive Mu by initiating his work-related frame with a long *o::kay* + (silence), a discourse marker that signals topic shift (Brown and Yule, 1983). He finally proceeded to the explanation of his

inspection plan. Meanwhile, Mu shows active listenership through his back-channel *okay* with a rising intonation. Because the discourse of the foreign engineering expert prior to and after inspection consists of reporting information concerning either his inspection plan or findings, frequent back-channelling from the part of the Algerian work group is expected. However, MU is not the only one who is actively listening. Fo, the chair, provides a formulation that is explained in terms of formulation hereafter.

3.6.2.3 Formulations

An example of *formulation* consists of the chair's '*comment on the current ongoing activity*' while '*summing up where [he] thinks the discourse is*' (McCarthy, 1998:36). His summary of Molt's current speech '*inspection of the site*' is a way to show that, being the chair, he controls the progress of the interaction (Handford, 2007). Mi, another active listener, *re-formulates* the chair's summary in French '*inspection sur site*'. This is another type of formulation that is representative of business meetings (Handford, 2007). This type of formulation aims at achieving another goal which is to emphasise shared understanding among all the participants being present. Through their discursive practices of summarising progress and emphasising shared understanding, they are actively doing the business meeting genre.

Still fulfilling a transactional/professional goal, RA's inserts at a TRP a response-seeking tail in the form of a Fragmented question or ellipsis in terms of omitting the auxiliary and subject (do we/should we) prior to, '*test the valves? test? Or just e::r see*'. Its aim is to seek clarification whose specialist language and meaning comprehension are conditioned by shared knowledge and context Holmes and Stubbe (2003: 10). In the second part of the adjacency pair, Molt's minimal response in the form of a phrasal repetition of the last stretch in line 19 '*test of valves*' confirms this crucial status of shared knowledge and provides RA the clarification needed, to which he reacts by using '*a::h we test*'. Repetition here (*test of valves*, instead of *yes*), as identified in many other positions in the meeting, is a convergence strategy that helps '*... adapt to the other speaker(s)*' (McCarthy and Carter, 2004: 66).

Though '*syntactically incomplete*', it seems that RA's real-time enactment of such a discursive practice is *not* '*pragmatically incomplete*' (Handford, 2007: 201). Seeking clarification about the nature of inspection is a type of *formulation* that RA proceeds to to fulfill his professional communication goals. Being himself a mechanical guide, he needs this

information (clarification) to prepare the necessary tools to perform the operation, as suggested from the meeting transcript. The speakers' economical exchange of technical terms without any attempt to elaborate on their meaning is a clear sign of the participants' expertise in and knowledge of their professional domain (Drew and Heritage, 1992).

3.6.2.4 Instantiation : Cutting Speaker Off-cum-Recollection

MOLT: There's- every time we said we have a problem of-
 FO: And mister what about the-the weight of the piston?
 MOLT: the weight of the piston?
 FO: uhm (2.5) we try dis- to discuss all the- all the conception all the choice
 MOLT: a::h normally, we e:: decided to-
 FO: excuse me because this damage is eu:: repetitive
 MOLT: yes also before 2006
 FO: we ha- we always have this proble:m (.) this time-
 MOLT: oh yes, from the beginning
 FO: in both contracts A and B
 MOLT: but also (0.2) before 2006
 FO: yeah

Extract 3.3: Cutting Speaker Off-cum-Recollection

The extract above illustrates one type of instantiation that consists of the chair's cutting off the current speaker (foreign technical expert) by using the linguistic realisation '*and ... what about...?*' to propose -rather than impose- one probable cause of a technical problem. In doing so, the chair shows concern about his interlocutors' face (Goffman, 1967). Here, his use of nominalisation (i.e., preposition 'of' + article 'the' in '*the weight of the piston*') puts more emphasis on the '*causality of events*' rather than their (the meeting participants') own agency (Jaworski and Coupland (1999: 497, cited in Handford, 2014: 125). In response to his interlocutors repeating the same terms '*weight of the piston*' with the rising intonation followed by a two-seconds-and-a-half silence, the chair inserts a formulation (*we try to discuss all the conception- all the choice*) that consists of '*summing up where [he] thinks the discourse is*' (McCarthy, 1998:36).

Another instantiation occurs when the chair cuts his interlocutor off for the second time with '*excuse me, ...*'. This time, the chair backs up his suggestion by stating the possible origin of the problem with the material through *recollections*, that is, making reference to similar recurrent problems in the past ('*because this damage is ... repetitive*'; '*in both contracts A and B*'). Molt, agrees with the proposed course of action and further elaborates on the recollection over two consecutive turns (*oh yes, from the beginning*) and (*Yes, also before*

2006). The chair's dominant role in directing the discourse (Bargiella-Chiappini and Harris, 1997) is plain to see in this extract, too.

3.6.2.5 Instantiation: Keeping Discussion on Track or Reaching a Decision

In the extract below MI, the Algerian engineer activates his established specialist knowledge and work experience⁽²¹⁾, to question the inappropriate choice of the material while discussing with the foreign expert the origins of a recurring technical problem:

MOLT: **we** see- but **we** see quick in the material That- that's not normal for **us**.
MI: we can er: what is the material? **PTFE**?
MOLT: yes **PTFE**
MI: **PTFE**?
MOLT: yes↓
MI: **PTFE** the temperature **you** ha- **you** have:: maximum temperature? minimum temperature?
MOLT: yes
MI: **temperature work**, you have?
MOLT: yes
MI: we- **we** speak about the- the material
MOLT: material yes
MI: **I** think it's a **problem**. Now **we** have d'autres- we have other materials, vintage↑
MOLT: **I'd like we have to** investigate **if you have** high temperature or quick changes in in suction temperature then **we have** also **to** make sure that other materials (0.2) which **we may be** propose are also- are adequate to- to deal with the temperature changes (1.5) **may be we can** do something about the big changes in (section)/(structure) temperature

Extract 3.4: Keeping the Discussion on Track

The extract above shows how *keeping the discussion on track* is not always accomplished by the chair. Here, MI, who is many years more senior than the chair, and due to his specialist technical knowledge, proceeds to this type of *instantiation* for professional reasons. He likewise controls the discourse of the meeting by deciding to continue on the topic under progress. The current speaker negatively evaluates the choice of the material that he finds to be on the origin of the technical problem. While using the word *problem* is meant 'to clarify the speaker's stance' (Handford, 2007: 249), using hedging expressions like 'I think' while '*think*' points to his avoiding to impose his idea in a straightforward, face threatening way. Note how using '*I*' (instead of '*we*') denotes the speaker's individual agency. It is of note that most often, 'yes' is used in response to the Algerian engineers questions

(“PTFE?” “Yes”; “...maximum temperature?” “Yes”). It is used only once to back-channel the current speaker in ‘material, yes’⁽²²⁾

Noteworthy is also the speaker’s (MU’s) strategic use of the pronoun *we*, in ‘**we** speak about the material...’ and ‘**we** have other materials’, which is *inclusive* here involving all the participants present. In doing so, the current speaker aims at showing *convergence* while negotiating a solution (proposing another better material). Repeating the same term ‘material, yes’ is another *convergence* strategy through which the foreign interlocutor shows interactional engagement with previous speaker’s (MI) talk. However, when the foreign expert takes the turn, he uses *exclusive corporate ‘we’* in Handford’s (2007: 247) sense of the term in ‘**we** have to investigate’ to refer to his respective company and the exclusive ‘you’ in ‘if **you** have high temperature...’ together with other hypothetical expressions (**we may be propose, may be we can do**).

In responding to the local group’s position towards the problem (of material resistance to temperature changes), the foreign expert’s speculation over *possible* ways through which his respective company may avoid this problem through the use of ‘if’, ‘may’, ‘can’, shows convergence and collaboration which is a typical ‘face-protecting’ practice in external meetings (McCarthy and Handford, 2004). In view of the social distance⁽²³⁾ between the participants, the speakers’ likewise concern not to damage the business relationships is also manifest in their use of different modal forms like *have to*, *can*, and *maybe* to negotiate a solution and work toward convergence. At the lexical level, the presence of ‘can’ and ‘have to’, in the present meeting data, in parallel to the absence of *must* is a typical discourse feature of business meetings that has been reported in larger corpus based studies, too (Handford, 2010b).

Apart from the evaluative noun ‘problem’, the extract comprises other nouns identified earlier among the corpus main keywords. Here, technical nouns of specific engineering domain (*PTFE*, *section temperature*, *materials*), and other nouns with more general meaning (work, changes) are found. the Algerian work experienced engineer, while invoking another material than *PTFE*, that better resists to the problematic ‘changes’ in ‘temperature section’, uses the jargon or shorthand that is specific to the professional community (Holmes and Stubbe, 2003) of technical engineers. This prevailing facet of engineering English in the meeting talk confirms the earlier descriptive counts that the majority of their talk falls within technical specialist professional topic.

3.6.3 Summary

This section has provided a detailed analysis of the meeting genre following different levels: the linguistic level, the contextual level, and the turn-by-turn level. At the linguistic level, the meeting transcript was approached by using corpus linguistics. Likewise, the ensuing description of its lexico-grammatical features (i.e., keywords and lexical chunks or clusters) helped identify the main genre-specific (business meeting-related) as well as domain-specific (engineering-specific) vocabulary. The contextual level fed into both the linguistic and turn-by-turn analysis while the turn-by-turn analysis that CA consisted of allowed for a manual reading of the meeting transcript and the examination of lexico-grammatical features *in situ*, which is within the real time and sequence of talk.

It also revealed that in international (external) meetings, speakers' distance resulted in the use of politeness and hedging; and that convergent communication characterised problem-solving or decision making meetings driven towards reaching a consensus. With the help of contextual information that required insights from ethnography, CA of the meeting also showed how turn-taking mechanisms and topic managements were constrained by the agenda and the action of the chair at times; or by the speakers' concern to fulfill professional goals (experienced senior engineers with professional knowledge) at others.

3.7 Conclusion

To complement the broader macro- needs perspective that of the background section (tackled in the methodological chapter), this chapter has proposed a sequential analysis of different types of needs from the more interpretive perspective to a closer, direct examination of authentic target situations of English language use. More qualitative interview account of while the questionnaire offered a systematic, mostly quantitative facet of the findings, the interview data analysis provided deeper qualitative insight into the emerging themes that replicated the same hallmarks. At the same time it allowed for a triangulated perspective on needs from both managerial and non-managerial staff. Past this interpretive turn, the direct examination of both email and meeting samples looked at the language needs that are typical to these two business situations while attempting to detect any replications of earlier employee narratives on TL language usage. Using software-assisted analysis for the analysis of the meeting data mainly enabled a first-hand look at its representative specific lexis and clusters as well as interpersonal language, before delving into its conversational pattern.

While this lexico-grammatical features have not been qualitatively scrutinised in the email data, a move analysis indexed to textualisations reveal the latters' conventional organisation. In an attempt to subsequently create local ESP materials and develop teaching tasks accordingly, the author endeavoured, as suggested by prominent ESP scholars, to '*to take account of language, [and] interpersonal communication skills...*' (St.John 1996: 33, cited in Lockwood, 2012: 16) which were two features characterising the discourse samples being analysed in this chapter. Therefore, considering the meetings and emails as the primary elements of instructional tasks development, they will also form the basis of the choice of lexico-grammatical teaching practice in the final chapter. Before pedagogically applying the above research findings in the next chapter, the main summary and discussion of the findings derived from the above sequential data analysis will be first proposed.

Endnotes to Chapter Three

1. It is of note here that the researcher's classifying the two reasons under separate categories when coding data reflects her concern to respect the respondents' word choice as to the responses given.
2. See appendix III, for an overview of the categorical data recoding process undertaken by the researcher.
3. For more comments revolving around this theme, refer to appendix III.
4. The researcher herself conducted the interview instead of asking the help of other persons equipped with tape record responses which enabled her to be immersed in the reported experiences.
5. This quoted engineer in particular, following interview data as well as ethnographic fieldnotes, is unanimously considered as the most proficient Algerian engineer, and is therefore viewed as one of the company resources and representative.
6. See glossary for a concise definition of the term.
7. As mentioned in the previous chapter, this lexico-grammatical analysis which is more qualitative and focuses on a representative sample of emails does not adopt the first level of linguistic analysis, identifying lexico-grammatical features whose quantifications are based on a bigger number of emails.
8. See appendix I for a concise definition of their labelled message types or chapter 2 for more details about their email moves structure.
9. See appendix V for an illustration of the original order of emails.
10. See glossary, appendix I
11. See glossary (appendix I), or literature review for an overview of Gimenez's (2006) email embeddedness.
12. See glossary (appendix I)
13. See glossary (appendix I)
14. See glossary (appendix I)
15. For example, PTFE stands for polytetrafluoroethylene, referring to carbon-graphite filled a compression moulded carbon-graphite filled compound. This material is resistant to most chemicals.
16. As maintained by Handford (2010), the above interpersonal language appears with a low frequency in general conversation.

17. Only from a manager to his subordinate in internal meetings as Handford's (2010) internal meeting corpus suggests.
18. See methodological chapter for further details on the Handford's discursive practices applied on external meetings.
19. The response seeking tail in the present data is L1 bound since it is transcribed as *heh?*, a word used even when the Algerians speak in Arabic or even French to solicit a verbal reaction.
20. In Handford's (2010) corpus, one of the instances of positive back channels among NS is *sure* which never occurred in the author's meeting under study may be because no NS was present .
21. That is verifiable within the longer meeting transcript rather than in the proposed extract.
22. Handford (2010) found the same results as regards *yeah* in his corpus.
23. From the moment that international partners belong to external companies, collegial relationship is not manifest. This is the opposite of internal meetings where participants are acquainted to each other.

CHAPTER FOUR: Summary of the Findings, Discussion and Implications

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Chapter Four: Summary of the Findings, Discussion and Conclusions

4.1 Introduction

In the previous chapter, the analysis of the Algerian industry professional's English needs comprised both their own interpretation and perceptions of process-cum-product-oriented language and communication needs, as well as direct observation of authentic samples of their professional discourse illustrating target situation language analysis. This chapter first proposes a summary of the main findings deriving from the above-cited indirect and direct data analyses. To answer the research questions, it will then propose, in the second section, a discussion of these findings in the light of existing research and the hypotheses hitherto formulated. The main implications of the study for course objectives and content along with ESP teaching methodology will then be proposed leaving way to more practical pedagogical implications (under the form of sample instructional activities for classroom practice) -to be addressed in the final section. To pave the way for the following section, the present chapter will address the limitations of the present study that mainly resulted from methodological constraints and may therefore affect the generalisability of the findings. Finally, new directions for further research will highlight relevant areas of investigation that the present study intentionally overstepped -for methodological considerations- and that are nevertheless worth focusing on in the future. Hereafter, the section below offers a considerate summary of the questionnaire, interview, email and meeting samples, in this order.

4.2 Summary of the Questionnaire Findings

Throughout the interview findings, different perspectives of needs have been offered including perceived/felt needs; objective/subjective needs as well as lacks/wants. The early findings of the questionnaire point to the large proportion of work experienced informants among the sample. These specialist informants who consist of senior (established) engineers, along with management (high and middle managers), are believed to provide the necessary information as to the objective needs linked to the target communicative events and the English skills actually required in the workplace. Hence, valuable data derive not only from

the managerial staff but also from senior engineers and agents who represent what Selinker (1979, cited in Leong, 2001) terms '*specialist informants*'.

The findings of self-assessments revealed interesting findings as to the industry employees' present or actual strengths and lacks in English. Of particular interest to the study were the skills self-assessments of the engineering category of employees (i.e., technical and maintenance departments' staff). While they seemed to be fairly confident about their reading-writing accomplishments, they were dis-satisfied with their oral-aural performance. However, at this level of enquiry, more information needed to be gathered as to kinds of difficulties encountered to be able to propose a sound pedagogical remedy.

As regards the informants' reporting on the frequency of communicative tasks or events that required the use of English, the questionnaire quantitative results revealed two findings about these objective needs indicators. The first one was that the engineers needed to perform more tasks than their colleagues from the finance and purchase departments did. In other words, the engineering respondents in regular contact with English speaking partners are those who reported the highest frequencies of their business dealings with international partners. This finding is in sharp contrast with Vandermeeren's (2005) whose informants reported low frequencies in spite of the objective needs indicators. It is likely that the engineering informants in the present study are aware of their need for English. This quantitative finding clearly validates the early discussion and ethnographic notes pointing to the engineers' need of English to perform different target tasks more than their colleagues in other departments. This finding was also confirmed by many investigations in similar workplaces (Holliday, 1995; Kassim and Ali, 2010; Spence and Liu, 2013).

The second finding has to do with the frequency of target communicative tasks. Part of target situation analysis, industry professionals' reported on their regular need for English to read technical documentation. Reading technical documents revealed that English is first and foremost needed for *Engineering* on a regular basis, when performing different engineering-inherent tasks like reading specialist texts (such as operational/instructional manuals and technical documents). For the engineers of the technical and maintenance departments, however, this need for English also transcended to business communication skills with foreign partners, that meeting/negotiation, email communication, visitors' reception and presentation

illustrated. Spence and Liu's (2013: 98) investigation of their case engineers' English communication needs also found out such '*English communication overlap*'.

As regards target business communication tasks/situations, emailing was reported to be the most frequently used written medium of international communication according to the informants. Here, not only the engineers, but also the Purchase agents, and to a lesser extent, the Finance departments' staff reverted to email correspondence. This finding echoes the general consensus among researchers (Huh, 2006; Gimenez, 2005) about the use of email as a communicative task that has increased rapidly, worldwide, and in many workplace settings. For the interest the present study, the engineering workplace under study is no exception. More qualitative insights into the advantages as well as the different activities fulfilled via email communication are expected in the next interview findings.

From another pole, the questionnaire results as regards target situations would seem to indicate that the engineering category of informants needs to accomplish more than one oral communication tasks/events. Noteworthy is that these tasks happen to overlap when hosting a foreign supplier or contractor as ethnographic data suggest. Empirical evidence also suggest, as it is the case for the sample to be analysed in later stages of this study, that the engineers revert to a short presentation to explain a process in the midst of -seemingly technical-meeting. Because oral communication events are part and parcel of the target tasks, the negative assessment that prevails among the working professionals as regards speaking and listening, to follow Huhta (1999), means that the skills in question should be considered while developing the language course for teaching or training.

In relation to the present situation revealing what the respondents already knew, i.e., their strengths, the technical and maintenance engineers' familiarity with technical terminology and technical know-how came to the fore with the results of question...that enquired about the reasons for communicative success. Professional terminology coupled with professional knowledge seemed to be the strengths of the industry employees, namely the engineers. Similar findings have been reported in Huhta (1999). This familiarity is perhaps due to the high frequency of reading English technical materials reported in earlier questionnaire results. This finding if cross- checked with the positive self-assessment of

reading skills seems to partly explicate why the industry professionals are the most satisfied with their reading skills.

In parallel, the engineers' perception of their lacks yielded two distinctive results depending on their years of experience. Correlational data revealed that the need to use technical English was a priority for newcomers to industry (i.e., inexperienced engineers) who still perceived it as a lack. From another pole, developing general English skills, was a need that work-experienced engineers expressed from the moment that they perceived it as a perceived as a lack. This same specific competence in technical English only would seem to denote limited knowledge in general English for work-experienced and senior engineers.

A preliminary observation to be made here, while awaiting more corroboration, is that a good command of domain-specific English seems to be the first priority of the industry engineers leaving way to the need for general English skills with career advancement. What is also left to be highlighted in the subsequent interview analysis consists of the communicative tasks accomplished via the use of English for engineering, namely in reading technical materials in addition to further information about the 'lacks' that the practising engineers show in general English usage and oral performance.

In departments where using English is on a regular basis (i.e., engineering departments, the strategies and resources reverted to in English usage consist of a blend of both material and human resources with the purpose of handling difficulties; achieving successful communication; and striving for work efficacy. Material resources include translator software and technical and/or bilingual dictionary whereas English proficient colleagues represent human assistance. At this early state of systematic findings presentation, it is too premature to provide a detailed account on how such strategies and resources are deployed.

However, these early findings seemingly denote how industry professionals strive for communication success rather than breakdown. A supplementary comment concerning the deployment of supplementary communication strategies (interpersonal communication strategies) which occurred among the engineers seems not only to lend support to the importance of oral communication events but also calls for a quest of authentic instances

(through interviewees' feedback or via authentic discourse samples) of their enactment – in view of translating them into authentic ESP materials. At this level of quantitative scrutiny, it is not yet clear whether the remaining resources (translation and proficient colleagues) operate in oral or written communication. Nor is it possible to precise whether they operate while English is used for business communication or for engineering purposes. It is hoped that a more detailed account will be provided in subsequent qualitative analysis of the interview data in the next section.

As to the respondents' wants, feedback from experienced 'in-service' informants (Long, 2005: 27), whose specialist knowledge and shared interest have a role in informing the aim and content of the English training/teaching programme (Huhta et al., 2013; Long, 2005; Ferguson, 1997) yielded in complementary results as regards both their learning experience, and more particularly, their evaluation of current training content as well as wants (learning needs or training expectations). In relation to training evaluation, their stipulating that the English they are faced with in class is far from reflecting specific work-related use made them qualify the training programme to be less specialised.

Similar findings indicating experienced employees' dis-satisfaction with prior English course are found in Cowling (2007). According to his informants, the language they studied was not representative of what actually happened in the workplace. They reported, in fine tune with Chan's (2014) informants' training feedback, about an '*overemphasis on the academic/theoretical perspective of the language*' (p. 387). Surprisingly, a similar finding of Khaldi's (1995) investigation based on the same research context concerning learners' evaluation of the course seems to replicate itself. Presumably, two decades later, no tremendous efforts have been made to tailor the ESP courses according to the immediate occupational needs of working trainees in this energy sector.

Still reflecting a learning need or wants from the course, one-third of the respondents who complained from a lack of conversational practice belong to the engineering category of industry employees and expected more opportunities of interaction in the class. To corroborate this finding, oral fluency interestingly figured as a training expectation or a 'want' among the engineers *per se*. For the inexperienced engineers who want to have their oral English bettered, this want does not seem to be well-founded as it does not reflect immediate

target usage according to earlier questionnaire findings (results of question proved that the nature of their work requires them to use English more in reading technical documentation than in speaking.

A tentative interpretation to be given for this unexpected want from inexperiencedd informants is that *'the limited opportunity ... to speak in English ...in the workplace'* gave them the ambition to be trained in this skill, to espouse Chew's (2005: 432) explanation. Conversely, for medium-experienced and work-experienced engineers, it is assumed that there is a real 'awareness' of needs (Hutchinson and waters, 1987: 53) that derives from target language use. That is, the need to handle frequent oral events and face-to-face real-life encounters forcibly necessitates a certain level of speaking fluency from the part of these senior engineers in question. More qualitative findings that the interview will reveal can uncover the specific needs that the senior engineers have in oral English usage.

With respect to the respondents' want from the course, the findings' denoting that *'the "white Anglophone" teacher is still the preferred one'*, to borrow Bargiella-chiappini and Zhang's (2012; original emphasis) terms, seems to be in contrast with these pofessionals' real workplace communicative practices (notably that NNS constitute regular business partners, too) - except if such NS model influence derives from the past mutual business with the Americans (ethnographic contextual data) or else, from problematic communication situations in which NS are generally present. In this regard, it is expected that the findings of the qualitative interview will warrant further insight as to the specialist informants' supportive or divergent attitude to the NS model to be able to provide conclusive remarks.

As another need from the course, Technical English, together with General English were called upon by the engineering informants. These findings seem to tie up with the questionnaire response uncovering the challenges (see table 3.8 above). Since a certain percentage (though minor) of the engineering staff views that communication challenges lie within general and technical skills, it is natural that they expect to develop these skills in question through English training.

The questionnaire results revealed that interest in training was less expressed by the technical department engineers while more manifest in the maintenance, purchase, and the

finance departments. In this regard, a HRD agent responsible for training states that the company training centre capacity is limited and does not suffice to respond to the employees' demand, with a priority being given to technical engineers from exploitation (technical department). Again, this is a proof that engineering category is the one which is most in need of English, hence, training. In the absence of a self-sufficient training centre, the short period of training that the company offers necessitates intensive ESP courses. However, this is not what the current or previous trainees revealed in their evaluation of the ESP training course content.

Another way of providing information about needs was through the Likert scale data that revealed a general consensus among the engineering category of informants about the importance of English. Their position was more validated when showing moderate agreement with the statement calling for another international business lingua franca. Whereas the correlational test provided a solid basis for the need of English for business communication, their low average agreement with the third statement, 'I can do my job without English' emphasised the domain-specific use of English for engineering that does not necessarily entail international communication. Quite the reverse, it consolidated the need for technical English in relation to the technical nature of their job (like when reading English technical support documents).

Though the purchase and finance staff does not represent the target informants, their responses nevertheless allowed for comparisons to be made. For the purchase department, using English for the sole purpose of conducting business transactions (ordering equipment: ethnographic/interview data) is perhaps under the origin of their acknowledging its importance as an international business lingua franca. From another pole, earlier evidence from the results obtained so far, pointing to the low scores in terms of English use justifies the low average agreement that is shown by the finance department staff. Finally, concerning general agreement prevailing everywhere as regards the need of English to access future employment opportunities or higher job positions, it is estimated that these are future rather immediate needs that all employees aim at satisfying later.

In a nutshell, Likert scale data clearly denote how nature of the employees' work and amount of English used are decisive in influencing their interest in and attitude towards the language. This finding, which concurs with that of Al Khatib (2005), suggests that the

engineering staff seemed to be more acknowledgeable of the important role of English as communication means with other engineers of different nationalities for information sharing, expertise and service exchange. In sharp contrast to their colleagues, the finance department staff did not seem to share the same interest in and positive view of English as they do not report a frequent use for English. These different attitudes towards English deriving from the same work environment seem to consolidate Cummins and Davison's (2007) assumption that the need for English depends on the job category of employees and justify again the choice of engineering category as a target population in the present research.

The last open-ended section of the questionnaire consisted of comments that reflected both the industry employees' insider perspective and ideologies as to the importance of English. Hence, the results consolidated some of the earlier attitude data and the hypotheses formulated as to the role that English plays in their working environment; the areas in which it is needed (target needs); their view about its importance and the best way to learn English. It also comprised the specialist informants' suggestions related to training organisers and policy makers.

The highest percentage of comments literally denoted the type of English that is needed in the working environment under study. Whether they derive from technical engineers or not, regardless their job category, the general consensus that reigns among the employees of the industrial plant under study is that English is the *de facto* language of technology in general and of energy industry. Further comments seem to consolidate the above mentioned role, justifying therefore, its need in the target environment researched. They literally denote English as a necessary 'tool' and additional 'professional skill' that facilitates the accomplishment of everyday communication tasks and how its non-mastery is a barrier to both knowledge access or information sharing, i.e., a barrier to communication.

The dual role of English for engineering and business communication was also emphasised in the final comments, which poses high demands on the engineering staff in terms of possession general/interpersonal business communication skills. Though minor, additional comments that have to do with the specialist informants' experience-grounded perception of the best way to upgrade English level cannot be ignored. Their suggesting that

onsite-practice is needed to learn English may either denote that English is better learnt on the job, while being used for utilitarian purposes.

Otherwise, it may denote an implicit training need, which is in fine tune with earlier training expectations⁽²⁾ highlighting the importance of fostering opportunities for authentic classroom practice. From another pole, other comments reflect how industry employees have to individually endeavour to increase their learning opportunities. While this comment is suggestive with the use of interpersonal communication strategies and other resources, previously, reported to enhance communication success and minimise barriers, more interview data will perhaps provide further relevant insight in this regard.

In view of the above mentioned professional realities and communicative needs, it seems that the specialist respondents suggest that both their employer and their country adapt to this economic reality. First, these energy industry employees call for more consideration of this professional language by corporate policy makers and training organisers. This suggestion seems to tie up with their previously reported training feedback as to training opportunity or continuity. Additionally, they notably propose that English be given equal status to privileged French -or even be replaced with French- in overall general education and in tertiary education, in particular. Because these comments derive from industry professionals, who have solid experience and insider perspective, and who are the first to experience the effects of globalisation, overall research implications will ultimately take them into consideration. Hereafter is a summary of the main findings of the interview.

4.3 Summary of the Interview Findings

The interview findings provided more detailed insight into the areas of use of English. At the same time, it seems that the industry professionals unhesitantly delved into their current proficiencies, their lacks as well as wants initially reported in the questionnaire. The first-hand thematic examination of the ensuing interview transcript using the corpus linguistics tool (TXM software) firstly revealed that English was needed in the industrial plants under study for both engineering and business communication. The interviewees' own interpretation of such a finding suggested that the bulk of technical literature needed for work purposes was originally in English. They posited that not only the Anglo-saxons lead the

technological domain of energy industry, but also that the Americans (who *'are convinced that everybody has to speak English anyway'*, to borrow Lavric and Bäck's (2009: 48; original emphasis) words) were both the original constructors of their respective plants as well as the main business partners. Apart from that, English was also needed in communication with NNS business partners. Here, English is apparently not only used for engineering but also for international business communication.

Accordingly, English target needs, as identified by management and further confirmed by the engineers themselves, ranged from knowledge of basic technical English or terminology related to mechanical tools for those whose job position entails reading English materials in majority; to writing emails; to taking part in meetings. However, it transcended technical vocabulary to social talk or small talk for those with more or less regular contact with international partners. The interview findings highlighted the industry professionals' accounts of both ordinary and challenging target situations in line with Huhta et al's (2013) Needs Analysis procedure in collecting data about target language use with the aim to inform ESP teaching.

Engineers were confirmed to be the ones who most regularly needed English to read technical documents or to do web quests in search for them. Whereas inexperienced engineers still experienced difficulties to assimilate technical English while reading documentation, familiarity of their elders with such reading materials was reported. Part of the reading tasks, browsing the internet to read English resources and specialist engineering texts concurs with Kaewpet (2009) and Kassim and Ali's (2010) findings considering it as a reading task.

e-Mail correspondence was reported as the most common writing task that both engineers and international purchase agents needed to perform in English. The fact that the engineers find email communication easier than other speaking tasks is noticeably related to their resourcefulness when reading or writing emails. Spence and Liu (2013) report similar findings related to e-mail communication as the easiest form of English communication according to engineers. Falter's (1991) remark confirms what the experienced professionals reported about the resourcefulness related to reading or writing.

The informants provided some feedback and retrospective descriptions about authentic usage of English in email communication and meetings. The interviewees invoked characteristics that were essential for success in e-mail communication that business communication textbooks (for e.g., Munter 2007) and investigators of engineering contexts (for e.g., Dannels, 2002) already point to among which, clarity and directness figured. Subsequent language Analysis of authentic samples of email discourse in the next section will attempt, among other things, to verify these accounts in the light of a direct observation of how language and professional features interact.

Meetings were the most common speaking tasks that the engineers performed in English. To others, communicative success was explained by their familiarity with specialist vocabulary and shared technical knowledge even with limited English. This result closely replicates Lavric's (2008: 159) findings showing that the message gets through and communication is rarely problematic in terms of '*professional interpreting*' even with the employees' '*broken English*'. The importance of technical know-how concurs with Bhattacharyya's (2012) investigation. However, a blend of all of these elements, i.e., their acquaintance with technical English, the latter's simplicity as well as their technical know-how, is probably more plausible in explaining the successfulness of international professional communication.

The interview findings revealed that relying on English proficient colleagues was another key element contributing not only to the success of international meetings, but less proficient colleagues also sought their assistance during e-mail communication with foreign partners. In the absence of the language assistance of proficient colleagues, engineers when orally communicating with foreign technical professionals, as almost all the interviewees confirmed, relied to a major extent on the specialist vocabulary and the common professional knowledge that the two parties shared to understand each other. In terms of professional interpreting the 'message generally passes' and is rarely problematic even with the employees' broken English in Lavric's (2008: 159) words.

Otherwise, the interviewees also reported the use of gestures, drawing (multimodality, non-verbal communication) and Communication strategies like requesting and/or doing repetition, reformulation, or translation, etc., to help convey or get the message across. in

business communication textbooks. Such reported online strategies which seem to indicate the professionals' endeavour of effective communication recall Kankaanranta's (2009) observation that the business contexts makes that there is no need and no time for English language experts.

As to problematic communication situations, telephone conversation was reported to be the most difficult target communication task. In reference to earlier interview findings, the ones involved in telephony were maybe the least resourceful than in e-mail writing, and to a lesser extent, meetings. From another part, the interview data further revealed that the problem with most of the established engineers lied in engaging in small talk. Such uneasiness with general speaking situations seems to tie up with the engineers' concern to develop general English language, that the early questionnaire findings transpired.

Other engineering-workplace-based studies have similarly reported on problematic general English situations. Here, even the native speakers, or Anglo-Saxons' accent turned to problematic outside professional topics. This particular finding is in sharp contrast with Holmes' (2005) assertion that misunderstandings emanating from small talk are solely due to pragmatic incompetence.

The last problematic situation that the interview findings highlighted concerned the established engineers' observation that translation tools are '*two-edged sword*' (Khiati, 2016: 131). Though they seem to be needed to ease the process of reading technical documentation or writing emails in English, inexperienced engineers' over-reliance on automatic translation as a temporary solution to cope with English language usage is problematic. Unlike their elders, novice engineers' low English proficiency easily caused them to fall into the trap of mistranslations. Here, it can be claimed that equipping inexperienced engineers with the necessary translation skills can be beneficial as long as this tool reflects a learning need (i.e., translation being used in the process of using and learning to use English for real-world work purposes).

As to their training expectations, none of the interviewees showed low motivation to benefit from English training that their respective company proposes. Quite the reverse, they all expected to attend more English classes to keep up immersed in the English learning

context. English training figured among the training priorities of the engineers who already used this language to fulfil their job-related tasks, which denoted an instrumental motivation behind learning English. As to their expectations from the course, other informants' responses revealed two areas where they felt they needed to develop their English skills.

Those with rudimentary knowledge of English suggested training as the best way of acquiring technical English to fulfil basic reading and writing skills. Those who were previously shown to have a good command of domain-specific English expected from English training to improve their oral communication skills to be, assumedly, able to interact with foreign business visitors. The importance of employees' input for course content is, according to Dudley-Evans and St John (1998), an important criterion to be given ample consideration in developing the training programme. Having thus far dealt with the main elements of the interview findings, a more direct observation of the email data is proposed below for an account of the language needs of engineers in the context of email communication.

4.4 Email Genre Analysis Discussion

This analysis has brought to the fore a key authentic target situation in which English is used for business communication in industry, i.e., email correspondence. It first and foremost would seem to indicate that the linguistic features of the messages '*are not distributed at random*' Louhiala-Salminen et al.'s (2005: 415) but seem to replicate the conventional structure of emails suggested in similar email genre research (Gimenez, 2005, 2006; Nickerson, 2000; Mehrpour et al., 2013; Kankaanranta, 2005) in accordance with the communicative purpose of the industry professionals. In line with Gimenez's (2006) study, the complexity of the emails being analysed seems to respond to the new demands of international business communication.

This email complexity does not only seemingly concern the embeddedness of messages into a chain of dialogue messages, but evidence from the email sample denotes how topicality is also embedded. This embedded topicality apparently appears in the communicative purpose that kept changing, from requesting for specialist opinion or information; to providing the needed information or comment; to requesting for action; to indicating enclosure, etc. By adopting the ESP approach to this prominent genre in seeking

some shared features with other genres, the analysis indicates another complexity in the email sample under scrutiny. It appears in its being a hybrid genre incorporating features of both spoken and written language as suggested in similar research (Louhiala-Salminen et al., op. cit; Crystal, 2001; Kankaanranta, 2005)).

Furthermore, short emails appear to be evidence of the engineering professional community's tendency of being straightforward through their immediate feedback to the previous email which presupposes shared knowledge (Nickerson, 2000: 168). Short emails identified from genre analysis seem to echo the professionals' own interview retrospection of their writing '*short emails to request information or to respond back to a query*' (MMT1, interview data). At the same time, they are also likely to evoke features that are typical of conversational mode or spoken language in the minimal responses that the email sometimes consisted of (Mulholland, 1999, cited in Nickerson; Gimenez, 2006, 2005).

Under this assumption, it seems that such dialogue messages represent '*the preferred alternative media choice to the telephone*' to espouse Kankaanranta's (2005: 335) assumption, mainly that the findings thus far indicated how the telephone conversation turned to be problematic for the case engineers. In the same way, identical features of written discourse, mainly those of business letter (Bové et al, 2003), also came to the fore, through the salutations and closing as well as updated expressions of attachment '*please, find here...*'. Raising the trainee-engineers' awareness to such features as well as the most updated expressions of attachment seems to be a pedagogical *sine qua non* to help them abide by these instances of good practice.

Indicating attachment in itself seems to have contributed to the complexity of email communication that served the main business goal of information sharing. It mainly occurred within the 'justifying action' move that either preceded or followed the request for action/response move. It is assumed that indicating attachment within the message text or under the form of technical specifications represented essential reference that was needed to back up the sender's communicative goal. This content move was equally responsible of the '*corporate-bound technical vocabulary*' (Nickerson, 2000: 159). In other words, specific English lexical items figuring in the content moves were textualised according to the corporate-related technical processes involved in the defects, maintenance or repair of spare parts. They

specifically took the form of technical jargon or abbreviations that presupposed common or shared knowledge seeing that the email correspondents were not explicit about them. This finding has a bearing for the hypotheses and overall implications of the study.

Constantly referring their correspondents to technical documents or references via attachments not only indicated how reliable and practical this communication media was for the correspondents in question (Gimenez, 2006), but it also projected the degree of intertextuality between the two corporate genres (here, email and technical documents) in relation to the engineering context under study. This apparent dependence on technical English documentation that extended to engineers' international email communication lends support to earlier interview and questionnaire findings emphasising the engineering-specific use of English through the high frequency of reading technical materials as a communicative task in the researched setting. Hence, drawing on or activating the trainees' specialist knowledge is likely to help interpret or compose similar email messages that reflect their corporate activities. To anticipate the practical suggestions, awareness of the different expressions of attachment and their particular function in the engineering work setting appears to be a pedagogical priority.

Whereas the informational, corporate-specific language mainly appeared in the content moves like information sharing (moves indicating attachment) and requesting moves, another facet of language was more relational or interpersonal. It was used in emails appeared in the framing moves as well as in the content move of requesting. As to the layout moves (i.e., salutation, pre-closing and closing), they were conventionally structured and seemed to depict through their formal style (*dear+title+name/ dear+sir* in the salutations for example), a certain corporate distance that is typical of international rather than internal communication (Nickerson, 2000).

In line with the formal salutation, full name signature seemed particularly necessary in such a business context of communication as it appeared to explicitly determine the sender - who was responsible of the main content message. Evidence of good practice from some emailers in the data indicated that the latter had all their messages signed whereas the signature move was sometimes missing in others'. To avoid sending their messages unsigned, to support Kankaanranta's (2005) proposition, making use of the pre-programmed signature

would have been of particular benefit to the business professionals who have no time to waste in repeatedly inserting signatures at the end of their messages. Based on this finding and on existing research, pedagogically addressing instances of good practice as regards salutation and (pre-programmed) signature seems therefore to be necessary.

Through the questionnaire and the interview, the industry professionals with their insider knowledge were believed to provide information only about the target tasks entailing English that they perform at work. In sharp contrast with Long's (2005) assumption, it seems that this study has proved that work-experienced informants were a quite reliable source for the type of language needed at work. Close examination of authentic language in use replicated the earlier rough clues and descriptions about the textualisation of emails that the informants gave through the retrospective interview accounts thus far provided would seem to denote their awareness of the linguistic realisations required in such communication situations.

In relation to requesting that appeared in the content moves, no instance of direct imperative was found in the email data set under study. Instead, the data-driven tendency to use polite requests was also positively verified in similar research (Nickerson, 2000; Mehrpour et al, 2013; Louhiala-Salminen, 2005). This finding would seem to suggest that politeness is a permanent feature of this electronic medium of business communication in spite of the previously described brevity of the messages. In line with Kankaanranta's (2005: 395) observation, the findings suggest that the use of 'indirect requests' (*Could you please...?*) denote the unequal distribution of technical expertise, hence, the requester's need for the information. In parallel, 'direct requests' (*Please+imperative*) would seem to denote a collaborative activity whereby the information being exchanged is similarly important for both the requester and the requestee. Here again, requests under their different data-driven forms and functions would, then, be worthy of pedagogical consideration.

In sum, the findings reported thus far seem to suggest that the use of English for international email communication is part and parcel of the communicative practices of the case energy industry professionals, that also activate the use of other corporate-bound genres (technical documentation) and hence, engineering-specific terminology or lexis. Besides this informational or transactional language, the findings also uncovered the pivotal role of

relational or interpersonal language that reflected the business-driven collaborative nature of email communication. The emails were framed to serve the correspondents' business goals. The structures and characteristics of English thus far uncovered through genre analysis would seem to offer a number of implications for ESP teaching or training. To bridge the gap between research and practice, to borrow Gimenez's (2005) words, the pedagogical application of the email genre analysis findings that was so far anticipated in this discussion will be worth elaborating on in the practical implications section.

However, the drawback that this email genre analysis bore concerns the small size of the emails collected that falls within the limits of an acceptable corpus. In corollary, the researcher intentionally chose not to proceed to quantification while proceeding to the first-level-analysis of the genre. Instead of proposing frequency counts of the highly occurrent key words, the most prominent or representative lexis was rather qualitatively derived from context (KWIC) during move analysis and textualisations, in addition to referring to similar findings from larger email corpora.

4.5 Meeting Genre Analysis Discussion

The present section offers a synopsis into the discourse that the engineers produced in the business meeting, one of the most regular communicative genres produced in the engineering workplace under scrutiny. The aim is to unearth the different linguistic features and discourse practices that contribute to the creation of the meeting genre, and notably, to find evidence that corroborates the respondents' previous reporting (via questionnaire and interview) about their target language needs and strategies through the online enactment of the genre.

The analysis has shown how the meeting engineers' choice of words was, here again, not randomly made but conditioned by the genre and the domain-specific engineering type of activities involved. Both the statistical description and the contextual qualitative examination revealed the interplay between business-specific, engineering-specific and interpersonal language forms. For instance, the predominance of technical English in the meeting discourse was verified quantitatively and qualitatively throughout this section. From one part, this specific use of English in the technical meeting under study seems to highlight the

participants' straightforward, economical use of domain-specific language full of specialist shorthand, purely technical jargon. From the other part, minimal responses also assumes shared knowledge that, in line with Koester's (2010b: 52) specialist explanation, makes that – here, engineering- professionals are not forcibly explicit about every technical point tackled. This reported simplicity lends support to Dannels' (2002) finding related to the simplicity of Engineering talk, which occupies the first position among the top five most important features of speaking in engineering.

In addition to the purely technical terms like engineering object or process nouns, the sub-technicality of seemingly general terms was quantitatively (from their high frequency) and qualitatively (from both the micro-context of talk and the broader engineering context) verified. Similar findings were reported in Handford and Matous's (2011) and Handford's (2014) corpus-based investigation of engineers' professional talk. From another part, it also uncovered how the use of specialised lexis without elaborating on the technical terms used reflected the interlocutors' shared knowledge between participants and expertise in their professional domain (Poncini et al., 2003; Drew and Heritage, 1992). Hence, it is a reasonable assumption that shared knowledge and technical know-how may have a role in successfully handling and interpreting the above described transactional communication, which resonates with the earlier findings of Lavric (2008), too. This particular finding, which seems to evoke the Algerian established engineers' technical English proficiency, corroborates previously reported questionnaire and interview findings pointing to the technical type of the English that these industry professionals are better at using.

As regards the genre-specific (business meeting) language, the problem-oriented nature of the business meeting under study was discursively manifest through the key words 'problem' and 'if'. Through the representative extract 3.4, a closer examination the word 'problem' revealed the decision-making discursive practice was directed towards discussing a real technical problem. This feature, which is not specific to *technical* meetings only, is typical of *business* meetings in general as many investigations revealed (Handford, 2010a; Koester, 2010b). Within the same extract, there was also room for creative problem exploration through speculating or hypothesising that the use of 'if' illustrated. Similar statistically significant discursive patterns were also found to be key linguistic features of

business meetings in Handford's (ibid: 168) corpus. Hence, it is assumed that the local participants in the meeting under study were actively doing the genre through the discursive practice of focusing on decisions (solutions) whose recurrent linguistic realisations, 'problem' and 'if', also appeared in the statistically significant lexico-grammatical features.

In addition to this goal-oriented or transactional discourse, the local engineers used interpersonal communication along with its related language items. While their back-channelling revealed their active listenership and was a signal for the current speaker to continue, hedges and modality reflected the face concerns that accompanied the current speaker's expressing an opinion or a necessary action to be done. From another part, the meeting participants' use of personal pronouns, of which the inclusive 'we' was the most frequent, denoted the collaborative enterprise that is typical of any external work meeting (Koester, 2010a). To a lesser extent, the pronouns 'you' and 'I' also figured co-jointly with appropriate hedging or modality to express requests, necessities or individual agency.

All the above illustrated the relational orientations of the participants, a clear sign of convergent communication and an important dimension that contributed to the enactment and hence the success of the meeting genre, as it was shown to be the case in other international business meetings (Handford, 2010a; Koester, 2010b). In the same vein, another feature of relational language that emerged from the qualitative analysis of the meeting concerns the relational episodes that took the form of short episodes of humour or social talk that were also found to punctuate Handford's (2014) engineering meeting. In the meeting being examined, they specifically interfered with professional talk to ease work tensions and strengthen the interpersonal ties (Holmes, 2005). Since such meeting-embedded evidence of the role social talk plays within professional talk corroborates the engineers' earlier interview accounts, the engineers' need to properly undertake interpersonal communication, and mainly social talk, is to be given ample (pedagogical) consideration.

The participants' conform domain specific use of English in such an international work situation is, at least, not lexically nor discursively deviant from typical English business meetings (Handford and Matous, 2011; Handford, 2010a). At the syntactic level, however, many anomalous sentence constructions similar to the one spotted in extract 3.4 (Ellipsis, auxiliary omission in the question 'you have?; test valves? we test? ', Extract 3.2) could either

denote the speakers' tendency to be economical in using language or their English proficiency level.

At the discursive level, all the discursive practices identified to be typical constituents of the meeting genre were closely verified on sequential, turn-by-turn basis in the current meeting. The local engineers who were present in the meeting under scrutiny were the actors of formulations, instantiations, expectations, or else recollections. An instance of expectations was shown in extract 3.1 in which the local participants oriented to the unwritten agenda by describing the type of activities that they were to be involved in in the following stages of their meeting under progress. The meeting under study was not devoid of examples of recollections like the one shown in extract 3.3 in which the current speaker oriented to a recurrent technical problem encountered in the past. However, it was through formulations and instantiations that the local engineers skilfully fulfilled their professional or interpersonal goals.

As shown in the representative extracts examined thus far, formulations took form, *inter alia*, when the most active participants projected the role of a 'linguistic intermediary' (Lavric and Bäck, 2009: 39), either through summarising a previous utterance or reformulating it in a more familiar code (in this case, French) to ensure shared understanding among the whole participants ⁽¹⁾. As confirmed by previous studies of professional discourse, likewise turns are 'institutionally relevant' (Kurhila, 2004) and are part and parcel of doing the business meeting genre (Handford, 2010a). This particular finding, hence, gives credence to the questionnaire and interview findings pointing to the role of the most proficient colleagues in assisting others to get the message through that earlier sections tackled. At the same time, it confirms the assumption that translation is a permanent communicative practice among LSP users; that is apparently not only limited to reading/writing tasks but extended to face-to-face encounters to help facilitate professional performance and communication sharing.

Instantiations were discursive practices that the most influential participants (chair, or work experienced engineers) undertook, controlling at times both the meeting topic progress and talk in a way to achieve professional goals mainly. The extracts analysed illustrated how instantiations were used to cut the speaker off or to signal a topic shift. This was done prior to an expectation as illustrated in extract 3.2. At other times, instantiations overlapped with and

paved the way for recollections as illustrated in extract 3.3. Otherwise, without necessarily cutting the speaker off, that is at TRPs ⁽⁴⁾, instantiations were enacted to keep the topic under discussion when deemed professionally necessary (extract 3.4).

Finally, the sequential analysis further helped identify some recurrent discursive strategies that were said to govern the meeting genre. In spite of some variations⁽³⁾, replicating previous findings proved that even spoken professional genres show some recurrent features that make their structure recognisable (Handford, 2010b). On the other hand, some local features, that are typical of L2 international lingua franca settings, show how the speakers needed to revert to translations to creatively fulfil some discourse features still pertaining to the meeting genre. That is, the participants happened to use other languages to ensure shared understanding, summarise progress, etc. here the picture projected about the meeting genre replicates Belcher's (2006: 142) view that –here meeting- professional genre is “*more contextual than simply textual, dynamic than static, varied than monolithic, and interesting in its shaping of and being shaped by people*”.

To conclude this section, the discursive and lexical features of the present meeting similar to those identified in other studies (for e.g., Handford, 2010) reflect the participants' professional goal-oriented use of English that conforms to the universal characteristics of international business meetings. Seeing that the professionally-oriented linguistic performance of the NNS participants was not dissimilar from that of NS, this analysis of authentic exemplars of language use was not devoid of pedagogical intentions. On the contrary, to follow the lead of other workplace researchers and applied linguists (Koester, 2010b, 2012; Handford, 2010a; 2012, Holmes, 2005; Long, 2005), the most frequent linguistic features, that represent ‘fingerprints’ of the meeting genre (Handford, 2007: 349) and local ‘instances of best practice’ (Rogerson-Revel, 2010: 452) can be proposed as ESP teaching tasks/materials. This will be the topic of the practical pedagogical implications of the coming section.

One criticism to be made as regards this mutli-level genre analysis is that it was based on one meeting only. To reduce this limitation; however, following a sound analytic framework, and referring back to findings emanating from another benchmark corpora (such as Handford's (2010) CANBEC), helped replicate and show similar patterns. In view of the contextual elements included, it can be estimated that though sharing many features of

international meetings, this meeting is representative only of the international meetings taking place within engineering community/workplace being researched.

4.6 Discussion of the Findings to Answer the Research Questions

The present section proposes an overall discussion of the findings in an attempt to answer the research questions in the light of the hypotheses formulated. The findings will be discussed in a way to answer the first research question addressing the target, objective needs; then, the second research question enquiring about the present language needs (engineers' current abilities, lacks, wants and communicative experiences with English use). However, because the third research question is mainly concerned with the pedagogical implications of the findings, the present section will but provide some brief suggestive hints, in this regard, that will nevertheless pave the way for a more thorough answer to RQ3 in a separate section entitled 'pedagogical implications'.

4.6.1 English for Engineering and International Business

Part of answering RQ1 (objective or target needs) uncovering the specific or utilitarian purpose(s) for which industry professionals need English, it transpires from the findings that the use of English in the case plants under study originates from the macro-level target need that consists of the Americans' dominating the sector of hydrocarbon industry. Their leadership in this domain seems to impose English as the language of hydrocarbon industry. Generally, the Americans adopt a strategy of standardisation being '*convinced that everybody has to speak English anyway*' in Lavric and Bäck's (2009: 48; original emphasis) words. They do so by sending all their product information materials in English (technical specifications, operational manuals, etc.)⁽⁶⁾. This macro-objective need for English in the researched context is typical of the flow of the Western (American and British) knowledge into the energy-rich countries that dates back the 1970's international oil crisis (Hutchinson and Waters, 1987). It henceforth seemingly illustrates the origins of the objective need for English as a result of "*the conscious planning on the part of industry ...(among others) to shore up markets in developing countries*" (Benesch, 2001: 31, cited in Upton, 2012: 13).

The above invoked scientific, technical and economic activities in energy-rich countries results in English being considered as “*the accepted international language of technology... [inter alia]*” (Hutchinson and Waters (op. cit: 306). For professionals working in energy industry, the need of English for engineering projects ‘*a clearly utilitarian purpose of which there is no doubt*’ (Mackay, 1975: 24, cited in Upton, 2012: 24-25), which is professional success. Regardless this target need emerging from EOP settings, studies in the field of engineering have already pointed to the importance of English as an international language of science and technology and that engineering books exist in English (Joesba and Ardeo, 2005).

While primarily reading-oriented, it is technical English that engineers needs to be first proficient in in order to develop their specialist knowledge. This is especially true for the case inexperienced engineers or newcomers to industry. Reading seems to be the priority task that projects the engineer as a real world reader with an authentic professional purpose behind reading authentic materials. Such authentic professional purpose consists of technological transfer and creation of new knowledge. To this end, the national engineers in question need to be constantly abreast of the latest technological innovation.

Besides the afore-mentioned need for engineering English, the considerable frequency of international communicative events with foreign business partners seems to be another quantitatively and qualitatively verified objective need indicator. Furthermore, the industry employees projected, throughout the interviews, questionnaire and authentic discourse samples, their awareness of the international business lingua franca status of English. In other words, the findings would seem to suggest that this English-medium communication is not only limited to NS but also among NNS as confirmed by many researchers into EOP settings (Handford, 2010a; Huhta, 2010; Bargiella-Chiappini et al., 2013; Cohen, 2001).

The international business lingua franca status of English is asserted. English is de facto language of the energy industry in Algeria (Cassel Johnson, 2012, as cited in Bargiella-Chiappini et al., 2013). This worldwide importance of English in the specific sector of energy industry has an influence on the corporate language strategy that the company’s official website, its recruitment conditions, or else public signage that initial ethnographic insight has shown in background chapter. Another evidence of the international status business English communication that national engineers are familiar with came to the fore in the present

research came to the fore through their reported difficulties to handle NS accent. This, together with other aspects of NS language, will be properly detailed in subsequent sections.

4.6.2 Technical English: A Strength for Established Engineers, a Lack for Industry Newcomers

This section attempts to partly answer RQ2 about the present strengths and weaknesses of the target group of national engineers. Initial ethnographic insight seem to suggest that for experienced engineers who belong to '*l'ancienne école*' [the old school] (interview data) in their own terms, Technical English is apparently an asset because they benefitted from an instruction in technical English in the American Institute prior to their recruitment. Additional insight from ethnographic fieldnotes suggests that engineers have consolidated their English level through on-the-job practice throughout their professional career during which they were (and are still) regularly using technical terms and referring to English technical manuals.

A cautionary note in this vein is that specialist knowledge also seems to have a role in the success of professional communication. It is this technical English that permits them to understand and convey the message in written professional communication or when talking to foreign visitors to the company. This finding has been verified quantitatively and qualitatively. Both the interview and the analysis of specialist discourse have shown that successful message transmission was accompanied by shared knowledge. It is this same familiarity with technical English that according to the higher majority of technical engineers enhances communication with foreign partners.

By contrast, correlational statistical evidence of the questionnaire results as well as qualitative insight from the interview indicate that the newly recruited engineers are still striving to both develop their specialist knowledge while attempting to familiarise with technical English, two components that form the bulk of their daily documentation to consult. This is especially true for reading-oriented tasks with which inexperienced engineers face difficulties in understanding original English materials related to their specialist documentation. Hyland (2007) similarly posits that it is professional knowledge which makes communication successful whereas a deficit in specialist or professional knowledge, as it is

the case of inexperienced engineers projects not only language deficit but also a lack of domain-specific knowledge.

In short, this finding reveals how engineering-specific or technical English constitute a strength for work-experienced engineers while it represents a lack for inexperienced engineers. Hence, it both answers one aspect of the first research question -related to the engineers' lacks- and confirms the second hypothesis, notably that different needs (here, lacks and strengths) depend on the varying years of work experience of engineers. For established engineers, then, reaching communication success seems to be possible as long as they undertake *technical* conversations or correspondence with their international business partners. To some of them, using English to communicate with their foreign partners in their field of specialisation is, apparently, not troublesome as no '*foreign-language acrobatics*' were required, to replicate Falter's (1991: 12) comment.

Concerning oral technical communication, the particular interview retrospections about the engineering professionals' seem to be in tandem with Dannel's (2002) investigation on features of technical oral productions. For example, the interviewees' stating that, '*Technically speaking ... the less we talk, the better we understand (TI13)*' seems to perfectly reflect Dannel's (ibid) investigated simplicity and straight-to-the-point nature of technical English. However, the present study indicates that simplicity of technical English seems to transcend to written discourse, as evidenced from the examination of authentic email samples.

Evidence from the interview data -that examination of authentic email samples has corroborated- reveals that even in the written medium '*[t]echnical English is simple, including short sentences, which do not have a semicolon ...[and that] its expressions are not tiresome to read, nor do they give you a headache in trying to understand their meaning (TI9, interview data)*'. Here also, the reported features of written discourse resonate with what Dannel's (ibid) detailed description of speaking in engineering as being '*devoid of figures of speech, without stylistic ornaments and figurative meaning*' (p.258.).

Hence, both previous research and evidence from authentic samples of spoken and written discourse seem to corroborate the industry professionals' retrospection about the simplicity of technical English. This validity of the interviewees' description of their language

usage, having thus far been verified, belies some applied linguists' (for e.g., Long, 2005: 27) assumed denial of the idea that the work experienced informants are only professionals in their domain rather than in language, and so cannot represent a reliable source about the language forms needed in their workplace.

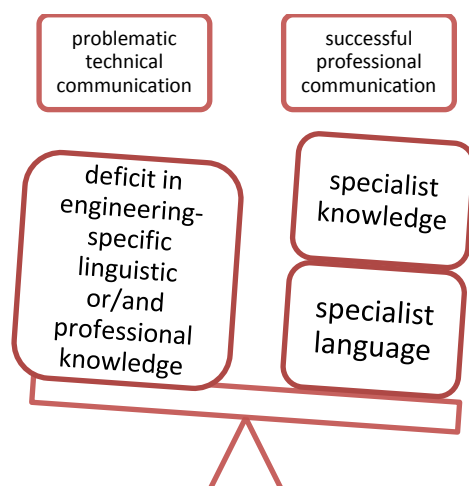


Diagram 4. 1: Author's Portrayal of Technical Communication Success and Failure Origins

Concisely, the present study, therefore, projects the specific competence of engineers that is primarily centred on engineering English. The diagram above recapitulates at a glance the present state of affairs as regards the element framing the present language ability of both inexperienced engineers and established ones. Having depicted engineering-oriented English communication (mainly reading technical documents) as the main difficulty of inexperienced engineers, the next sub-section attempts to answer the second part of the second research question, by highlighting the established engineers and their seniors' perspective of the weaknesses that are more likely to cause communication breakdowns among established engineers.

4.6.3 Difficulties in Oral Communication

While the major lacks seem to lie within the oral-aural skills- may be because the nature of their work requires them to use English more in reading and writing as shown earlier- the engineers have reported to face difficulties in oral communication situations that entail putting the above mentioned skills into practice. These situations include telephoning, problematic general conversation topics along with troublesome NS accent. Stopping likewise at such challenging instances of TL use is an endeavour to give priority to '*the absolute essentials*', following (Dudley-Evans and St John, 1998: 126), for more selective eventual pedagogical focus. These troublesome situations are properly discussed hereafter.

4.6.3.1 Problematic Telephone Conversation

Telephone conversation was reported to be of the most difficult communicative tasks from both the engineering staff and their management's perspective. The one involved in telephony appears to be less resourceful than in e-mail writing, and to a lesser extent, meetings. While engineers have been reported to activate some resources such as online translator and/or colleague's assistance, the latter cannot be used to help find the right words when telephoning. This particular finding gives credence to Falter's (1991) general observation that the engineers' resourcefulness when it comes to speaking English is reduced if compared to the usual reading and writing tasks. She confirms that the tasks that entail speaking require more autonomous use of the language than the other skills.

Similar findings pointing to trouble source that oral communication represented of which telephony is one of the hardest-to-handle tasks appear in Salminen et al (2005). Additionally, another cause is likely to be linked to the time constraints whereby the immediacy of communication does not allow for a larger time span to think of one's words. Based such findings grounded in authentic workplace experience, a more reasonable assumption is that the source of difficulty lies in the engineers' ignorance of the discourse conventions governing telephone conversation and ready-made expressions to be activated in real-time telephone conversation rather than with specialist content and its language. This seems to confirm the hypothesis that the English needed is a blend of both engineering-specific and interpersonal language.

While being acknowledgeable of the limitation related to the findings about problematic telephoning -that were not as richly covered, as it was the case for meeting or email communication- triangulating the perspectives from both managers and engineers in addition to similar investigations addressing telephone conversations can, nevertheless, lead to tentative pedagogical implications for practice in subsequent sections with the aim to remedy for such lacks.

4.6.3.2 From Domain-Specific to General Conversation Topics

As mentioned before, both the quantitative and qualitative findings reported in this study give credence to premise that the national established engineers seem to be able to manage conversations with English speaking partners as long as the topic remains professional. That said, moving from business-related topics to general conversation topics or social talk turns to be difficult for established national industry professional mainly. In fine tune with the present findings, Huhta et al (2013) needs investigation similarly reported on unexpected face-to-face interactions like small talk or general conversations as being one of the most demanding communication situations for the professional engineer.

Similar findings of the business professionals' difficulties to be engaged in small talk have also been reported in Miglbauer (2014a, 2014b). In tandem with the present findings, Cowling's (2007) referring to problematic '*first-time business contacts with foreign business people*' (p. 433) is another case in point. Equally, Chan (2014), whose Chinese informants include engineering professionals, among others, explains how '*social interactions in English are challenging to them*' (p. 386). However, similar difficulties to shift from specialist talk to chats seem also to be the case of scientists who complain from not being able to chat with others during conference breaks (Bhatia and Anthony, 2011).

A similar observation is made by Cohen (2001: 89-91) who confirms that the use of English for international business communication be it 'commercial, scientific, technical' is more successful when it is used in a '*mechanical way*', with '*limited vocabulary*' and '*clearly understood conventions*' whereas for rich, complex communication, other skills are needed. One reason of problematic general communication, as put forth by Ferguson (1997), is that when specialist knowledge is absent from the content communicated, understanding of the

message is made difficult. By the same token, Koester (2006) confirms that familiarity with restricted ‘discourse’, not allowing for effective communication outside vocational purposes, presupposes that the professionals, who are familiar to specific technical communication, find it hard to adapt to others. Additional findings pointing to the unproblematicity of specialist terminology as opposed to trouble source oral communication of which small talk -then telephony- were the hardest to handle also appear in Salminen et al (2005).

In brief, the specific competence of the engineers in question hitherto discussed is re-established again, reflecting Huhta’s (2010: 17) claim about the ‘*narrow utilisation focus*’ previously detailed, that consists of using English for professional communication only, which is realistically attainable for NNSs. On the other hand, she terms English use for general communication that departs from, say, technical or business topics, as ‘*the broader utilisation focus*’ that is, supposedly, attained after many years of contact with the target language users. It is this broader utilisation focus around which general conversation topics revolve that established engineers need to engage in.

4.6.3.3 Problematic NS Accent

The issue of problematic NS accent seems to be closely linked to unpredictable communication situations that national professionals are found to experience. The study has shown that national industry professionals, who seemed to manage professional conversations with NSs, suddenly find the latter’s accent difficult to understand when conversations shift to general topics. The complexity of such unpredictable events lies in the native speakers’ talk about topics out the professional contexts. In this case they use new words and new expressions that the national interlocutors- and potential speakers- are not accustomed to hear and use.

Similarly to what Huhta et al (2013) noticed, such ‘*overlapping discourses*’ in which the listener is the next speaker, seem to contribute to the complexity of the situation. Because authentic workplace experience makes that communicative events engage a complex set of skills (such as listening and speaking in this case), there is a strong case for reflecting through complex instructional tasks, the complex communicative activities reflecting such workplace realities in the ESP classroom.

With reference to the reported easy-to-handle communication with NNS, the present findings also resonate with Handford's (2010a) investigation whose international professional informants '*find it difficult to communicate successfully with US and UK than with continental Europeans or Asians*'. Interestingly, Handford's subjects similarly state that the cause is the '*insufficiently enunciated language*' of NSs (p. 247). Problematic NS accent has also been confirmed by Rogerson-Revell's (2007) subjects. Hence, the present finding contrasts with that of Miglbauer (2014a, 2014b), postulating that the non-native speakers' accents were problematic. That said, problematic NS accent is one of the '*aspects of NS language which are unhelpful to NNSs*' that Dudley-Evans and ST. John (1998: 54) evoke as evidence of the *international* use of English for business communication in the researched engineering context.

In spite of the above-mentioned established international business English status, one of the learning needs (training expectations) that many of the national engineers evoked is to be exposed to the NS model. The specialist informants seem to project the idea that learning English in artificial classroom settings with NNS teachers is but a waste of time. At the same time, they are yearning for more opportunities of authentic English conversations with those who speak it as their first. This statement is decidedly based on the above mentioned negative experience as regards actual interactions with English NS, notably the reported NS accent difficulty. Because of their difficult accent -if compared to NNS' easier one- the industry engineers' interest in having NS as their model (as reported in the questionnaire and interview data) seems to be less linked to emulating the NS model (or their culture).

It can be argued that expressing such a learning need clearly translates, from the industry professionals' perspective, a certain pragmatism rather than an influence by the NS model. This pragmatism reflects their need to cope with this weakness in listening; to be more familiar with NS accent; hence, become effective international communicators. That said, as earlier ethnographic information seems to suggest that NS (including US) are influential and regular business partners, inserting pedagogical treatment to familiarise the local engineering workforce is, henceforth, worthwhile. This issue will be discussed in details in the pedagogical implications. In parallel, the increasing space that NNS interaction is occupying in international business communication requires ample pedagogic consideration in

the midst of the NS connotations that this finding has thus far evoked. The importance of sensitising the trainee-engineers to the international business lingua franca status of English is to be scheduled as another pedagogical priority.

4.6.4 Engineers' Need for English throughout Career Advancement

This sub-section fuses the findings reported about in a way to support the second hypothesis that the above heading denotes. As the previous section has thus far outlined, the engineers' present needs or lacks seem to translate their yearning to excel in the target skills identified earlier. However, the order in which these needs are expressed seem to follow a sequential pattern from immediate to delayed ones. This assumption is in fine tune with the second hypothesis formulated, notably that the type of English target tasks that the Algerian engineers want to excel in depend on the years of work experience and English proficiency level. The diagram beneath concretises the second hypothesis in the light of the overall findings.

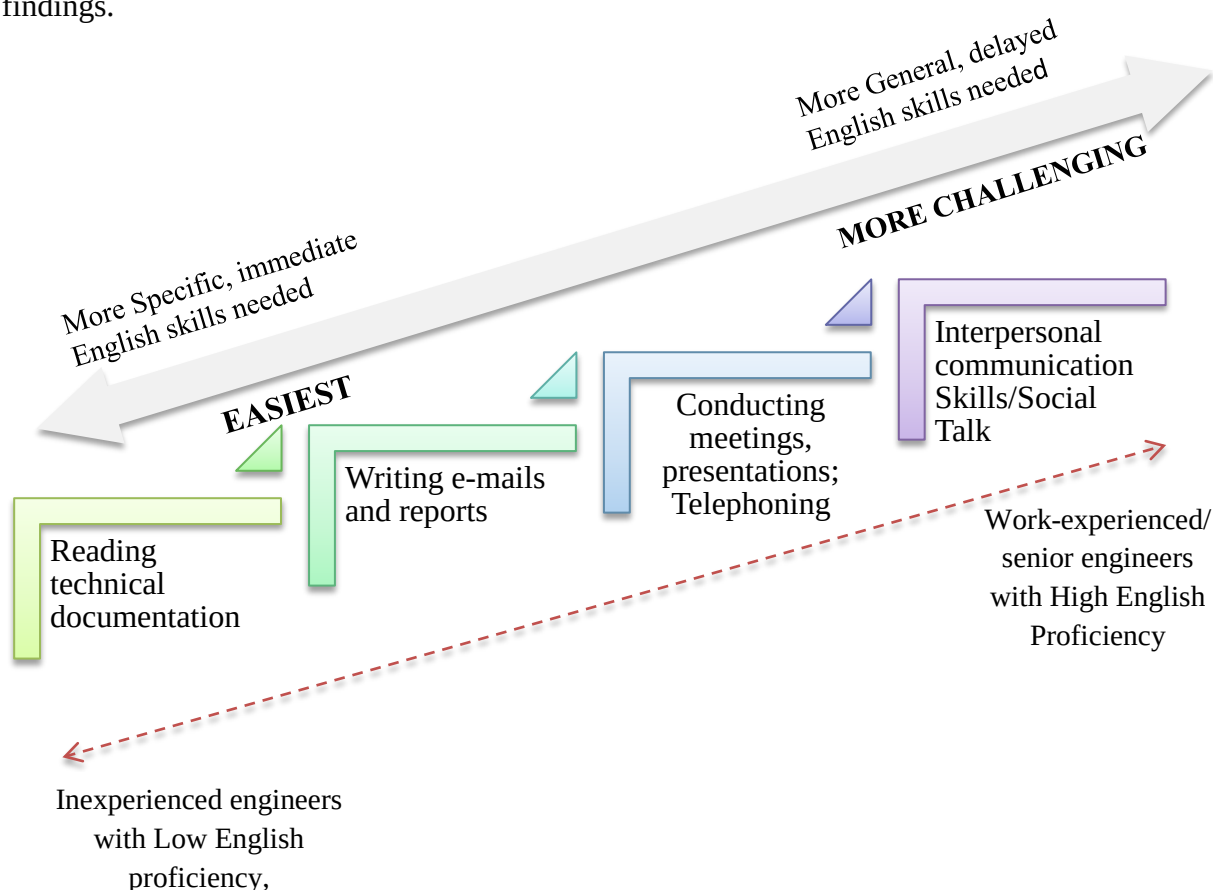


Diagram 4. 2: The Distribution of Employees' Required Skills according to their Career Advancement (Author's own Conception)

The stair diagram illustrates the increasing need for English proficiency along with the multiplication of English communicative tasks throughout career advancement. A glance at the two ends of the cline extending over the target tasks shows that this finding does not mean that engineering-specific communication, and more specifically, *'the professional requirement to comprehend the written word'* concerns inexperienced practising engineers. Rather, it seems to *'virtually concern all engineers'* in line with Maria's (2009: 46) observation. As evidenced by the present findings, while novice engineers need to read technical materials to acquire basic specialist knowledge, their elders need to constantly be abreast of the latest technological progress to enrich their already acquired knowledge. Accordingly, it can be claimed that the specific need for reading oriented engineering or technical English is a survival skill that manifests itself at the early years of the professional career as new entrants to industry have more opportunities to read English documents than to speak with international partners.

Cummins and Davidson's (ibid.) finding perfectly reflects the present situation by reporting that junior engineers carry out a very few tasks in English at the beginning of their career, which are essentially related to engineering. Once promoted to higher positions, they have to carry out many other tasks, in turn, drawn towards business communication. Rajprasit et al's (2014) and Spence and Liu's (2013) studies lend further support to the present findings by pointing to the importance of reading articles, manuals, and annual reports for inexperienced engineers (Rajprasit et al, ibid.) and to the particular demand for speaking skills for foreign client visitors, inter alia, that is required of *senior* engineers.

As it has been previously shown, the stair-like cline emphasises how the tasks are ordered in terms of priority and also in terms of difficulty. Lower steps consist of engineering-English-related target tasks that are easily attainable for mid-experience and work-experienced engineers - while they are still represent the main want and/or lack of inexperienced ones. In parallel, those at the top of the stair depict the difficult-to-attain and/or newly emerging Business-English-related needs that are expressed in tandem with career advancement.

Similar results indicate that the professionals' need for more English proficiency increases with career advancement (Evans, 2010; Cummins and Davison, 2007; Evans, 2010;

Spence and Liu, 2013). Huhta et al. (2013) also confirm this fact by stating that the needs of working professionals with extensive experience and those inexperienced trainees are different. Interestingly, Spence and Liu (2013) indicate that the particular demand for speaking skills for foreign client visitors is required of the *senior* engineers. In this regard, the findings show how the management and experienced engineers whose felt need (lack) in oral communication skills was well founded for the engineers with regular contact with foreign partners and regular participation in international events. This is supported by their training expectation emphasising oral English for daily social interactions.

In the midst, there is another category of engineers who are assumingly those whose – self-rated- actual English level reflects ‘*the minimum required to carry out our job*’⁽⁷⁾ as a middle manager from the technical department qualifies his and his colleagues’ English language proficiency). From a glance at the diagram, positioning the latter in the middle space that links both ends of the cline suggests that the English communicative needs of these medium experienced engineers seem to transcend reading English technical literature to other target tasks entailing professionally-focused communication with foreign engineers. Writing emails and reports to as well as taking part in specific technical conversations (during meetings for example) with foreign partners are a case in point.

Apart from this narrow scope of engineering-focused international communication, medium-experienced national engineers assume that they are not satisfied with their actual engineering-specific limited competence when they recognise that they have got only the required English level with which they carry out their *immediate* job tasks. Assumedly, the latter may forcibly have fewer -or have not yet had any- opportunities to physically work and interact with English speaking partners, thus, fewer opportunities to practice oral communication skills. However, they still acknowledge their importance as a *future* need consolidating earlier assumptions about the target communicative requirements of their elders. Because of all these workplace-embedded considerations of English needs, the cline diagram proposed above will form the basis of a tentative course devised to both in-service and pre-service engineers. The next section proposes a discussion of the learning needs emerging out in the process of workplace communication experience with English.

4.6.5 Engineers' Coping Strategies to Handle Difficulties in English Language Usage

This section attempts to partially answer RQ2 which enquires about an aspect of the engineering staff learning needs. It particularly stresses out Hutchinson and Waters' (1987) *learning-centred* needs perspective that focuses on the skills and strategies that are deployed in the dual process of *learning* and *using* the target language. They are gathered in the diagram below.

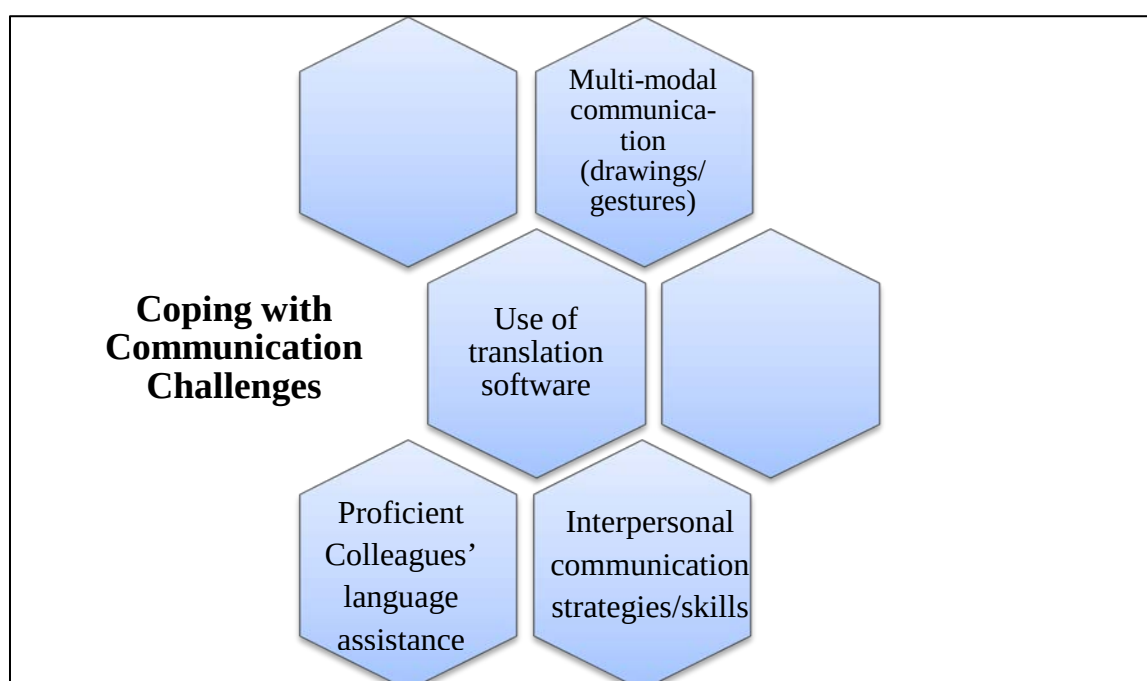


**Diagram 4. 3: Strategies Used to Handle the English Communication Challenges
(Following Warren's (2014: 23) Guide)**

The kind of learning discussed here does not concern formal classroom learning contexts. Rather, it depicts process-oriented skills that the latter deploy on-the-job to cope with daily difficulties faced with English during real-world work-related usage. At the same time, it also addresses their wants, an aspect of RQ2 that evokes their well-founded training expectations. Hereafter, a sketch of these communication skills and strategies deployed.

4.6.5.1 Colleague's Language Assistance as a Coping Strategy

An important finding emerging from both the questionnaire and interview data, besides being noticed in the meeting sample, revealed that the engineer who shows a high level of English language ability is considered a '*the main language specialist*', to borrow Lavric's (2008: 159) expression. The few engineers with a near-native-like competence in English from the point of view of their colleagues are well-known in the entire corporate unit. As a result, the entire corporate unit takes advantage of their language skills to the point of representing one of '*the company resources*', to borrow Falter's (1991) words. The minority of employees with good language skills described above are constantly being called for by the higher managers to intervene in multilingual situations to fill in the gap in English in different departments in the plant.

From one part, their intervention is official as it is the case for international business meetings, presentations, e-mail correspondence, or even reception and guide of foreign visitors (suppliers, trainees) to the plant. For instance, in international meetings that should be conducted in English, many engineers report that the linguistically ablest colleague always undertakes the task of representing the company when it comes to addressing the English speaking participants. At least, talking colleagues asks their assistance during their word searches. Similar findings about the role of colleagues' linguistic assistance to ease communication are found in Spence and Liu (2013).

Another remark emerging out from the data being examined, and in a way to replicate what Piekkari et al. (2013: 10, citing San Antonio 1986) have found out, is that using '*the language of the other*' with varying levels of proficiency causes the English proficient participant to dominate the meeting whereas the rest of the though professionally qualified participants remain quiet. At the same time, it echoes the middle management's ease in using English due to the long years of experience in dealing with foreigners, thus using and being exposed to English more frequently.

However, it is important to mention a critical needs perspective that the needs enquiry revealed, notably that the exceptional language skills of the above mentioned linguistically-gifted engineers make them so often assume duties or tasks that they are not supposed to do

due to their job position. Here, language knowledge seems to create a serious divide between those who master English and those whose technical knowledge, as engineer declare (interview and field notes data), is not sufficient to communicate with external firms representatives. As they are constantly asked to assume some responsibilities, linguistically proficient engineers may not always be the most professionally well-qualified to assume some tasks. In other words, there are some work situations that do not require their presence, but since they are the only language expert, their presence is a must to ease the communication.

Regardless the fact that this may seem to cause the language experts in question to be overwhelmed by too many tasks, being present in work situations where they are not professionally qualified for sometimes annoys those engineers who are though well qualified to assume the former tasks, but whose low level of English may prevent them from autonomously taking part in international events. That said, the importance of up-grading the English language and communication skills through training is probably the solution here. Having said this, another critical perspective from the energy industry professionals is addressed as regards machine translation.

4.6.5.2 Interpersonal Communication Strategies

It transpires from the study that the energy industry employees get involved in constant meaning negotiation when engaged in professional communication. Besides the initial questionnaire quantitative results, the interviewees' feedback about their communication experiences reflected their concern not only to clearly understand and being understood (communicate their ideas clearly), but also to benefit from similar opportunities for such interaction through training. Here, opportunities for interpersonal communication clearly figured among their learning needs or training expectations in terms of course content.

Evidence from observational data also corroborated their interview retrospective accounts about activating some communication strategies that are essential in easing communication. Here, the industry professionals need to communicate in English is not solely professional/transactional or goal-directed. In other words, it transcends technical English to interpersonal language that is needed to ease business communication. This gives rise to efficient communication strategies that they use to fulfil this end, i.e., to strive for

communication success rather than breakdown. The industry professionals' own explanation, that *they 'must absolutely get the message across and that 'the topic of conversation must be clear'* for them is a vivid example (interview data). Here, From both the engineers' narrative accounts as well as observational data, constant meaning negotiation through reformulation, slow-down or repetition requests seem to be part and parcel of professional interactions in which NNS participate. It has been shown that not only does it lead to communicative success, but it also helps novice participants to increasingly become established members of the professional community.

It is this kind of online enactment of communication strategies, mainly in face-to-face encounters, that the industry professionals find much more valuable than theoretical language training classes evidenced by the interview retrospection of their own experience with workplace communication. This issue seems to closely tie up with the specialist informants' positive appraisal of authentic 'practice' of English in real-life work situations that, according to them, adds up to English proficiency. Work-experienced engineers, who have had frequent opportunities to work with the English-speaking partners, owe their –hitherto statistically proven- actual good conversational level to their regular, prolonged, contact with foreign visitors to the plant (expatriates, colleagues in multinationals, service suppliers, etc.).

Engineers claim that they learn a lot from the direct face-to-face communication with English speaking partners, even when the latter are not necessarily English native speakers (interview data, see concordance data.....). This interview account has been triangulated with correlational questionnaire data. Until the present time, the engineers who have been involved in international projects (that entail the participation in or management of international teams) lasting few months to several years boast off the merits of such authentic language practice. Contrarily to what Falter (1991) suggested, evidence from the findings seems to indicate that it is the management of the international teams that has made them learn English on the job and not vice versa (i.e., it is not their English language skills that grant them this promotion opportunity as she proposed).

Only, learning English on the job apparently requires long years of practice to attain an acceptable proficiency in English. Worse, because the use of English in conversations with foreign partners is not as frequent as its use in reading technical documents (an almost daily

task), acquiring good conversational skills will certainly not yield short-term results. This concern has constantly been raised by engineers, who view that this foreign language learnt at school, if not used for authentic communicative situations will vanish (*'if we do not practise this language, we may forget it'* (interview data)). That said, specialised English language teaching/training, if armed with pointed instructional methods and authentic teaching materials replicating real-life tasks and experiences, is more likely to provide opportunities for authentic practice replicating, therefore, the realities workplace communication in the classroom.

Other interpersonal communication skills, not necessarily devoted to ease communication, seem to have more to do with politeness issues. Verification of the professional' retrospective accounts against online doings reported by the findings of authentic discourse analyses clearly shows that such politeness strategies and their language conventions have some discourse functions too, which are to enhance transactional communication. It is clear that the consensus-oriented nature of professional/business encounters makes that the participants make personal efforts be it in conveying the message to or in understanding it from their English-speaking interlocutors. In fine tune with Dudley-Evans and St. John (1998: 54) observation, intelligibility seems to be given prominence in international business communication where *'contextually-based'* rather than *'literal'* understanding seems to prevail for effective communication. Below is another aspect of extra-linguistic strategies that engineers activate during their communication to help convey their message.

4.6.5.3 Visual Aids and Explicatory Drawing

During face to face conversations with English-speaking partners, multimodality was reported to help communication succeed. As mentioned in the interviews and questionnaires with engineers, there was a use of explicatory drawing and/or references to technical drawings between engineers and their foreign partners. The engineering professionals' regular use of visual aids was also evidenced by the quantitative examination of the meeting corpus revealing how the participants frequently used deictic language (here, this....) to clarify the explanations while showing a drawing.

According to Du-Babcock and Babcock (2007, cited in Handford and Matous, 2011), the engineering profession, *inter alia*⁽⁵⁾, employs more symbol-dominated than word-dominated genres, through including drawings and diagrams whose understanding ensures effective exchange of information, which seems to relegate language correctness and uniformity little concern. The importance of visual skills for expert engineers is further confirmed by Handford and Matous (2011).

Visual skills are more frequently manifest in particular in the engineering setting under study where there is the use of '*professional language-as-action that results in a physical outcome*' (Handford and Matous, 2011: 97), that refers here to onsite inspection or maintenance of machinery. Similarly, Dannels (2002) also mentions that technical oral communication is visually-sophisticated in that technical communication acts (presenting a process, for example) require the use of various visual aids. Visual literacy (i.e., knowing how to use and interpret multi-modal communication) is helpful to engineers as it is emphasised as early as the latters' undergraduate engineering education (White et al., 2015).

Following Handford and Matous (2011), such high level of visual skills is typical of the L2 contexts where the interactants additionally rely on their shared knowledge to compensate for any challenges in English language. That said, being based on further ethnographic insight, it is clear that the use of visual aid is more a typical feature accompanying technical discussions than a mere communication strategy that compensates for gaps in language (ethnographic field note). However, the present findings seem to indicate that they could play both roles. This is why, supplementing classroom practice with visual aids seems to be henceforth a research-evidenced pedagogical must.

Current ESP research reiterates the importance of including visual or multimodal rhetoric in the study of academic or professional discourses (Johns, 2013). Apart from early emphasis in EST textbooks on the role of visual information in fostering learner understanding, there seems to be little research in this context to be translated to teaching activities. Roth et al. (2005), who represent this exception, insist that visual displays be the interest of ESP research due to their role in enhancing information retention, thus, problem solving through their capacity to illustrate, organise, and juxtapose new with old knowledge (pp. 208-9). In a response to Roth et al's (ibid.) and Johns' (2013) call to highlight the visual-

verbal rhetoric, the present research that has thus far provided some insight in this issue will include visual aids in practical teaching tasks.. It should be granted importance in ESP teaching and training.

4.6.5.4 Machine Translation as a ‘Temporary’ Process-oriented Communication Strategy

The use of automatic translation was found to be one of the available resources that engineers with low technical English proficiency mainly resorted to, to handle their language difficulties and have their work done. With the advent of Information and Communication Technology (ICT) and the internet in particular, online translation software or application proved to be particularly user-friendly and easily accessible via the engineers’ personal computers or smart phones. While revealing an interface between English as an international language of business and technology and French as the default working language in the engineering workplace under study, the results would seem to indicate that machine translator enters into play when English is used for both engineering and business communication.

The engineers revert to English-to-French translation in relation to reading tasks, when reading incoming emails sent by the foreign partners, technical reports or manuals. From another part, French-to-English translation also seems to be related to writing tasks, mainly when responding back to an e-mail query sent by the foreign partners. As evidenced from the questionnaire and the interview data, automatic translation seems to be a straightforward solution to cope with immediate difficulties in English usage. By using the translator likewise to fill in immediate gaps in English knowledge, these engineers, with ‘*no-waste-of-time*’ attitude seem to find immediate - but temporary - gratification in having their work done. Without the translator, most of them would not have dared take any risks to, say, process technical texts or participate in email communication with their international business or to process technical documentation.

Unexpectedly, the findings show that the employees’ (over)-reliance on translation has made of the latter, a process-oriented communicative task *par excellence* that is used in target work contexts to ease communication in the case energy industry under scrutiny. Interestingly, many researchers into EOP use including Chew (2005), St John (1996), and

Louhiala-Salminen (1996, cited in Brown, 2016) similarly report on translation as a regular business task. In EAP engineering settings, reading and translation were equally found out to be inseparable activities that engineering students needed to perform to better understand technical reading materials, and were eventually proposed as two the primary elements to constitute their ESP course (Rana, 2016). Hence, skilfully using translation as suggested by the present findings and corroborated by existing literature does not seem to be an end in itself but a process-oriented or learning need that emerges out of real-life use of the TL.

However, as the findings also show, engineers' reverting to automatic translation in technical communication is often supplemented with the assistance of the linguistically-ablest colleagues whose mastery of both the source (here, French) and target language as well as sound specialist knowledge seem to be pivotal in detecting any linguistic anomalies. The latter's intervention seems to occur in case such language anomalies hamper communication. This finding confirms Lavric's (2008) observation that the company's qualified staff, in the absence of specialist translators, has a key role in checking the translations. In tune with the reported engineers' language assistance, Rana (2016) similarly stresses out that target-cum-source languages proficiency and technical expertise are necessary conditions for the translation of technical texts.

However, this sub-section having thus far depicted how helpful translation may be, also points to the sometimes challenging facet of automatic translation tools in the authentic work environment being researched. To established engineers with enough language command to detect language anomalies unanimously, automatic translations of technical documents are not always reliable. This is why; senior engineers and middle managers denounce the inexperienced, novice engineers' over-reliance on such a tool. In line with Lavric and Bäck's (2009) observation in another professional setting, these senior engineers, therefore, recognise that non-expert workers' doing the translation themselves may run the risk of being caught in the trap of mistranslation. Hence, instead of helping the novice reader understand the content, mistranslations or poorly translated documents may represent a barrier to knowledge access and information sharing. Similar findings about deficient translations are reported in Louhiala-Salminen and Kankaanranta's (2012) study.

As explained by Poncini (2002) and Lavric and Bäck (ibid.), the reason for which automatic translations are not that technical is that they do not faithfully replicate the specific terminology of the original specialist texts. This is why, the general attitude prevailing among the engineering staff is that it is more advisable to read technical manuals in their original English version rather than translate them. This being said, experienced Algerian engineers seem to be aware of the fact that poor translation means '*poor communication effort*', to borrow Poncini's (2002: 22) words. A similar attitude among the local engineering staff has equally been echoed in Chew's (2005) investigation in a different professional environment.

In a similar authentic and globalised professional context, where foreign languages use is an essential tool for getting their work done, and in view of the findings related to problematic machine translation as a process-oriented communicative task, specific training comprising some translation tasks will perhaps be more profitable to the Algerian industry and its workforce. Nezhad et al's (2013) evaluation of ESP materials designed for engineers reveals that translation forms part of the lesson outline besides vocabulary, reading, grammar and so on.

Pouya's (2015) experimental research established a positive relationship between the high English proficiency of ESP students in their specialist field and their good performance in translation tasks. Whereas translation tasks are usually used to assess specialist language proficiency (Pouya, 2015, Hatam and Shafiei, 2012), in this study, it is the professionals' English proficiency in their engineering domain, coupled with their solid specialist knowledge that enabled them to assess the quality of translations. This workplace-embedded finding is consistent with other studies investigating the strong relationship between technical English proficiency and translation proficiency of engineering community in particular (Hatam and Shafiei, 2012). Whereas the technical proficiency of established engineers is plain to see from their ability to check the quality of translation, it can be argued that the opposite is true for low-English-proficiency inexperienced engineers. This seems to be another proof that specialist language and specialist knowledge cannot be divorced (Hyland, 2007).

In sum, it transpires from these findings based on authentic workplace experience with translation that the added value of translation tasks mirrors the same processes that Pouya (2015: 6497, citing Keenan, 1978:13) reported as inherent to translation practices. One of

them is '*continuous self-development and learning*' that justify the specialist informants' option for this process-oriented method with the aim to enhance access to specialist knowledge through the English medium. Assumedly, learning not only engages the target language but also subject matter-research from the moment that they are said to be '*synchronic*' (ibid.) while translation tools serve enhance this process. From a process-oriented rather than a product-oriented perspective, equipping novice engineers with the requisite skills to autonomously use translation as dual tool for target language and specialist content learning is, henceforth, deemed a pedagogical priority. Sample translation tasks as part of ESP pedagogy will be one object of the practical section.

To conclude, this section has elaborately discussed the process-oriented needs depicting the engineers' strategies adopted during the process of learning how to use the target language. These skills and strategies seem to take form via the particular language assistance and discursive practices of English proficient colleagues; the use of machine translation in the process of English reading or writing tasks; as well as the activated interpersonal communication strategies and multimodal resources to reach communicative success all of which have been evidenced by the interview, questionnaire, and observational data. The sub-section below concludes with a target profile of global engineer as informed by the findings discussed so far.

4.6.6 Target Profile of the Global Engineer

Since the particular case company is a national company with international business activities, national engineers have to respond to these new requirements of industry which entail the use of English for both engineering and international business. English skills have to do with both engineering (how to write technical reports, read technical documents/manuals) and general business communication (how to conduct meetings and negotiations, telephoning, how to converse and socialise with foreign visitors).

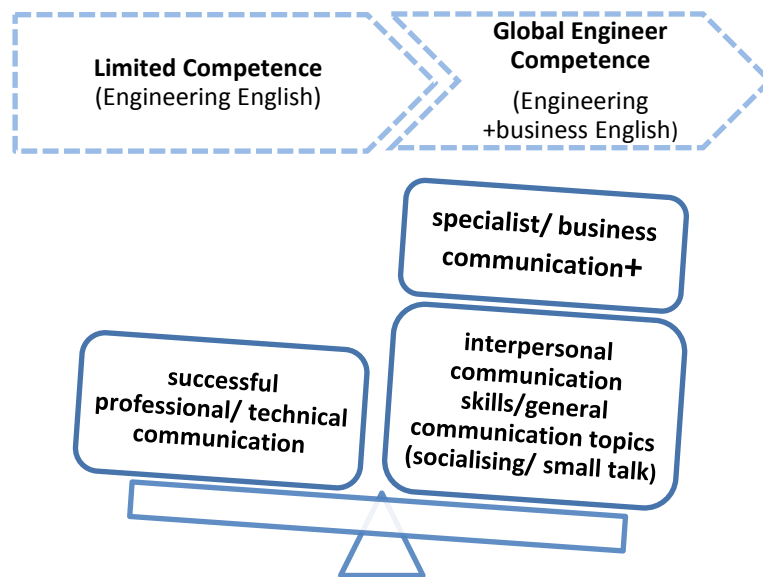


Diagram 4. 4: Author's Conception of Engineers' Limited vs. Global Competence

This dual role of English is needed by engineers in their professional domains (i.e., for both engineering and international communication). This seems to replicate what Maria (2009: 45- 46) has already raised by stressing out the need for English as a '*library language*' for knowledge and information access, as well as a language of '*international meetings and conferences*'. Interestingly she points out that the latter role requires the command of both specialised spoken language (or technical English) and general communication skills (general English knowledge).

Technical experts and engineers need to be able to use visual and gestural communication to fulfill their professional tasks as this fosters both the production on one's own and interpretation of visual aids. The use of interpersonal communication strategies are also required of during professional, business oriented communication with external partners engineers to maximise mutual comprehension, hence, strive for communicative success. However, the present study has revealed and Koester (2010b) further confirmed, interpersonal communication skills do not forcibly interfere with professional communication.

Similarly, the importance of 'entertaining business partners' in Falter's (1991) report suggests how important it is for industry engineers to handle oral communication in a social context besides the professional one. Cowling (2007) equally reported on the need for small

talk as being important in work situations when interacting with foreign guests. In spoken interaction, socialising or what is known by ‘politeness’ (Munter, 2007) or small talk is expressed to be a much needed professional skill. Small talk is even reported to be one of the core oral business events besides meetings, presentations and discussions (Holden, 1993, cited in Dudley-Evans and St John, 1998).

Many workplace investigators (Holmes, 2000, 2005; Kankaanranta and Salminen, 2010) have already raised the importance of ‘small talk’ or ‘social talk’ at work. They confirm that workplace interaction is not solely made of professional or task-oriented talk. In between, small talk interferes to ‘*oil the social wheels*’ and establish interpersonal relationships as part of the socio-pragmatic/social skills that are required to function effectively in the workplace (Holmes, 2005: 353). Due to its pivotal role in enhancing business relationships, small talk or socialising decidedly ‘*remains business*’ in spite of its relational orientation, to comply with Dudley-Evans and St John’s (ibid: 64) observation. Definitely, entertaining business partners via engaging in small talk is a necessary workplace-evidenced business communication skill in the local research setting, too (Khiati, 2016).

All the above-mentioned skills show that the need for Engineering English transcends to interpersonal and general communication skills, reflect henceforth, the portrait of ‘global engineer’, a target profile that similar investigations have described as mainly required of established engineers worldwide (Reimer, 2002; Male et al., 2009; Kassim et al., 2010; Spence and Liu, 2013). To abide by the global standards, this target profile should be the aim of future national engineers -whose specialisms lie within the scope of the present study- and those in their early professional career if they want to be part of the professional international community of engineers.

4.7 Research Implications

Part of answering the third research question, this section proposes the practical implications derived from the present research findings. While proposing some implications for course objective and content, it demarcates the scope of the latter in addressing both the EAP and EOP engineering contexts. Similarly, different course content and objectives are proposed according to learners’ levels.

4.7.1 The Importance of Employee's Input for ESP Course Design

As informed by the findings of the questionnaire that replicated themselves in the interview and authentic samples of target use, the engineering category of staff is in need of English training that is tailored to the target communication tasks and difficulties experienced. These adult agents who are aware of their lacks and wants are more valid sources that inform course development instead of relying on abstract intuitions of course designers who are far from the workplace (Long, 2005). Learners must have a say as regards the course content and materials. ESP trainers in the company training centre should be aware of the fact that that *'student input is crucial to the successful design of an ESP course in any context'*, to lend support to Edwards's (2000) remark.

4.7.2 Implication for ESP Course Content

Considering the professional engineers manifest need to possess more general language skills at later stages of their career, as part and parcel of assuming occupational tasks, questions the feasibility of including general language and communication skills in ESP training or teaching. This reiterates the debate over the feasibility of adopting 'the wide-angle approach' to ESP instruction while the latter should normally address the immediate needs and use related materials (i.e., 'narrow-angle approach') (Upton, 2012, Anthony, 2011). This is even debatable in EAP contexts in particular, where the ESP teacher should endeavour to address future needs through preparing engineering students to the future complex and unpredictable work situations.

However, following Belcher (2006), ESP teaching or training approach should be centred on what learners need. For example, based on the findings of the present study, inexperienced engineers need 'a narrower angle perspective to ESP course', i.e., a more specialised ESP focus in terms of skills and communicative tasks. Their priority is to understand and be involved in technical communication, mainly through reading. From another pole the present research, as *'guided by what the needs analysis suggests'* (Robinson, 1991: 4), reveals that established engineers who seem to show an acceptable command of engineering-specific English *need* to adapt to unpredictable general situations.

This is one of the ‘cases [that] certainly exist’, according to Robinson (ibid.), ‘where apparently general language and content are best’ (p. 4) for a tailor-made ESP course meant for experienced engineers. Here, the specificity of the ESP course is not necessarily related to specialist language and content. This being the case, the assumption that ESP courses should always be ‘very specific’ and only limited to the specialised - here, engineering - context (Crobie and Rica-Heke, 1991: 25, cited in Upton, 2012: 22), regardless the engineers’ current needs, is therefore obsolete.

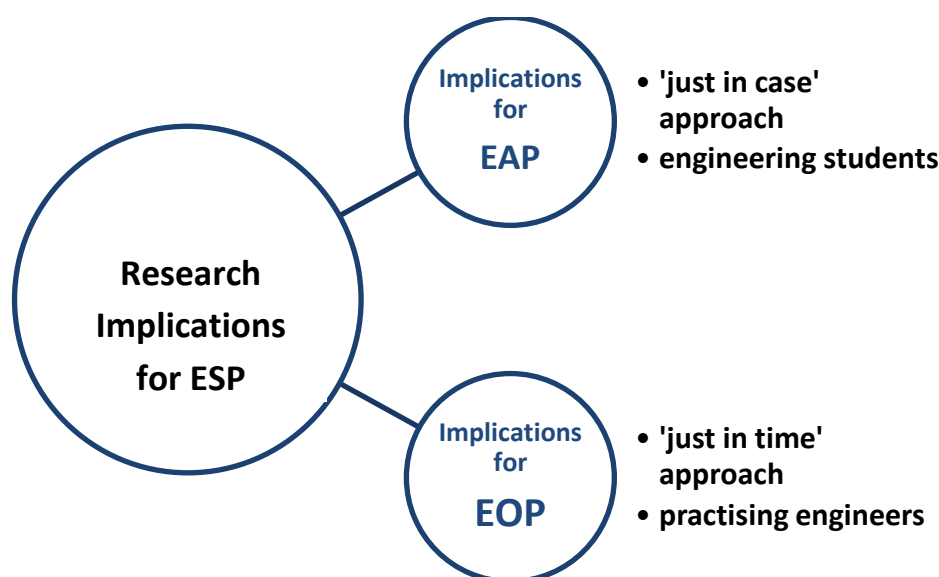


Diagram 4. 5: Author’s Illustration of ESP Research Implications for both EAP and EOP

In short, pedagogical implications of the present research are directed towards both EAP and EOP. Following Johns et al. (2015), implementing the present research findings into EAP contexts for engineering students will be considered in terms of ‘*just in case*’ pre-service training approach and ultimately targeting a wide-angle curriculum. In parallel, in EOP contexts, ESP training will reflect ‘*just in time*’ approach in terms of catering for the immediate needs of both industry newcomers and work experience trainee-engineers. The just mentioned terms perfectly reflect Dudley-Evans and St John (1998: 148) ‘Immediate’ versus ‘delayed needs’. For in-service EOP training, addressing such immediate needs is only

possible with homogeneous groups. This is because the present findings helped categorise the trainees according to levels that were in fine tune with their work experience. Ample discussion of both pre-service (EAP)/ inservice (EOP) training is proposed in the following sub-section.

4.7.2.1 Implication for Teaching Engineering Students

The findings can be valuable for university ESP teachers of engineering students to help them provide industry-ready graduates. The findings that the present needs enquiry has revealed are also significant for English language tertiary preparation in terms of informing the ESP university programmes about the future workplace communication needs of the engineering students, not only in terms of executing their daily tasks but also for their ‘career advancement’, to concur with Mohamed et al.’s (2014: 7) observation. In line with Maria’s (2009) position, the role of ESP teachers is to develop the language skills needed in an engineering context and based on their students’ future professional requirements. Here, priority should be given to technical reading from the moment that this task is not only an academic or study skill but extends to the professional life. Alternatively, oral communication is to be proposed later (just in case or delayed approach).

4.7.2.2 Implication for Training Practising Engineers

As proposed in the previous sub-section, to abide by the principle of ‘*just-in-time*’ (Johns, op. cit.) immediate-needs (Dudley-Evans and St John, op. cit.) approach is to devise different course contents according to different levels. With reference to the cline proposed in diagram 4.3, displaying the order of priority in which engineers need to develop certain English skills, it is clear that the immediate needs of industry new entrants lie within specific English knowledge, that is, above all linked to being able to read specialist documents.

As far as pre-intermediate level novice engineers (with less than five years of work experience) are concerned, starting by teaching them more specialised language by proceeding from specific to general English is an attempt to reflect the present research findings that have testified that the latter’s need to acquire technical English is manifested at

earlier career stages along with their developing engineering-specific professional expertise. The present research-grounded suggestion concurs with what Williams (2014: 144) proposes:

From a pedagogical point of view, then, it may well make sense when teaching non-native speakers to do the opposite of what one would do if one had a group of native-speakers wanting to acquire a specialized knowledge of a subject, i.e., start with relatively technical texts and gradually introduce more popularized texts at a later stage once the non-native speakers have acquired the necessary linguistic skills and technical lexis. Williams (2014: 144)

On the other pole, to pedagogically address experienced engineering professionals' difficulties with general conversation management, the '*select and prioritise*' principle is deemed necessary for an ESP course meant for upper-intermediate level that runs in parallel with trainees' profession. devising '*ESP-style lessons*', to borrow Bhatia and Anthony's (2011) sense of the terms, that specifically target their lacks should focus on the listening and speaking tasks. Typical ESP teaching strategies highlighting general conversation topics or small talk will be proposed -in the practical suggestions- to attempt to remedy for industry professionals experienced communicative challenge.

4.7.3 Suggestions for Course Objectives

The course objectives must provide a 'high surrender value', by offering the practising engineers of different levels the opportunity to put into practice what they learnt in their authentic work situations (Edwards, 2000: 292). The course would work on improving the skills of reading short articles related to petrochemical technology and engineering, writing emails and reports and listening to the language used by both native speakers and non-native speakers in meetings and small talk. The final aim of the course was to continue to build both specialist and general vocabulary. Of course, the engineers' level (pre-intermediate, intermediate or upper intermediate, see Huhta et al., 2013: 89) will define the main course content. More details are given in table below.

Levels	Tasks functions
Pre-intermediate: Know some engineering vocabulary and can understand some words and phrases in written and spoken language. Does not use the TL much in reading or writing because it takes time.	Reading Technical texts (articles, technical specifications, manuals) Translation as a process-oriented task vocabulary :Engineering terminology/ visual aids for reading comprehension and information transfer
Intermediate Understands technical texts and parts of technical conversation. Manage daily work situations (email writing, taking part in meetings) with help	Business writing (emails Making or responding to written enquiries; using rhetorical devices (politeness), etc.) Effective communication in Meeting: interrupting politely, listening actively, clarification and repetition request, asking for more details, expressing views, expressing views politely Telephone Conversation: making and responding to technical enquiries; giving feedback; making meeting appointments, scheduling a visit; reporting on a mechanical/technical defect Presentation of a technical process Doing the presentation with visual aids Listening to a presentation Listening to authentic meetings, different accents Awareness raising tasks Interpersonal communication skills and strategies Process-oriented skills
Upper Intermediate Understands technical texts; Manages daily work situations without help; can be active participant in interaction for a limited period of time	Shifting from professional to general topics and vice versa Listening to NS fast speech Unordinary work situation management (socialising in business situations; Small talk) Listening to general conversation topics (regular accents/English varieties)

Table 4.1: Author's Suggestion for ESP Course Objectives by Engineers' Levels

The table above illustrates a task based syllabus organised according to the tasks sequence proposed in Diagram 4.2, as informed by the findings, which ranges from engineering specific tasks of reading to more general or interpersonal-oriented communicative tasks. Following Brown, the evolution of such task-based syllabus abides by the engineer's advancement in professional career reflecting therefore '*a sense of chronology*' (Brown, 2016: 50).

Noteworthy is the possibility to adopt the above suggested course objectives for engineering students. In this case, the main course elements to be emphasised for immediate use are the ones devised for pre-intermediate level (i.e., reading and translation tasks). Concerning the remaining tasks and communicative functions above originally devised for intermediate and upper intermediate engineers, engineering students can be introduced to them through a 'just in case approach' in a way to prepare them for the future workplace. The sub-section below is an elaboration of the main elements of the above-proposed table.

4.7.3.1 Teaching of Technical Communication to Pre-Intermediate Level

As the results of the present research have shown, the informants who showed difficulties with specific language use were those inexperienced newly industry entrants who were still in the process of learning about their profession. Addressing the weaknesses in technical English for these inexperienced engineers is only efficient when ESP ensures that language teaching and learning, following Hyland (2007), goes hand in hand with teaching and learning of the profession. For Reimer (2002), English for specific purposes has to focus the learner's attention on the particular terminology and communication skills required in the international professional field. The ESP teacher has to make learners apply the research-informed criteria (simplicity, information-oriented, visually rich, Dannels, 2002) of technical communication in their language practice.

4.7.3.2 Translation as the Second Reading Oriented Course Objective

As pointed earlier, translation tasks were revealed to be a troublesource that in turn discouraged inexperienced engineers mainly from reading authentic materials. Among the course objectives that may be devised for inexperienced, low-level engineers or even for

engineering students, translation should be granted ample consideration. Following Pouya (2015), ESP teaching methods (in attempting to meet the specific needs of students) can help reduce the difficulties that engineering students or trainees experience while reading original English documentation. The aim behind using translation activities is not to train students to be translators, hence to consider translation tasks as ‘process-oriented’ rather than ‘product-oriented’. Instead, the aim is to prepare them for reading and understanding technical texts. This is possible via some ‘*information transfer and awareness raising*’ activities to the surface realisation of the structure deep meaning that Pouya (2015: 6498) already found fruitful.

Particularly in case foreign languages are learnt for specific purposes, the view of translation as ‘*the most effective means of learning*’ (Mertens 2009: 101, cited in Rana, 2016: 279) is indisputable. The analytic capacities and heightened awareness to LN-L2 similarities and differences that it enhances has already been highlighted from a bottom-up perspective via the professionals’ own interview accounts. Having precised this objective, this does not mean that the method for achieving these activities has to reflect the traditional Grammar-Translation method, in which the chief purpose is to passively master isolated grammar structures and vocabulary without any communicative purpose (without the ability to transfer the skills to reading new unfamiliar texts). Instead, translation can be taught by adopting a genre perspective in approaching technical texts, by notably raising students’ awareness to the specificities of technical texts (simplicity, brevity, directness, etc. thus far uncovered).

Trainee-engineers or engineering students can be meaningfully and actively engaged if the translation tasks are introduced through problem-solving tasks that engineers are used to⁽⁸⁾ (Drobot, 2016). Following Drobot (ibid.), these problem-solving tasks engage some mental processes that activate their prior specialist knowledge for information retrieval. *En passant*, they will painlessly memorise grammatical structures while being busy analysing or translating specialist texts that are of interest to them.

4.7.3.3 Teaching Interpersonal Communication Strategies (Intermediate Level)

Because the present study has shown that professional talk is not devoid of interpersonal language structures, the teacher has also to incorporate general expressions (like giving

opinion or arguments, summarising or reformulating) in the learners' language practice. Likewise, the instructor will have created a communication situation that is similar to real-life communicative doings.

Drawing on the findings, most of the interviewees raised the importance of interpersonal communication strategies to manage professional conversations. Group interaction is, henceforth, invaluable in terms of getting them to learn the target language while they are communicating specialist content. These are precisely what Anthony (2011), citing Dovey (2006), qualifies as important communication skills that are valued in the '*new knowledge economy*' (p. 8). In this vein, the teaching application that is suggested, following Anthony (ibid.) is to teach future entrants or train new entrants to global industry these communication skills that enable them '*to learn how to learn*' (Gee et al., 1996: 165, cited in Anthony, 2011: 12).

Following Rogerson-Revel (2010), it is more judicious to first highlight the technical professionals' local '*instances of best practice*' (ibid: 452) by taking the examples of interpersonal communication strategies that some of the industry professionals themselves reported to deploy *in situ* for successful communication. Such examples of communication strategies used to ease communication, according to the interviewees, were 'repetition' and 'slow down requests'. ESP teachers or trainers could adopt the linguistic realisations of this interpersonal discourse (e.g., '*could you speak slowly?*'; '*please, can you repeat?*') as a model for training inexperienced engineers.

Otherwise, examples derived from observational data (i.e., meeting transcript) are clarification and reformulations requests. They are proposed later in the meeting data-driven instructional tasks together with instances of active listenership and other politeness devices that are believed to be necessary interpersonal communication devices. Of course, providing authentic instances (through video or audio recordings) of the language generated by employees' working in their offices is much better (Edwards, 2000: 269) than relying on the employees' feedback since they constitute 'authentic', 'current', and 'motivating' materials. However, relying on the insider knowledge of work-experienced learners is assumed to be far better than imagining materials (Long, 2005; Huhta et al., 2013).

In the absence of recordings, trainers can make use of modern business communication textbooks (Handford, Lisboa, Koester and Pitt, 2012) that tackle interpersonal communication skills, mainly the communication strategies of listening actively, asking questions to ease communication. Repetition and clarification requests are considered as a communication strategy by many business communication textbooks (Cotton et al., 2011, Handford et al, *ibid.*). ‘Politeness’ strategies are one example of effective business communication in Munter’s (2007) business communication coursebook. Since they have been reported to be actually used in email communication, much focus should be put on them in teaching future engineers or in training inexperienced engineers.

4.7.3.4 Professionally-Oriented Listening Comprehension Tasks for Intermediate Level practising Engineers

The types of micro tasks that the engineers in question need to practise to develop their listening comprehension are, as Dudley-Evans and St John (1998) suggest, related to situations in which the listener is a potential speaker as when participating in meetings, technical discussions, or presentations. Because engineers of different levels and work experience expressed different types of listening comprehension needs, different types of listening comprehension tasks are equally proposed to cater to their immediate communicative needs or challenges. Hereafter, they are detailed according to two major levels, i.e., intermediate and upper intermediate levels.

Because professional talk turned to be difficult to understand for intermediate-level engineers due to problematic NS accent, exposing trainees of the same level to authentic materials that illustrate relevant international events would be beneficial in many ways. Materials may need to include audio or video records of Americans, British, etc. professional talk, following Frendo (2012), to familiarise them to these difficult-to-understand accents. Alternatively, because the study has also shown that the national professionals under study have been found to be use English with NNS, too, there is a strong case for awareness-raising to NNS English language use through pedagogic materials, to align with Handford’s (2010: 247) suggestion.

Sensitising trainees to these other existing English accents and varieties is not meant to help them avoid the pitfalls of NNS accent mis-understanding⁽⁹⁾. As discussed earlier, the present study denoted how the NS ideal is still present among the researched professional engineering community'⁽¹⁰⁾, including NNS interaction in the teaching materials is a *sine qua non* to raising the latter's awareness to the new realities of the workplace that enforce changing perception over 'NS' norms. Following Handford's (2010a) pedagogical suggestion, to help –here, engineering- professionals and students adapt to the global workplace requirements where English holds an international business status, ESP teachers have to equip them with the requisite '*dynamic skills-set which enables the learner to navigate successfully through communicative international and intercultural situations, at least with regard to business situations*' (ibid: 247).

To illustrate with practical teaching tasks, getting language trainees to *notice* NS and NNS both divergent and convergent communicative practices and conventions of use is the initial step towards awareness-raising that, in turn, reduces misunderstanding. In this regard, other related tasks would ask trainees to note down the trouble source of each variety/accents and vice-verse (i.e., what makes an English variety easier to understand than the other). Apart from that, exposing the trainee-engineers – or even engineering students- to authentic work situations that include different (oral) business genres, where both NS and NNS participate, is a way to familiarise them with the communicative activities that they are likely to encounter at work.

As evidenced from the findings, international business situations seemed to afford online TL learning opportunities to active listeners. This is why; additional listening tasks could instruct the trainees to pick up from the audio material some recurrent lexical phrases that the participants employ to interrupt, enquire, disagree, etc. and then, to simulate, as a post-listening task, the same oral business genre hitherto exposed to, in a way to put into practice the thus-far identified lexical chunks.

4.7.4 Implication for ESP Teaching Methodology

Besides the type of language (general vs. specific) to be taught, the way in which the above-mentioned content is to be introduced to ESP learners (learning materials choice) and

how they are practised (practice) is of equal importance. Here, the present thesis argues in favour of the use of content-based, authentic learning materials that reflect as much as possible the local realities of the target language use whereas awareness-raising/process oriented activities and authentic data-driven tasks can form the basis of classroom practice.

4.7.4.1 Teaching Process-Oriented Skills through Genre Pedagogy

In line with Anthony's (2011) proposition, process-oriented skills that enable ESP learners to acquire new knowledge are observing, analysing, and awareness raising towards the peculiarities of specific areas of language use that is composed of both domain-specific and interpersonal language use. This reiterates the importance of highlighting both the narrow-angle vs. wide-angle approach depending on the needs of the learners. As Huckin (2003), Anthony (op. cit.) and Belcher (2006) truly contend, equipping learners with the tools and process-oriented skills to discover and understand the target language use by themselves is most crucial. One such training priority enables them to '*become astute analysts of the specialist discourse*' (Huckin, *ibid*: 17).

Henceforth, one of the implications that this study strongly emphasises is to adopt corpus-complemented, genre-based pedagogy for empowering professionals or students with specific language needs. Its aim is to address Bhatia's (1997) four basic skills that learners of a specialised language need to develop in order to surpass the fear of their lack of knowledge of genres needed in their specialist field. Besides providing opportunities for them to understand the specialist's communication code; they have to familiarise themselves with rhetorical resources and those contained in specialised genres; to understand the various contexts in which specialised communication takes place; to be finally capable of using specialised genres knowledge to respond to new and unexpected situations.

The examination of authentic discourse samples unearthed important elements to be recommended for pedagogical treatment that other researchers have also suggested. Raising the students' or trainees' attention to the different skills and strategies deployed in email communication reflects the current trend in ESP instruction aiming at learner empowerment (Huckin, 2003). Bearing this in mind, all the genre-based (and non-genre-based) instructional tasks that the researcher proposes in this chapter, in corollary, aim at providing opportunities

for awareness raising by having the professional or under-graduate learner to *notice* and think about language usage, following McCarten (2010).

4.7.4.2 In-House or Local Authentic Teaching Material and Practice from Real-Life Workplace Discourse

The authentic data and findings of the present study can form the basis for developing authentic materials and tasks. The specificity and uniqueness of in-house produced materials lies in its authenticity reflecting the real-life, local professional context of language-in-use which, according to Robinson (1991:56-58), they “*have greater face validity in terms of the language dealt with and the contexts it is presented in*”. In terms of content, material relevance to professional needs and areas of interest to the learner is given ample consideration.

Observing authentic instances (like meetings and e-mails) of the language generated by employees during their work is far better than imagining material (Williams, 1998, as cited in Edwards, 2000). Most importantly, via authentic materials, learners will be introduced to authentic language whereby useful vocabulary, structures and functions can be learned then practised (see practical section). Edwards (ibid: 269), owing to his ESP teaching experience in dozens of international companies, confirms that “*[t]he use of authentic, current material is clearly appreciated by ESP students and is an important motivating factor in their learning*”. That said, the final section of this chapter will propose under the banner of implications for pedagogical practice some sample pedagogical tasks that will reflect the researcher’s own – guided- initiative to translate the main findings into data-driven pedagogical tasks.

4.7.4.3 Pedagogical Suggestions for Telephone Talk as a Communicative Task

Because telephone conversation has been found to be problematic from the engineering employees perspective, it should be granted interest in ESP training. From the feedback provided by the employees who are/were enrolled in a language course, the seemingly theoretical or purely didactic means utilised offered no opportunity to practise the language. Role plays can be used to raise the learner’s self-consciousness about his language behaviour (Reimer, 2002).

Materials must reflect the potential problems encountered in real-work telephone conversation (as suggested by the employees). Materials must include audio/video with NS/NNS speakers, communication strategies. Following Bowles (2006: 357), it is important to raise the learner's awareness as regards the nature of telephone talk, how it is organised in terms of turn taking, opening and so on. Because the employees reported to be stuck from the beginning, opening sequences and their content should be given priority. Pre-learned chunks to produce a pre-sequence that frames the request, using '*I was wondering if/whether*' which is an economical lexical chunk that directly deals with the caller request.

Appropriate tasks to be included in materials are:

Role-based tasks: helpful in the management of turn-taking. Students' awareness of turn-taking management tasks effect by practising the role of both the caller and the receiver. In this way, the learners experience how it is like to manage the call from the perspective of the caller as well as the receiver. Pre-sequence strategy tasks: are tasks to practice the pre-learned (reason-for-call sequence) chunks in different situations. For example putting the learners in a situation where 'they have to buy a spare part' and asking them to practise the use of different strategies before making the call to the supplier.

Story-telling tasks as a pre-sequence for request: economical story telling as a reason-for-call sequence should be short like a summary. Within this task, the learner should be taught strategies to cope with being cut short by the receiver.

Authentic records of telephone conversations reflecting instances of good practice of the most English proficient engineers could have been better. However, for these adult employees, especially those who suffer from the dearth of English training, are aware of their lacks, and express a high instrumental motivation to learn English, proposing some practice in telephoning through these sample tasks will undeniably ensure their cooperation as long as the tasks and activities replicate their work-related doings.

4.7.5 Implications for Education Planners and Corporate Policy Makers and Training Organisers

Given the above mentioned professional reality, and decidedly acknowledgeable of the fact that this economic sector is the one via which the country is involved in the global market, many specialist informants deliberately complained, and without being asked -as if trying to propose solutions to attain a better level of English among the local population- about the fact that the educational system is giving higher priority to French as the first foreign language. While suggesting that this reality should be revisited, English is proposed instead as the international language of technology and business that should take the lead as early as primary education. If one takes into consideration both the adult age and professional experience of the participants in the study, the researcher's view aligns with the latter's. As it is already the case in many oil and gas rich countries, English does not play a subsidiary role in education, nor in the influential energy companies.

To the researcher's knowledge, the absence of an explicit corporate language policy that specifies the official working language(s) to be used within the company under research seems to tie up with Vollstedt's (2002: 101) assertion that the latter views no need to do so, and that language choice at the company level may not be considered "*as an act worthy of planning*". Doing the opposite may even be like "*imposing bureaucratic rules on employees [which] was to be avoided in all cases*" (ibid: 99).

However, the previously reported reality of international situations seems to diverge with customary foreign language used among the Algerian industry professionals, i.e., French. This research reported on some bottom up pressures like the employees' ideologies and perspectives towards the importance of English language in the workplace; the way multiple languages (French and English) in the workplace are managed; and the employees' reverting to some forms of -French to English/ English to French- translation would seem to suggest that English use should be further encouraged within the company so that the latter enjoys an equal status of a habitual working language as French implicitly does.

As to training, given their tight work schedules, all the industry professionals still insist on English training that is an investment in human resources and adds up to their

professional efficiency. However, to respond to the employees' demand for more English training in frequency and content is just not reasonable in the eyes of the higher managers and training organising staff. This would create gaps in the workforce and prevent employees from accomplishing their professional tasks.

One way to cope with this 'work load', and following the experienced industry employees' suggestion, training organisers should be open to the necessity of adjusting their in-company training programmes so that it is more tailor-made throughout levels to respond more to their routine tasks, and based on their real needs. True, a serious evaluation of the existing training curriculum did not take effect in this study. Instead, the training situation has been described only from the perspective of the engineer-trainees. However, according to the trainees' feedback, it is likely that these issues were ignored.

4.7.6 Implications for ESP Teacher-practitioner

Harding (2007) suggests that teachers should:

- Think about what is needed and don't just follow an off-the-shelf course or course book;
- Understand the nature of their students' subject area;
- Work out their language needs in relation to their skills;
- Use contexts, texts, situations from their subject area;
- Use authentic materials;
- Make the tasks as authentic as possible;
- Motivate the students with variety, relevance and fun;
- Take the classroom into the real world and bring the real world into the classroom.

Following Brown (2016: 206), the present findings of the multifaceted needs enquiry is relevant to ESP practitioner-teachers (and trainers) because the suggested improvement of current programme requires:

- teachers to change their ways of doing things;
- teachers to do additional work that they did not have to do previously;
- teachers to relinquish a portion of their sovereignty and independence in their classrooms.

EAP teachers need to cross the boundaries between academia and the working world to reduce the disparities between real-world requirements and ESP instruction. To depart from the one-size-fits-all approach to ESP training, EOP instructors similarly have to observe the employee-trainees in their natural work environments in order to develop a better understanding of the different communicative activities that reign in the professional world, and then; tailor the course objectives and content accordingly.

However, prior to visiting the target professional environment, the ESP teacher must be armed with multi-faceted needs analysis that is deemed the latter's primary professional skill. As already mentioned in the theoretical chapter, the questionnaire-interview methods should no more be opted for as stand-alone data collection tools. To align with Johns et al. (2015) - with thirty years of experience in ESP research and curriculum development- ESP practitioners '*must be very good learners*' in addition to being '*open, flexible and sensitive to context*' (p. 118). However, given the time and effort that onsite visits to the workplace as well as the analytical efforts that empirical tools entail, other options are available. ESP teachers for whom it is not possible to observe employees in their natural work settings can benefit from existing research based on target situations similar to their students'; watch video records of their interaction or ones from similar contexts and so on.

This is why, knowing about the students' -immediate or future- target language uses along with contextual specificities requires the ESP teacher to show expertise in empirical methods like genre analysis, corpus linguistics and ethnographic insight that are direct windows on context (Belcher, 2004)). Though time and effort consuming, applying such '*multiliteracies approach*' (Belcher, *ibid*: 177) that is directed towards understanding specialist TL use is by no means rewarding –according to the author's present research experience- from the moment that the chances of gaining more insight into the target group's needs forcibly tells about their domain-specific 'epistemological knowledge' as well as this specialist group's culture (Ferguson, 1997) are higher.

Furthermore, the benefit of adopting such a '*multiliteracies approach*' (Belcher, 2004: 177) is not to serve for research purposes *per se*, but may instead be extended to direct implementation of the above mentioned empirical tools under the form of direct classroom practice. Once they acquire good and '*long experience of observing texts in various*

disciplines and sub-disciplines and identifying characteristic patterns of language usage within genres and sub-genres, ESP practitioners will likewise be ‘*in the ideal position to develop these skills in learners*’. Besides deriving data driven tasks, as illustrated in the practical section, ESP teacher-practitioners can subsequently teach the ESP learners how to manipulate these different analytical tools such as genre, corpus analysis in, and why not, outside the classroom, to familiarise with the specialist genres that are relevant to their academic or professional interests.

On the other pole, consulting domain professionals is similarly a *sine qua non* to ESP practitioner-teacher’s involvement with the ‘*non-linguistic fields of knowledge*’, in William’s (2014: 4) terms, that is incessantly being recalled in current ESP literature. In this study, the accounts of the latter have been greatly insightful to the researcher as they provided her with sound insider knowledge about the what, why and how of the language used in the engineering professional domain. Equally, ESP trainers are recommended to draw from the informative knowledge of these insiders, especially if the latter are present in their class. Their collaboration will certainly help inform both the course content and objectives prior to or during the teaching process to cater for the specific interests and knowledge of trainees.

4.8 Limitations

This study depended on the type of access to data allowed in the industry sector as well as other constraints. Some considerations limiting access to authentic data concern how effort and time consuming the present research enterprise was for the *individual* researcher. Regardless geographical distance, the researcher individually proceeded to field visits and all data gatherings, corpus compilation and subsequent analysis. This prevented her from recording further authentic data, like telephoning for instance⁽¹²⁾. As mentioned earlier, authentic telephone conversations could have been used as the basis of authentic classroom practice. Another methodological limitation was that access to authentic meeting and email data illustrating target language situations was not always allowed whereby the small size of authentic data gathered.

Restricted access to authentic language use resulted in the small size of the oral corpus mainly. Fortunately, other solutions existed to reduce the limitation of the mini corpus, like referring to comparable findings from similar, but larger benchmark corpora against which the author's data were verified; or else, through counting on the informative feedback of specialist informants and experienced engineer-trainee as regards tasks, language content, and training expectations. The present research experience has shown that these adult/pragmatic workers more often than not, unhesitantly reported about their weaknesses and difficulties. On the contrary, the awareness of their need, as well as their instrumental motivation behind learning was guarantee to their cooperation with the ESP researcher who was for them an opportunity to have their voices heard.

Another limitation that may affect the generalisability of findings has to do with the narrow scale of the present enquiry. Because the study was based on a local engineering workplace, the proposed implications, pedagogical ramifications and home-made instructional materials are only meant for the local population investigated and not a large-scale one meant for, say, other same-purpose engineering communities from a similar energy industry situated abroad. One more limitation related to sampling made that the accounts of some industry employees other than the engineering category (in particular, the finance department staff among whom English language plays a subsidiary role) were intentionally discarded at later stages of the study⁽¹¹⁾. To cope with this limitation, suggestions for further research proposed in the following section specifically address the possibility of letting their voices heard from another ESP needs perspective –than the one adopted here.

The present study has been primarily concerned with highlighting the English target needs from an insider workplace perspective (TSA). Besides this occupational perspective, additional glance at the employees' training experience has nevertheless been possible. However, relying on the current and previous in-service trainees feedback provided partial insight into the training situation. The latter's feedback from the course could have been complemented by additional perspective of company ESP trainers and training centre manager. This could have allowed for a triangulation of the tackled present needs perspective, too. As mentioned earlier, geographic distance and field visits regulations also constrained such a methodological choice. The above mentioned data collection, corpus compilation, and

analysis procedures undertaken by an *individual* researcher made it impossible for the latter to visit the training centre, relying, therefore on the only accounts and training experiences of the industry professionals. Henceforth, teacher's perspective to be suggested as a future avenue for further research will be properly discussed in the next section.

4.9 Suggestions for Further Research

As mentioned earlier, the information gathered through the present investigation has been only an individual enterprise. This caused the researcher to intentionally discard some issues that are nevertheless linked to the broader scope of the present research. The present section tackles these issues that would benefit from further study. While sketching the issue of NA, the first sub-section proposes a future look at the in-company training staff, including mainly teachers and training centre managers for an overall evaluation of the learning/training situation. Ample discussion of the critical perspective to needs will be proposed in the second sub-section to provide a rationale for future research in this area. The final sub-section proposes a large-scale enquiry into diverse Algerian workplace contexts led by a group of ESP practitioners rather than individual researchers for a wider coverage of the specific English using purposes there.

4.9.1 Suggestions for ESP Training Staff Involvement in NA

The present investigation has provided the hallmarks of a more focused course based on the practising engineers' immediate and delayed needs. Continuing on the NA process by taking into consideration the teaching and learning setting as well as the ESP teachers' views is deemed necessary. This future research interest in on-going NA process is triggered by the assumption that *'as students become more involved with the course, their attitudes and approach may change'* (Robinson, 1991: 15). On-the-spot modifications of the learning content following the learners' styles requires changing the focus of the future NA investigation to centre around the learning situation rather than the present focus on the target situation of use (professional world).

Similarly, still following Brown (2016: 206), not considering the ESP trainers' views and attitudes while only focusing on the target situation and the main stakeholder group

(working trainees) is limiting. For him, ESP trainers' involvement in the curriculum improvement enterprise is crucial as:

Teachers are the individuals who must deliver the curriculum.
Teachers have to live with the curriculum on a daily basis even after any group of current students has been replaced by new students.
Teachers, like any other group of people, need to be taken seriously and feel respected.
Teachers can easily doom to failure any NA or curriculum development project if they feel ignored or disrespected, or even if they simply do not like the project for other reasons.

(Brown, 2016: 206)

For all of the above reasons, considering the views of teachers would be an interesting object of further research into the same energy industry context. Replicating Khaldi's (1995: 3) model to discern the teaching situation will be worthwhile. This includes an examination of the teacher's perspective of the general teaching conditions (including the availability of visual aids, and so on; the size of groups and textbook); their qualifications, namely in terms of having benefitted from any previous training in ESP; their awareness of the teaching situation (such as students' level; grouping principle) as well as the students' target working situation (i.e., specific target needs). Likewise, this evaluation of the training/learning situation will allow for more fine-tuned ramifications or additions to the actually proposed course content. However, this will be conditional on training staff cooperation and enhanced access to the training centre⁽¹³⁾.

4.9.2 New Research Directions for Critical Needs Analysis

Having provided a research-based account -complemented with existing literature - about the representativeness of -here national- engineers as those who were found to most frequently engage in target English use, a less prominent category of Algerian industry employees, the legal staff has, nevertheless, emerged out of the population. As stated earlier, apart from using their accounts for comparative purposes, the scope of the present research did not allow for a closer focus on the finance department staff in subsequent research stages. While keeping on the same research context, a new research direction would broaden the

present context of the needs enquiry by adopting a critical perspective⁽¹⁴⁾ towards the finance department staff's needs.

Subsidiary data that emerged out during the initial broader exploratory research phase revealed controversial issues as regards the judicial staff which could provide a rationale for future research interest. Though faint but nevertheless existing, the latter's needs seemed to concretise Vandermeeren's (2003, 2005) concepts of *unmet* needs, or *unconscious* needs. They came to the fore out of objective needs indicators which were in contrast to the general negative attitudes among the administrative -mainly jurist- staff towards English⁽¹⁵⁾. This is why, the initial rough clues obtained suggesting hidden needs will be detailed below.

Preliminary findings seemed to suggest that French surfaced as the foreign language in which the finance staff (contractors, accountants and jurists) was most competent. Worse, it appeared also as the language opted for in their international interaction. One hint which is suggestive of Finance staff's sticking to the French language choice during the preliminary e-mails and enquiries that preceded any eventual serious transaction. This non-flexible language choice seemed to be debilitating in the sense of reducing many trade opportunities with potential suppliers. Certainly, being flexible and politely complying with the enquirer's international language of communication during the first phases of the transaction could have led to more interactions, thus, more business opportunities⁽¹⁶⁾. Deeper investigation - in which a language audit and authentic data samples would be used- would clarify whether it is low competence of most of them, thus, their feeling of insecurity with English usage that made the French language choice safer; or whether the language chosen for communication was pragmatically and realistically opted for when dealing with international judicial issues.

In relation to the reasons behind such a resisted, though manifest need for English among the jurists, a supplementary interest to investigate more about the properties of legal English in the typical genre of 'contracts' for example is triggered by informative insider accounts similar to the one provided by a technical middle manager:

At the legal department, the impact is so major that you cannot afford to communicate in English when you don't master it to 100%. Even the contract we sign with the United States is in French, they are forced to sign in French And the impact of the error of a word concerning time penalties, and the like, we cannot assume it. In the more technical side it (communicating) is somehow feasible because the (technical) word has a range of meanings but the legal word has a meaning that is very limited.

Whereas legal English apparently demands a good command of legal terms and expressions, neither the legal department staff nor the engineering staff who sometimes communicates in the latter's name seem to possess those specific language skills necessary for passing a contract in English. This suggests a research interest into the properties of legal English that established engineers already described as totally different from technical English⁽¹⁷⁾. This warrants further survey of the existing ESP literature that tackle research into legal English from the part of the researcher.

En passant, stopping at translation as a process-oriented practice will be worthwhile. Here, an interesting issue related to translation would be to draw comparisons between the engineers' risk taking behaviour and the jurists' safest one. In particular stopping at the reasons for which the jurists refuse to translate legal documents under the belief that '*it is not safe*'⁽¹⁸⁾ will be worth investigating especially in consideration of the high costs and lost business opportunities that the company seems to assume, as suggested by preliminary findings⁽¹⁹⁾. Apart from the financial costs apparently caused by such a non-flexibility with or non-adaptation⁽²⁰⁾ to foreign business partners, the problem of translated contracts further seems to entail risks of misinterpretation⁽²¹⁾.

An enlightening comment that qualifies this controversial situation was made by a purchase manager who viewed that behaving alike with foreign partners was synonymous to '*talking past each other*' ⁽²²⁾. His postulating that better English skills would solve the communicative challenge reflects what Vandermeeren's (2005: 162-163) hints as 'subjective need':

If our jurists were fluent in English, each part could be able to clearly explain what is feasible, and exploit all the possibilities to arrive to an agreement and so avoid cancelling contracts.⁽²³⁾

In complementarity with the above managerial allusion to English need ⁽²⁴⁾, particularly stopping at the finance department staff's perspectives of lacks and wants ⁽²⁵⁾ will enable this future investigation to triangulate the data gatherings. Of equal importance, the researcher's questioning some critical needs perspective warrants further consideration due to the finance agents' complaining from reduced training opportunities devoted to engineering category for which the researcher found controversial research-based explanations. The latter ranged from the training organisers' comments about the absence of self-sufficient training centre from one pole; to managers' referring to the time constraints caused by employees' tight work schedules; or else, to an intentional training strategy from the part of the employer -to reduce employees' leaving the company for better employment opportunities abroad- from the other pole⁽²⁶⁾.

To sum up the above reported preliminary clues, considering the English language needs of the finance department staff will be the aim of future research in spite of the conflicting perspectives among non-engineering industry employees, employers and training organisers. With all the above issues in mind, properly investigating these issues necessitates more space and another research focus than the scope of the present thesis could have allowed. Supplementary data gatherings exemplifying different types of needs (including educational background, namely previous language of instruction, etc.) would be required along with examining authentic exemplars like business negotiation – already in the researcher's possession – to examine the online doings of contracts negotiation.

Only after having gathered enough research-based evidence, could the researcher be able to propose sound pedagogical implications -for both pre-service and in-service training organisers as well as for educational policy makers- in favour of proposing English course in legal English for the jurists mainly from pre-graduate phases to in-service training. En passant, the researcher be able to address the engineers' supposed need for legal English, to either confirm or refute the claim that global engineers need to acquire additional negotiation skills (Reimer, 2002), another topic which is at stake.

4.9.3 Towards a Large-Scale Needs Enquiry of Diverse Algerian Workplaces

The investigation undertaken via the present thesis has reflected the current drive towards researching workplaces that ESP scholars have recently called for. As it has been

raised in the literature (see for e.g., Anthony, 2011), academia being the favourite research site of ESP practitioners makes authentic work environments less researched, and the Algerian ESP research context is no exception. This is why, future ESP oriented research should be more and more embedded in real professional settings, away from academia.

Although the findings of this study have been compromised by the small size of authentic data analysed, they suggest in a very tentative way that the Algerian workplace is a conspicuous site where to highlight specific purposes of English use in its authentic and meaningful manifestation. To this end, developing large-scale needs analyses with the sufficient human and material resources is a *sine qua non* for a wide coverage of the different existing professional areas with specific needs for English. Why not, a leading research project composed of a large research group (composed of fieldworkers dispersed in different work settings -medial, legal, hostelling, etc.- and authentic data compilers and transcribers) sharing the same research purpose (to clearly inform training programmes and materials development) will be far better than individual researchers' negotiating access and collecting small-size data through their personal means or acquaintances.

In order to enhance access to companies, Algerian universities have to sign agreements with the latter. While it is often the opposite, the hope is that such closer collaboration between university and workplaces will no longer grant academic visitors, such as ESP researchers, the image of *intruders* to the business world. Rather, the aim is that employers and their fellow staff will consider the academic researchers in question as language experts whose contribution will help better the training conditions and quality of *their* local workforce foreign language performance for more productivity and professional efficiency of the company's human resources.

4.10 Sample Pedagogical Tasks

This final section attempts to answer RQ3 that concretises the applied, pedagogical orientation of the present ESP research. That is, this section attempts to apply the findings on the main language and communicative needs emerging from the study in general, and the analysis of authentic discourse samples in particular, via the creation of meaningful (mostly data-driven) tasks for the ESP classroom. As suggested earlier in this chapter, the main aim

behind these tasks is raise learners' language consciousness and noticing ability to the different communicative processes and strategies emerging from authentic professional use of English, most often via genre pedagogy and corpus tools.

4.10.1 Sample Email Data-driven Tasks

Building on the findings of the present study, namely, the main structure and linguistic realisations of the email genre identified through genre analysis of email samples, pedagogical recommendations are proposed under the form of the following tasks.

Task 1: Formal and Informal Business Emails

Aim: have the learners to distinguish between formal and informal business emails in terms of conventional layout (salutations and closing) as well as politeness expressions.

Instruction : Read the two examples of email business communication below. Sample '1' is an authentic external email sent from an Algerian engineer to a foreign partner. Consider how their Language, Style, and layout differ or look the same.

From: G..../T/TE/K....
Sent: 30 august 2012 10:37
To: Ken Y..... [ken.....@.....]
Cc: G..../T/TE/MAZA; G.../T/TE; G..../T
Subject: UPS failure - Tag 064-V-UPS-5A

Dear Mr. Yaniglos,

We have a new problem with one our [name] UPS. Could you please give us assistance?

Here are its model and S/N [technical details]

The problem began with frequent [name] alarms. [problem details]

Could you please give us your diagnostic and your recommendations?

Best Regards

Mouad [+ surname]

[Job position and business address details]

e-mail : ..@.....

Tel. : Office Number : / ...

Fax :

Sample 2 (from Gimenez, 2006)

From: Johnny_____@_____ Sent: 13 January 2003 11:48 To: Claudia_____@_____ Cc: Peter_____@_____; Alice_____@_____ Subject: Regional [trade mark] certification
Claudia, I'd be grateful if you could speak with someone in the regulatory team (Emma, Anne?) to find out: -whether we have copies of the docs above, if not where to get them -whether they would apply to Regional [trade mark] certification TX Johnny

Key to task 1:

	Style	Salutation	Politeness formula	Closing	Signature
Email 1	Formal	Dear Mr. Yaniglos, (dear+title +recipients' surname)	Could you please...?	Best Regards	- Mouad K..... (sender's full name)+ - (Job position and business address details) - e-Mail address, telephone and fax number
Email 2	Informal	Claudia, (recipient's first name only)	I'd be grateful if you could (use of contracted form)	TX (abbreviation of thanks)	Johnny (first name)

Task 2: Matching Salutations and Closings

Aim: To consolidate the previous observations (formal-informal business emails and layout).

Instruction: Here are additional examples of salutations-closings taken from authentic email communication, decide which salutation goes with which closing based on the emails above.

Salutation	Closing	Signature
Dear Mr. (surname) Dear sir, Hello (+first name) First name, Hi (+first name) Hi,	Kind regards, Kindest regards, With regards, With best regards, Regards,	first name first name+surname

Key to Task 2:

Salutation	Closing	Signature
Dear Mr. (surname) Dear sir,	Kind regards, Kindest regards, With regards, With best regards,	first name+surname
Hello (+first name) First name, Hi (+first name) Hi,	Regards,	first name

Task 3: Expressions of Attachment

Aim: Have learners notice the textualisation of attachments in business emails via concordances.

Instruction: Here are some concordances of the word ‘*attached*’ from the TXM concordancer. Examine them, then go through the following questions.

is A. K. K (Japan). Here	attached	all information we have. Best regards.
TR: TR: Demande d'assistance Dear Sir Here	attached	the revised offer including spare parts as per
TR: TR: Demande d'assistance Dear Sir Here	attached	the offer for the spares. Best regards
Please find here two pictures of the name plate	attached	to the analyzer and sensor cable. Best
organisation. The information in this email, including any	attached	files, is confidential and may be legally
Hopwood'Objet: FW: S M. Literature Please find	attached	the technical specifications on the S M
It was a pleasure to speak with you today.	attached	is some literature that will help you understand

- Study with your class mate how the expressions are formed.
- Which ones do you already use/ prefer to use?
- Here are some conventional business letter expressions:

“Enclosed please find...”

“Please find enclosed ...”

“Enclosed you (will) find...”

(.....)

Discuss with your classmate how the email expressions indicating attachment above are similar to/different from these business letter expressions.

Other forms:

‘attach’ (verb)	‘attachment’ (noun)
I am attaching a copy of...	Can you send me the document under/ as an attachment ?

Key to Task 3:

- Here attached + noun phrase
(Please) find attached + noun phrase

Attached+ is/are +noun phrase

- b) Answer depends on the learner's customary use.
- c) Possible answer

	Business letter	Email
Similarities	Please find ...	Please find ...
Differences	Enclosed	...attached ...under attachment

Task 4: Politeness Formula

Aim: Having students to identify the communicative context within which various politeness formula are employed in the business emails under scrutiny.

Instruction: Here are some concordances of the word '*please*' from the TXM concordance processing authentic emails.

able to understand what was delivered originally.	Please	let us have the serial number of the
parts and safety equipment being on site.	Please	be assured that our company fully understands your
Hopwood'Objet: FW: S... M... Literature	Please	find attached the technical specifications on the S...
will be spraying with this spray gun.	Please	review these date sheets and advise Altex which
: Ro... Van... @ Objet: SH709	Please	be advised that we will have all pricing
equipment. If you have any questions,	please	do not hesitate to contract me directly at
mobile than the 5 E unit. Also,	please	advise what material you will be spraying with
with one our C... UPS. Could you	please	give us assistance. Here are its model

- a) Sort out typical expressions of politeness.
- b) Match each polite request with the following communicative function.

Communicative Purposes

Requesting information
Providing requested information
Requesting action/favour
Offering further contact

Key to Task 4:

a) Typical Expressions of Politeness	b) Communicative Purposes
<i>'Please, be informed/advised that.....'</i> →	Providing information
<i>'Could you please.....?'</i> →	Requesting information
<i>'Please, let us+ infinitive...'</i> →	Requesting information
<i>'Please+ imperative'</i> →	Requesting action/favour
<i>'If....., please do not hesitate to...'</i> →	Offering further contact

Task 5: Embedded Messages

Aim: raise learners' awareness to the structural and organisational features of embedded/chain messages

Instruction: Read this chain of email messages and answer the questions below.

From : parapetti@.....com
To : G...../T/SIM
Cc : G...../T/TE/ BELHADJ; I.....torrisi@.....com; cappi@.....com
Date : 15 /04/ 2013 11:05
Subject : Re: Re: Re: Re: Re: Demande d'assistance

Dear Sir

Here attached the revised offer including spare parts as per your document and some other recommended parts.
Please read the offered list and if you have any question do not hesitate to contact us.

Best regards
Roberto Parapetti

----- Original Message -----
From: rb.....@.....
To : parapetti@.....com
Cc : mbelhadj.....@....., ...cappi@.....
Date: 26/03/2013 15:28
Sujet : RE: RE: RE: RE : Demande d'assistance

Dear Mr Parapetti
Thank you for your reply, but the offer contain[sic] only 3 spares.
Please find here by[sic] the list of articles for which we need the part number.
Tanks[sic].

----- Original Message -----
From: parapetti@.....com

To: G.../T/SIM
Cc: G.../T/TE/ BELHADJ; cappi@.....
Date: 13/03/2013 13:12
Subject: Re: Re: Re: Demande d'assistance

Dear Sir
Here attached the offer for the spares.
Best regards
Roberto Prapetti

----- Original Message -----

From: rbaiche@.....
To: parapetti@.....
Cc: sinisi@....., belhadj.....@.....
Date: 06/03/2013 14:17
Subject: Re: Re: Demande d'assistance[needing assistance]

Dear, Sir
Please find here by[sic] two pictures of the name plate attached to the analyser and sensor cable.
Best Regards

----- Original Message -----

From: parapetti@
To: G.../T/SIM
Cc : abdelkader.....@.....; sinisi@.....; G.../T/TE/ BELHADJ
Date : 27/2/2013 17:58
Subject : Re: Demande d'assistance [needing assistance]

Dear Sir

Unfortunately we are not able to understand what was delivered originally.
Please let us have the serial number of the unit.
that is not the number you provided us.

Best regards
Roberto Parapetti

----- Original Message -----

From: rb.....@.....
To: parapetti@.....
Cc: sinisi@....., abdelkader.....@....., mbelhadj.....@.....
Date: 10/02/2013 11:08
Subject: Demande d'assistance [needing assistance]

Dear, Mr Parapetti

As explained to Mr. Sinisi, we need your help to identify spare part of our O2 analysers.
The analysers were furnished by I.H.I during boiler project (year), the manufacturer is A... K.K (Japan).

☐	☐	Project	N°	.....
☐	☐	Cable	reference	.....
☐	☐	S/N	:	.....
☐	☐	Information	from	manual
☐	☐	Smoke	O2	Analyser: Type
☐	☐	Analys	reference	PT N°

(not confirmed on site):
(trade mark) Analyser

Best regards.

- a) Was the first message you read really the first in the email communication? What about the last message? What did you notice?

- b) Discuss with your classmate the feasibility of keeping or omitting salutations/closings all along the progress of the message chain
- c) Compare the initial and final messages with internal messages. Which message(s) is more complex in terms of the language used?
- d) What is the role of the contacts mentioned in the CC field in the email communication?
- e) Pick out (unchanged) pre-programmed signatures and brainstorm with your peer advantages of setting a pre-programmed signature

Key to task 4:

- a) In message chains, the first or original message is at the bottom of the page whereas the most recent ones are found at the top.
- b) Salutations/closings are sometimes dropped within the progress of communication topic within the message chain. This is feasible as long as the email communication is not put to an end.
- c) First/original message and last terminating message.
- d) Followers, consultants, or witnesses of the email communication in question.
- e) Pre-programmed signature: Best regards
Roberto Parapetti

Task 5: Subject Lines with Message Texts

Aim: To raise the trainees' awareness to the communicative importance of well-structured subject lines.

Instruction: a) Find an appropriate subject line to each of the following message texts/opening sentences.

Subject line	Message text
1.	Please be advised that we will have all pricing and specs for (trade mark) parts (SH709) by Tuesday July 22.

2.	...	It was a pleasure to speak with you today. Attached is some literature that
	...	will help you understand the processes we were discussing.
	.	
	...	
3.	...	We need your help also to identify the spare part of our NOX_CO_O2
	...	analysers....
	...	

b) Here are the real subject lines that accompanied the authentic email messages:

1. (brand name) Literature
2. *Demande d'assistance* [needing help]
3. SH709

- c) How do your subject lines compare to the original ones?
- d) Which subject lines are more specific (provide a clear idea about the message) in terms of the words chosen and which ones are broader (do not help predict the message content)?
- e) Discuss with your classmate the communicative advantages of specific subject lines and the drawbacks of general or broader ones.

Key to Task 5:

- a) Answer depends on learners' interpretation of the message text.
- b) 1) SH709 2- (brand name) Literature 3-Demande d'assistance [needing assistance]
- c) Answer depends on learners' own subject lines.
- d) SH709, (brand name) Literature.
- e) Pointed or specific subject lines enhance understanding of the message text, thus, speed up the communicative process (i.e., the more the subject line is specific the more the recipient will have a clear-cut idea about the email content before reading the whole message text).

Task 6: Email Abbreviations

Aim: Raise learners' awareness to the different genre-specific as well as domain-specific abbreviations that accompany business email communication among colleagues.

Instruction: The following abbreviations are the most frequent ones used by emailers in authentic business communication.

Rgds →

Brgds →

Specs →

Info →

FYI →

Pls →

Asap →

Tx →

- Study what they stand for then exchange your answers with a classmate.
- Classify them in the following table.

Email abbreviations	Full expression	(Email) genre-specific	(Engineering) domain-specific
Rgds			
Brgds			
Specs			
Info			
FYI			
Pls			
Asap			
Tx			

Key to Task 6 :

Email abbreviations	Full expression	(Email) genre-specific	(Engineering) domain-specific
Rgds	Regards	✓	
Brgds	Best regard	✓	
Specs	Specifications		✓
Info	Information	✓	(✓)
FYI	For your information	✓	(✓)
Pls	please	✓	
Asap	As soon as possible	✓	
Tx	Thanks	✓	

Task 7: Email Collocates

Aim: Having learners to notice email collocates for more appropriate, future use in real work situations.

Instruction: Use the following words that are frequently associated with email to complete the sentences below.

Verb + email → write/ send/ get/ receive/ reply to/ delete/ archive email.
Email+ noun → email message, email address
Noun + email → return email
Adjective + email → previous email, following email
Preposition + email → via email /by email
Email + preposition → email of, email to, email from
1. What is your email? 2. You have got an email 3. Did you confirm your appointments email? 4. I never important emails. I rather them.

5. I usually my email messages in the morning.
6. How many emails do you a day?
7. You send an email someone, but you receive an email..... someone.
8. In reply to an email, I send a email.
9. In my email May 4th, I asked you to send me that document.
10. The email you sent before is your email.

Key to task 7:

1. What is your email *address*?
2. You have got an email
3. Did you confirm your appointments *via* email?
4. I never *delete* important emails. I rather *archive* them.
5. I usually *send* my email messages in the morning.
6. How many emails do you *receive* a day?
7. You send an email *to* someone, but you receive an email *from* someone.
8. In reply to an email, I send a *return* email.
9. In my email *of* May 4th, I asked you to send me that document.
10. The email you sent before is your *sent* email.

Task 8: Email Language Information

Aim: To broaden trainees' perspective of the to the email-specific lexis

- The word 'email', written without a hyphen, is now most commonly used without the hyphen (e-mail).
- 'email' can be used either as a 'noun' (e.g., to receive an email from someone) or as a 'verb' (e.g., to email someone).
- The term 'carbon copy', also referred to as 'CC', can be used as a noun (e.g., 'to mention someone's address in the CC field') or a verb (e.g., 'to carbon copy someone/ to CC someone').

Task 8: Composing Email

Aim: Have learners to apply the email conventions dealt with so far.

Instruction: Write an email to a foreign technical expert and equipment supplier to have his opinion /solution to a technical problem. Follow these guidelines:

1. Make the main point early.
2. Make it explicitly.
3. Make the recipient feel good (via the use of politeness strategies).
4. Use appropriate style, subject line, salutation, closing, and insert a pre-programmed signature.

To recapitulate, the sample tasks proposed thus far attempted to offer pedagogical applications of the important elements that the examination of authentic email samples unearthed. Following many business email researchers (Kankaanranta, 2005; Nickerson, 2000, Gimenez, 2006, etc.), the pedagogically relevant elements that the researcher attempted to address concerned organisation and textualisation of the email professional genre, the interpersonal and transactional, goal-oriented content of business emails as well as domain-specific vocabulary. A data-driven pedagogical application of similar patterns will be proposed below, based on a spoken meeting corpus this time.

4.10.2 Sample Meeting Data-driven Tasks

Besides getting students to familiarise with the meeting genre, the present section adopts the meeting transcript as an authentic material to derive sample tasks that aim at raising their awareness to both interpersonal and engineering-specific language that they need to know to communicate effectively when involved in such a situation. From one pole, tasks 1-6 highlighting interpersonal communication strategies like clarification requests, showing active listenership, politeness, collaboration or expressing uncertainty, are to be used with intermediate English level, mid-experienced trainee-engineers. From the other pole, data-driven tasks, offering practice into technical vocabulary (engineering English) in context, are meant for pre-intermediate, pre-experience or inexperienced engineers. This is illustrated through the instructional activities below.

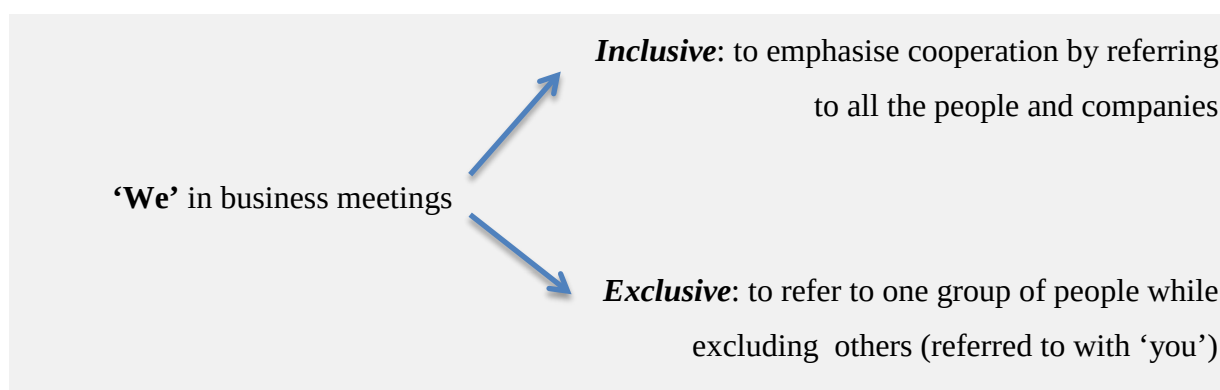
4.10.2.1 Interpersonal Language

The trainees have to be sensitised to the right use and meaning of ‘we’ in business communication to avoid misusing it in meetings. In business advantage course book (Handford et al., 2012) there are many options to raise the trainees awareness to the different meanings of the pronoun ‘we’. Though the type of teaching activities that are proposed below mostly draw on this source, the teaching materials, data and examples used to illustrate this usage derive from the authentic meeting being analysed in chapter three for the sake of the present study.

Task 1: The Exclusive-Inclusive Use of ‘We’

Aim : To draw students’ attention to the meanings of ‘we’ in business meetings for appropriate usage

Instruction: Consider the following distinction between inclusive ‘we’ and exclusive ‘we’.



a) Now look at the following examples and decide whether the pronoun ‘we’ is exclusively or inclusively used:

*‘... **We** are waiting for your recommendations during these two days.’*

*‘... In parallel, **we** will discuss the inspection report.’*

*‘... **We**’ve already taken your proposal to do that two years ago.’*

b) In pairs, read the meeting transcript, spot all the examples of ‘we (us)’, then decide whether they are ‘inclusive’, ‘exclusive’ or vague (unclear to whom we refers).

MU : *Pardon*. It's a- a very important point. It's not acceptable for **us**, two months, with a general eh revision it's not acceptable

MOLT: yes, it's too short

MU: yeah, here we have- **we** can say we can say a new compressor

MOLT: uh-huh

MU: a new one

MU: with eighty or ninety per cent stanch pieces

MOLT: uh-huh

MU: so it's not acceptable for us

MI: please, you can speak about the material of the ring? It's *peut-être* P.T.F.E

MOLT : at the moment **we** are investigating it, yes

MI: I think it's a problem

MOLT: no, no problem

MOLT : what **we** did er- **our** service suppliers said that this material was good.

When we're here, **we** have to use other materials than those of other suppliers

(Author's data)

c) '**We**' often projects cooperation. Brainstorm with your neighbour why cooperation is important in business communication then discuss your answers with the whole class.

Key to task 1:

- a) Exclusive; inclusive; exclusive
- b) Exclusive; vague; exclusive; exclusive
- c) To arrive at solutions to problems discussed/ cooperation is necessary for joint business.

Task 2: Showing Active Listenership

One implication emanating from the close analysis of the meeting under study and further acknowledged by applied linguists (Walsh, 2010) is that listeners, and not only speakers, contribute to ease communication. This interactional aspect of spoken language

requires a particular pedagogic intervention to help students acquire this skill. Here, the tasks proposed to consolidate active listenership, are inspired from Handford et al. (2012).

Aim: Get students to notice the listeners' expressions used to signal active engagement

Instruction: a) Look at the following extract from an authentic meeting transcript and observe the listener's minimal responses shown in bold type. Why do you think the listener often uses such minimal responses?

FO: Just between: brackets. This problem-we have this problem in euh- in mechanical seal- mechanical seal of the methane compressor

MOLT: **uh- huh**

FO: and the mechanical seal is financed by X also and last years last years we have a repetitive problem in this mechanical seal and we have checked the quality of the rotary ring- statuary ring which is in carbon and we have *constate* (sic) that the quality is not like the like five or six years old

MOLT: **yeah (.) uhm**

FO: there is a ch- change

MOLT: **uh-huh**

FO: it's- it's not eh it's like- like glass like glass. quickly it's broken

MOLT: **okay (.) yeah yeah**

FO: we have *constate* that in the mechanical seal

MOLT: **okay**

FO: perhaps [the sa]me situation

MOLT: [no but] this is in progress now with different er- alternative materials

FO: **yeah**

(Author's data)

- d) Which ones do you know or already use?
- e) Here are two lists of listener's minimal responses. The first is picked up from an authentic international meeting in the Algerian engineering workplace. The second

suggestion, for example. Worse, it may make him refrain from active participation (last idea borrowed from Dudley-Evans and St John (1998: 111)

- f) Possible answer: *Wah* (meaning yes in Arabic); eye contact; uh-huh, hmm (rising intonation), etc.

Task 3: Problem-Solving Language (Koester, 2010b: 165)

Aim: to broaden the students' understandings of the use of problem-solving language.

Instruction: a) The two extracts below from the meeting illustrate the talk between a foreign technical expert (and his assistant) and Algerian technical engineer about the best way to a production equipment. Look at the first extract and sort out any words or expressions you think the speakers use to show that there is a problem.

- b) Are there any words or expressions that show the speakers are trying to find a solution?
c) Which words or expressions the speakers use to suggest necessary or desirable actions to be done? Do you know others?

Engineer 1: we want to know where is (sic) the problem (.) if we change or machine the liner
Expert: I told you this morning we cannot give you a promise at the moment (.) we have to take big prognostics
Engineer 1: if it is repeated?
Technical Expert: so one thing you could- you could do to machine the liner anyway to check later is to take out the piston, to measure the weight of the piston
Engineer 2: uh-huh

- d) Below is how the meeting continues, fill in the gaps with these modals: *can, could, have to, should*.

Technical Expert: ... I know that there are calculations for a specific percentage that _____ fit the weight of the piston. I think there is one thing that we _____ do easily to make sure it is correct or not
Engineer 2: you can check this point with XXX, with your department, with your engineering department
Technical Expert: ok. I think you _____ do the measuring here-measuring the weight
Engineer 2: to take off the piston and-?
Technical Expert: to take off the piston
Engineer 3: but how long it (.) they take? two months? To take piston?

Expert Assistant: you _____ machine the liner anyway, so you _____ take out the piston rods to machine the liner

Engineer 2: we worry about the weight of the- now it's probably the cause

Expert Assistant: it's not probable, but then we know for sure if it's correct or not(.) it's the main topic where we think there's the problem.

(Author's Meeting Data- Adapted)

Key to task 3:

a) Words or expressions for problems: *problem*

b) Words or expressions for solutions: *one thing you could do to...*

Use of modals: *have to, could, can, others (need to.....)*

c) Should, can, can, have to, have to, in this order (N.B: these are the meeting participants' chosen modals. However, many other options are possible).

Task 4: Softening what you Say in Meetings by Using Future Uncertainty (inspired from Handford et al., 2012: 20)

Aim: Drawing students' attention to the meeting participants' avoidance of categorical language and preference for speculative or hypothetical language – to show cooperation and convergence.

Instruction: a) Look at/listen to the following predictions from the meeting. Which ones seem to be more/less certain? Why?

1. May be we can do something about the big changes in section temperature
2. I think it will take half a day
3. So maybe we can do that for you
4. you might get a little bit (in need of) some revising
5. it will allow you to- to run with the machine for some time
6. there will be a waste of time and money of course in doing that
7. I'm sure we'll touch it yes.
8. I don't think it is going take much time
9. we don't know how deep it will be
10. I think there is one thing that we can do easily to make sure it is correct or not

(Author's data)

b- Underline the verbs that express the future and put the sentence numbers on the scale below:



c- Now put the words and expressions below together with the ones you underlined so far in the table below.

- It's probable that...
- It's highly unlikely that....
- ...could...

Possible	Probable	Certain

To Retain: When predictions are less certain (probable or possible), they represent one type of vague and hypothetical language that the speaker employs in a meetings as a collaborative strategy (speculating about solutions).

Key to task 4:

- a) More certain predictions: *I'm sure we'll touch it; it will allow you to...; there will be a waste of...*
 Less certain predictions: *I think there is one thing that we can do; May be we can...*

b)



c)

Possible	Probable	Certain
...could...	It is probable that	It is highly unlikely that....

Maybe we can...; you might..	It will.....; there will...	I am sure we will.....

Task 5: Softening what you Say by Avoiding Directives

Aim: raise the trainees' awareness to the importance of avoiding strong expressions of obligation or directives when suggesting an action.

Instruction: a) Look at the following corpus factoid to learn about high frequency modals used in external meetings.

Corpus Factoid

In international business meetings...

- **have to** is mostly used instead of **must** to express a necessary or desired action.
- **need to, should** and **can** are used to suggest a solution/idea in a softer way.

b) Here are some concordance lines of the term 'have to' taken from the authentic meeting between Algerian and foreign engineers. Notice the highly co-frequent pronoun. How can you interpret this?

Inclusive pronoun 'We'

gas (.) so, therefore I	have to	: - gather information about the side stream. MI
promise at the moment (.) we	have to	take a big prognostics (3. 00) RA
and err- (0. 2) we	have to	do quickly in order = = [to have your
re here (0. 6) we	have to	use = other materials than those of = other suppliers
VITANG † MOLT: I' d like- we	have to	= investigate if you have high = temperature or quick
. E] Fo: and now we	have to	analyse the correspondence between this qual- quality and the temperature
: in the past that said ok we	have to	machine it very good because it has to be in

Exclusive pronoun 'You'

piston? MOLT. AS.: you	have to	machine the liner anyway, so you have to take
. 2) MOLT. ASS: you	have to	respect the loader distance MI: une qui se trouve
to machine the liner anyway, so you	have to	take out the piston rods to machine the liner MOLT

Key to Task 5:

b) The most co-frequent pronoun with 'have to' is inclusive 'we'. To show cooperation and joint action/business or involvement in problem-solving.

Task 6: Softening what you Say with 'I think'

Aim: Drawing trainees' attention to another expression used to soften or hedge speakers' stance in meetings.

Instruction: a) Notice how the expression 'I think' is used to *soften* the statements extracted from the authentic meeting.

1. *I think you can do the measuring here- measuring the weight*
2. *I think it's a problem*
3. *I think there is one thing that we can do easily to make sure it is correct or not*
4. *I think it's wise now to have the machine over*
5. *I think the material isn't good for temperature variation*

- b) Match the statements above with the function that the above softening expression performs
- a. Expressing negative opinion/ a problem politely, in a non-threatening way.
 - b. Avoiding to impose one's idea/solution.
 - c. Avoiding directives.
- c) Practice saying the sentences above without the softening device 'I think'. How do they sound?
- d) Make the following statements look vaguer

1. We do a lot of efforts to machine the liner. It runs for a while and it is on the rejection limit
2. You must do the measuring here- measuring the weight (of the piston)
3. It will take a long time so you must see what (to do) to machine the liner better from the inside, to take some materials

(Author's modified meeting data for the purpose of the task)

Key to Task 6:

b) Expressing negative opinion/ a problem politely, in a non-threatening way: **2- 5.**

Avoiding to impose one's idea/solution: **4- 3.**

Avoiding directives: **1.**

c) They sound straightforward, commanding, face threatening.

d) See original extract below.

Task 6: Clarifying Questions

Aim: Raise students' awareness to right use of clarifying questions as a strategy to signal active involvement and clarify meaning.

Instruction: a) Because vague or hypothetical language sometimes leads to misunderstandings, asking questions not only shows active listenership, but also helps clarify meaning. Match each sentence from the meeting with its clarification.

1. We can do a lot of efforts to machine the liner it can run for a while and it is on the rejection limit
2. I think you can do the measuring here- measuring the weight (of the piston)
3. Maybe, but it will take a long time so maybe there's the possibility to see what (to do) to machine the liner better from the inside, to take some materials.

(Author's authentic meeting extract)

- a. But if we machine the liner, how about clearance?
- b. To take off the piston?
- c. To machine or to replace the liner?

b) In pairs, practise saying the sentences above and asking clarifying questions above.

c) You are present at the meeting, what other clarification questions would you ask the speaker (the author of this work has borrowed this instruction from Dudley-Evans and St John (1998: 110). (to be able to formulate questions, students can either be shown the video record of this sequence or be given a longer transcript than the extract proposed for the above task)

d) Here are other clarification expressions (used either to paraphrase or summarise the speaker's talk). Use them to ask clarifying questions in the following conversations.

Expressions for
Clarifying
Questions

{ 'So you mean...?'
'Do you mean?' /
'So....is that right?'

1. If we have a piston that is too heavy, then, we know for sure what to do to change the material.
2. We want to inspect the troubles- to take out the inspection troubles cause we're trying to see if- if there is anything from the compressor, the process because if you wait er- if you stop the compressor, you might get a little bit some revising.
3. We'll use some data before 2006 to find out what happened in the machine.
4. For us it's a given material or the temperatures we also know that- that- it's not the compressor which has big problems.....the wear is more to 400 to 500% bigger than normal (.)that is also one thing we would like to see. (Author's data)

Key to Task 6:

- a) 1-c 2-b 3-a
c) Answer depends on the trainees.
d) Possible Answers:
1- *Do you mean that we need to measure the weight of the piston?*
2- *To check for corrosion, is that right?*
3- *So, you mean it is either the material of the piston or gas temperature.*

Task 7: Introducing what you Say

Aim: to identify the expressions used to take the turn as well as their inter-turn insertion for effective communication.

Instruction: a) Study the following conversations extracted from an authentic meeting. What do you think the function of the expressions in bold type is?

MOLT: And we got a piece of material, a sample, and now we sent it away for testing to see if there is any difference between- difference found

RA: OK

FO: **Just between brackets.** This problem-we have this problem in eu:h- in mechanical seal- mechanical seal of the methane compressor

MOLT: uh- huh

FO: And the mechanical seal is financed by X also... ((conversation continues))

MU: At fifteen we make a report- err a meeting and er- (.) we discuss about (.) today

MOLT: We've to go to the compressor now

MU: Yeah ((conversation continues))

MOLT: Yeah

RA : OK

MOLT : **Maybe- maybe one thing** (2.0)err there is one thing. We have trouble with the (relief fells)

MU : Ah, the PDSV? e ::h in site or in drawing?

MOLT: no, no. we don't need in site ((conversation continues))

MOLT : **ok, er** (.) there's still a problem (.) with the::: eu:h with:: e::rh eu:h- ESV card on the tanks

RA: yes?

MOLT: so we need the isometric drawings ((conversation continues))

NA: you see the behaviour of the compressor?

MOLT: no (.) only the record

MI: **please euh- please** for the material about the piston(.) it is aluminium?

MOLT: I think e::h (0.5) it's not ((conversation continues))

- b) Where are they positioned within the conversation?
- c) What is their function according to you?
- d) What if they were not used, how would the conversation look like?

Key to Task 7:

- a) These expressions are used to facilitate entry to conversation/to take the turn without being designed by the chair (i.e., to self-design).
- b) at the end of the previous speaker's turn
- c) to prevent constant interruptions of current speaker.
- d) a clear sign that the speaker does not possess the requisite strategies to enter the discussion. It is possible that many speakers attempt to turntake resulting in an overlapping speech.

Tip: the students can access the video-record to check the non-verbal clues accompanying the above expressions, like gaze/eye contact to design the listener, or intonation (drop in pitch) to show the previous speaker's signalling the end of the turn, etc.

In short, this sub-section illustrated some sample tasks that highlight the interpersonal discourse deriving from the meeting mini-corpus. Following the suggestions of corpus linguists (for e.g., McCarten, 2010: 423), because learners are not necessarily familiar to the discourse-/genre-specific terms, more classroom-adapted terms and expressions were chosen to label certain functions (like '*softening what you say*' instead of '*hedging*', etc.). Because instantiations have been found to characterise the meeting interaction, a corpus driven recapitulation of the expressions used was proposed under the simplified label, '*introducing what you say*'. Besides such interpersonal and relational facet of meeting talk, the transactional or problem-solving nature of business meeting and their required skills have also been addressed. Below, another pedagogical application deriving from the examination of business meeting looks at the highly frequent technical vocabulary.

4.10.2.2 Meeting- Domain-Specific Language

Based on Murdaya's (2006) and Ward's (2007) suggestions of concordance-based activities, this section offers the learner data-driven insight into the syntactic patterns in which the highly frequent technical (and sub-technical) words function in the engineering domain for a thorough understanding of their use. While they can be adopted with engineering students, they are more likely to suit inexperienced engineers who need be exposed to

specialist vocabulary to develop their technical English proficiency. This is why, appendix XII includes a background specialist information (on the compressor parts that are often subject to mechanical defects) for a thorough understanding of the content tasks proposed .

Task 8: Collocational Behaviour of the Keyword ‘Piston’

Aim: To raise trainees’ awareness of the collocational behaviour (i.e., syntactical and lexical patterns) of the keyword ‘piston’ for an understanding of its meanings and usage in the context of engineering-oriented talk.

Instruction: a) Consider the following corpus finding, then examine the concordance lines offered in the screen shot beneath.

The word *piston* is the most frequent key word in an authentic meeting between engineers.

Piston
37
Occurrence

524	= = we remove [the::	piston	?] FO: [we take out the] piston?
75	between: [err-] (.)	piston	= = and err- (.) ° (segments) °
417	may be there is something but ()	piston	will come, you can usually check it and see if there
394	two months? To take (out)	piston	? MOLT. AS.: you have to machine the liner
525	FO: [we take out the]	piston	? MOLT: yeah we take out the piston RA: tomorrow
390	: hum MOLT: if we have a	piston	that is too heavy, then, we know for sure what
268	do we have err-] rider rings and	piston	rings? Do we have that? FO: les pieces sandna
486	(.) he make eu: h	piston	erhh aluminium MOLT: I:: don' t know exactly what
375	: chouf sbah glaṣ le couvert ntaṣ le	piston	w ch chef- chef à peu près 25 % men la chemise
407	the time? FO: l-la teglaṣ le	piston	w touzen NA: les segments kisem-mouhom? ICO: rings RA
386	without the (), so a longer	piston	(2. 0) so we know erh- for calculations (
437	from other suppliers, we do not make	piston	rings and rider rings ourselves (.) we buy them RA
372	finish all over here RA: a new	piston	? MOLT: I don' t think a new piston er- but
372	) er-so if you put in a new	piston	another liner rings it () a methan of ours / hours
373	MOLT: I don' t think a new	piston	er- but a new liner RA: a new liner? MOLT
415	liner ICO: there is no problem one	piston	with er-small er- Ml: ils ont des tolérances, ils ont
480	. 4) for the material about the	piston	(.) it ()? MOLT: I think e
389	have the same records that will measure the	piston	weight ourselves in the fact that other tools are used but I
493	be in the right wayi if not the	piston	can be not heavy, too heavy or I started to look
388	rings and thickness, the weight of the	piston	is important RA: hum MOLT: so if we can make
91	the piston MOLT: the weight of the	piston	? FO: uhm (2. 5) we try dis-
91	about the- = = the weight of the	piston	MOLT: the weight of the piston? FO: uhm (
389	percent that should fit the weight of the	piston	. I think there is one thing that we can do easily
389	the question whether is the weight of the	piston	correct FO: hum MOLT; and I tried before I came
386	piston, to measure the weight of the	piston	FO: uhuh MOLT: with the () and without the
493	for degrees to measure the weight of the	piston	before in the machine but I can' t find any records at
494	over just to measure the weight of the	piston	here and I then compare it with the calculations I have made
390	the weight FOU: to take off the	piston	and-? MOLT: to take off the piston ICO: but
391	and-? MOLT: to take off the	piston	ICO: but how long it (.) they take?
528	ships) MOLT. ASS: on the	piston	also MOLT: on the piston also, so that will be
528	on the piston also MOLT: on the	piston	also, so that will be the main things RA: I
397	, so you have to take out the	piston	rods to machine the liner MOLT: if you want- RA:
386	to check later is to take out the	piston	, to measure the weight of the piston FO: uhuh MOLT
526	? MOLT: yeah we take out the	piston	RA: tomorrow? MOLT: tomorrow yes RA: OK MOLT
496	2) but the problem is that the	piston	is not RA: perhaps MOLT: or not RA: perhaps
388	so if we can make sure that the	piston	has the correct weight, I can check with- with err- the
371	the end of the liner where the- the	piston	is coming (.) er-so if you put in a new

- e) Identify from the above concordances the syntactical constructions (piston+noun/noun phrase) and (verb + piston)
- f) What do you notice?
- g) Which syntactical pattern is preferred over the other? (piston+noun or noun phrase +piston) ?
- h) Which lexical expression is preferred over the other? take off/take out/ or remove the piston?

i) Now use the identified noun-collocations of the word piston (rings - rods - weight) to fill in the gaps in the sentences below.

- a) Gas pressure increases due to the piston _____.
- b) The piston is in the centre of the piston _____.
- c) Piston _____ prevent metal-to-metal contact.

j) Drawing on your specialist knowledge, provide your own explanation of the relationship between 'piston rods' and 'piston rings' (you can use drawings to help the audience understand better).

k) Use the verb-collocations of the word piston (*measure- remove/take out/ take off*) identified so far to complete the sentences below:

- a) An extremely precise scale is used to ----- the weight of the piston
- b) To replace piston rings you have first to ----- the piston
- c) Remove the piston pin to ----- the piston
- d) To know more about the compression gases that escape past the rings, ----- the piston and measure the gap in the rings.

Key to Task 8

b)

Piston + noun	Piston weight (n=1)
	Piston rings (n=2)
	Piston rods (n=1)
Noun phrase + piston	Weight of the piston (n= 8)
Verb + piston	Measure the piston weight (n=1)
	Remove the piston (n=1)
	Take off the piston (n=2)
	Take out the piston (n=4)

c) Remove the piston = take out the piston =take off the piston

d) The expression ‘*take out the piston*’ is preferred over ‘*remove the piston*’ and to a lesser extent ‘*take off the piston*’

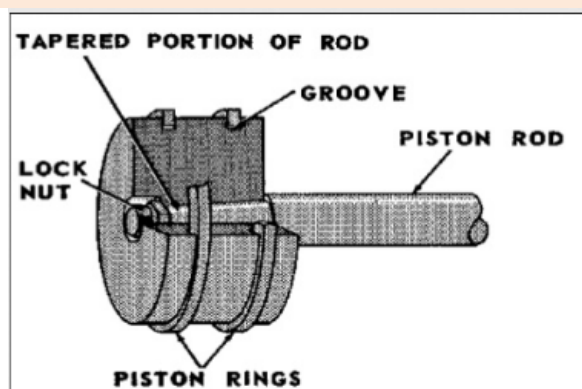
e) The syntactical construction ‘*the weight of the piston*’ is preferred over ‘*the piston weight*’

f) Weight rods rings

g) Relevant answer:

*The piston **rod** is fastened to the piston by means of special nut that is prevented from unscrewing. The surface of the **rod** has suitable degree of finish designed to minimize wear on the sealing areas as much as possible. The piston is provided with grooves for piston rings and rider rings*

*Piston **rings** provide a seal that prevents or minimizes leakage through piston and liner. Metal piston rings are made either in one piece, with a gap or in several segments. Gaps in the rings allow them to move out or expand as the compressor reaches operating temperature. Rings of heavy piston are sometimes given bronze, Babbitt or PTFE expanders*



or riders. Lubrication is a must for metallic rings. PTFE rings with PTFE rider bands are sometimes used to support the piston when the gas do not permit use of a lubricant.

h) a) measure b) take out c) take off d) remove (note: many answers are possible for sentences b, c, d)

Task 9: Collocational Behaviour of the Keyword Material

Aim: To have students to notice the lexical and syntactical patterns accompanying the keyword Material within the context of a meeting between engineers.

Instruction: a) Consider the following concordance lines of the word material, then find out all the syntactical patterns through which the word ‘material’ collocates with a preposition (material + preposition).

s_n	Left context	Keyword	Right context
489	this special materia: I MOLT: special	material	, [yes] NA: what your opinion about the heavy
439	MOLT: and we got a piece of	material	, a sample, and now we sent it away for testing
417	tige RA MOLT: we saw some white	material	, so may be there is something but () piston will
166	see- but we see quick in = the	material	= That- that' s not no: rmal for us. MI
480	please (0. 4) for the	material	about the piston (.) it ()? MOLT:
379	machine you take- you take out a litte	material	and we don' t know how deep it will be [and
161	in? they' ll = send us their	material	and we put = in that material and we' re = investigating
161	their material and we put = in that	material	and we' re = investigating at the moment those = different materials
162	(.) = we maybe change the	material	but = it' s certainly the possibility we = are looking for
390	for sure what to do to change the	material	FO: you can check this point with XXX, with your
488	book what err (.) what the	material	is RA: this is a special materia: I (.
165	h (0. 8) the =	material	isn' te: r (3. 0) kingoul-lek = isn'
182	: we- we speak about the- the =	material	MOLT: material yes MI: I think it' s a problem
435	MI: problem temperature perhaps it is the	material	MOLT. ASS: and other one MI: each one yes
417	: we have also the quality of the	material	of the [rings] RA: [rings] MOLT:
189	but- for us it' s a given =	material	or the temperatures we = also know that' s- tha' s- it'
167	can er; what is the =	material	P. T. F. E MOLT: yes P.
160	there is a ma- e: r better	material	RA: for rings MOLT: for you that' s- this- =
166	matièr] qui We have to find the	material	that = peut résister à cette variation Can resist to such variation
158	our = service suppliers said that this =	material	was good (1. 2) when = we' re here
182	speak about the- the = material MOLT:	material	yes MI: I think it' s a problem. Now we
161	moment those = different materials against the =	material	you have now in the = compressor and see if we (

b) Pick out the technical words that appear with the construction ‘material + preposition’.

c) Now find out more about the meaning of the above material+preposition collocations by filling the blanks with **of - in - for - about** in the following sentences:

- Stainless steel is used as the best material _____ piston rings
- The material _____ the piston is made from aluminium.
- The accumulation of foreign material _____ the centrifugal compressor (like hydrates or polymers) reduces its efficiency.
- Piston weight can be reduced by removing excess material _____ the piston.
- Putting a seal between the piston rod and the collar prevents the leakage of the material _____ the piston .

- d) Take turns to ask and provide information or show your opinion about the best material for each part of the compressor according the specifications above. In the second case, your partner has to politely agree or disagree with your opinion based on-site experience or previous knowledge. Feel free to deploy communication strategies to ease communication.

Part	Material
Cylinder liners	Steel
	Stainless Steel
	Nodular iron
	Grey (flake graphite) cast iron
Pistons	Steel
	Cast iron
	Aluminum
Piston rods	Steel
	Stainless Steel or Alloy
Piston rings	Metallic
	Non-metallic (PTFE)

Table 4. 2: Material Specifications for some Compressor Parts (Adapted from Table G.1, API Standard 618, 2013)

Key to Task 9

- a) Material + *about*
 Material + *of*
 Material + *for*
 Material + *in*
- b) ...material **about** the piston
 ...the quality of the material **of** the rings
 ...a better material **for** rings
 ...the material **in** the compressor
- c) (a) for (b) of (c) in (d) in (e) about
- d) The conversation should revolve around the following material properties:
 -Piston rods made from Alloy or stainless steels are pretty successful

- Grey (flake graphite) cast iron is an ideal choice for Liners
- Piston rings made from filled PTFE materials give longer lifetimes (because of their self-lubricating properties)
- Low-friction materials are capable of running without lubrication but it is affected by Gas dryness and, in particular, its water vapour
- Closely matching gas type to better select material of ring.

Task 10: Collocational Behaviour of the Word Liner

Aim: To raise trainees' awareness to the collocational behaviour of the word liner in the context of compressor machinery.

Instruction: a) Examine the concordance data below and supply the verbs that collocate with the word 'liner'

s_n	Left context	Keyword	Right context
377	well? RA: to machine or to replace the	liner	? MOLT: oh well (2. 0) if you
371	the (felth) parts at the end of the	liner	where the- the piston is coming (.) er-so if you
371	: about 25 % of the- RA: of the	liner	MOLT: of the liner RA: damaged MOLT: also you
371	the- RA: of the liner MOLT: of the	liner	RA: damaged MOLT: also you see watched out edges at
414	FO: yeah RA: but if we machine the	liner	, how about clearance? FO: [clearance] MOLT:
397	have to take out the piston rods to machine the	liner	MOLT: if you want- RA: on peut usiner fi '
375	:: r MI: to machine- to machine the	liner	RA: chouf sbah glaŝ le couvert ntaŝ le piston w ch
397	MOLT. AS.: you have to machine the	liner	anyway, so you have to take out the piston rods to
411	do:: a lot of efforts to machine the	liner	(.) it can run for a while (.)
386	one thing you could- you could do to machine the	liner	anyway to check later is to take out the piston, to
374	the possibility to see what () to machine the	liner	better from the inside, to take some materials. RA (
383	problem (.) if we change or machine the	liner	MOLT: I told you this morning we cannot give you a
415	MOLT: it' s in the instruction book for the	liner	ICO: there is no problem one piston with er-small er- MI
118	s necessaire to XXX keep = for protect [the	liner	] RA: [the stanch] MOLT: we' ve already
272	: huh? we have- we have- rings, no	liner	, and valves ((making movement with head to show doubt
381	) and in the meantime you can order a new	liner	because it takes at least at least three months (0.
373	don' t think a new piston er- but a new	liner	RA: a new liner? MOLT: maybe, but it
373	piston er- but a new liner RA: a new	liner	? MOLT: maybe, but it will take a ling time
63	FO: ↓ damage ↓ damage MU: damage in	liner	(.) in = = liner (3. 5)
372	) er-so if you put in a new piston another	liner	rings it () a methan of ours / hours and finish
64	: damage in liner (.) in = =	liner	(3. 5) and: e:: h (
103	/ nécessaire / to protect necessary = the- the [	liner	?] with (canasploid) = (propane) / (

- b) Study the concordance data and use the appropriate verb collocations to complete the sentences below:

a. You have to take out the piston in order to... b. When it is damaged, you have to... c. When it is in contact with hard material, you have to... d. Because machining up a worn liner is only a temporary solution, it is better to...	• protect the liner • machine the liner • order a (new) liner • replace the liner

- c) Study again the concordance data and find among the verb collocations instances that illustrate this pattern: **verb + liner + with**
- d) Now use the above chunk (verb + liner + with) with the following examples, then, in pairs, take turns to discuss the different cases in which different materials can be used as a protection for the liner. Start like this:

It is necessary to with It is better/best to.....with	[a coating layer of sand of 50 mm to 150 mm. a fiber mat/ a cover material. a layer of 10 mm polystyrene foam.

- e) Study the concordances above again and sort out the pattern '*liner + passive verb*' that is synonymous to '*liner wears*'.
- f) Help yourself with the concordance data to find out the noun that is synonymous to 'wear'. How does it collocate with the word '*liner*' if compared to '*liner wear*'?
- g) Which forms do you prefer? Why?

Key to Task 10

- a) Verb + liner collocations: replace, machine, protect, order.
- b) **Protect the liner with**
- c) (a) machine the liner (b) replace the liner (c) protect the liner
 (d) order a (new) liner
- d) *It is necessary to protect the liner with a cover material*
It is better to protect the liner with a layer of 10 mm polystyrene foam.
It is best to protect the liner with a coating layer of sand of 50 mm to 150 mm.
- e) Liner is damaged=liner wears

- f) Damage in the liner=Liner wear
- g) (Possible answer: the forms ‘liner wears’ (liner+active verb) and ‘liner wear’ (liner+noun) are better because they are shorter and more technical).

To sum up, this section has proposed an illustration of some sample corpus-based activities related to engineering-specific or technical vocabulary, focusing on two typical most frequent technical terms, i.e., *piston* and *liner*. To help learners see the value of learning high-frequency terms following McCarten (2010), some corpus factoids (information about the most frequent words in the corpus, here *piston*) were proposed to pave the way to subsequent tasks describing keywords usage. The sub-technicality of the term ‘material’ was illustrated through concordance lines then offered for practice. Here, knowledge of engineering materials and their properties being part and parcel of the engineer’s specialist knowledge *still* represent the main component of many recent engineering syllabi (for e.g., Stefanovic, 2010) and course materials (for e.g., Kořłowski-Klee, 2010; Puderbach and Giesa, 2012; Ibbotson, 2009, cited in Brown, 2016). While the trainees are assumed to possess sound knowledge of gas compressor machinery, the researcher had to document on the machinery for more relevant tasks.

4.10.3 Sample Translation Tasks

Drawing on the authentic methods that industry professionals already employ, the ESP trainer can adopt translation tasks as an ‘*ESP pedagogical device*’ (Pouya, 2015: 6495) to improve the reading ability of newly recruited engineers or engineering students. The ESP trainer can derive useful classroom activities to enable learners better deal with translation in a way that leads to the improvement of their reading ability.

To raise their language consciousness, learners can even be asked to identify any similarities (cognates with nearly similar French equivalents), to follow Dudley-Evans et al. (1998) or differences between their habitual working language (the first foreign language they are most proficient in) and the target language.

Task 1: English-French Cognates

Aim: To raise learners' language consciousness especially as to the role of English-French cognates in enhancing reading comprehension.

Instruction: Read the following passage (whole document in appendix XI) and answer the questions below.

The Equipment Type Being Monitored

All equipment handling flammable inventory can leak. However, experience shows that leaks are more common on some items than on others. General experience indicates that it is usually uneconomic to monitor for every conceivable leak, for example, at every flange on a pipeline. However, it is usually prudent to monitor pipelines with a beam detector where one unit can simultaneously supervise numerous potential leak points. It is normal to avoid siting gas detectors close to outlets of atmospheric relief valves where leakage is safe and is foreseen during the design process. It is normal to concentrate detectors around process equipment which is the most likely to generate "maintenance" type leaks (e.g. valves, gas pressure regulators, pumps, etc.). On large items the detectors are sited to supervise those parts of the equipment where leaks are most likely to occur (e.g. the lube oil systems).

- Which words have equivalent French terms you already know?
- Are they spelled the same?
- Practise the different pronunciations of the English-word/French-cognate with your neighbour.
- Do the French cognates help you understand the passage?

Key to task 1:

- a) Possible answer:

English Word	flammable	maintenance	gas	pressure	equipment	regulators	detectors
Fernch Cognate	<i>inflammable</i>	<i>maintenance</i>	<i>gaz</i>	<i>pression</i>	<i>équipement</i>	<i>régulateur</i>	<i>détecteur</i>

- (Learners study slight spelling differences).
- (Learners practise slight pronunciation differences).

Task 2: Understanding the Meaning of Words through Lexical Chunks

a) Which technical terms are difficult to understand from the English text above?

Check their translation through the text below.

Type d'équipements à surveiller

Des fuites peuvent se produire dans tout équipement comportant des produits inflammables. Toutefois, l'expérience indique que certains équipements sont plus sujets aux fuites que d'autres. En général, l'expérience démontre qu'il est normalement peu économique de prévoir un système de surveillance pour toute fuite possible, par exemple à chaque bride sur une conduite. Néanmoins, il est prudent normalement de surveiller les conduites au moyen d'un détecteur à faisceau ce qui permet la supervision simultanée par une seule unité de plusieurs points de fuite potentiels. On évite normalement de placer des détecteurs de gaz à proximité des points d'échappement des vannes de détente atmosphériques dont les fuites sont sans danger et sont prévues dans le processus de conception. Il est normal de concentrer les détecteurs autour des équipements de procédé dont les risques de fuite de type "maintenance" (p. ex. vannes, régulateurs de pression de gaz, pompes, etc.) sont les plus élevés. Sur de grands équipements les détecteurs sont placés de manière à surveiller les parties d'équipements où les risques de fuite sont les plus probables (p. ex. les systèmes d'huile de lubrification).

- b) Check your machine translation with the above translations. Are there any differences?
- c) Identify the syntactical construction 'it is+adjective+to+infinitive' and try to grasp its meaning.
- d) Which passage do you find longer than the other? Why.
- e) Sort out a glossary of technical terms and their English translation that you find worth memorising

Key to Task 2:

a)

English	French
<i>Leak (verb, noun)</i>	<i>fuite (noun), couler (verb : machine translation)</i>
<i>Monitor /supervise</i>	<i>surveiller</i>
<i>flange</i>	<i>bride</i>
<i>beam detector</i>	<i>detecteur à faisceau</i>

<i>outlets</i>	<i>point d'échappement</i>
<i>atmospheric relief valves</i>	<i>vannes de détente atmosphériques</i>
<i>lube</i>	<i>lubrification</i>

c)

<i>It is normal to....</i>	<i>Il est normal de.../ normalement...</i>
<i>It is usually uneconomic to...</i>	<i>Il est peu économique de...</i>
<i>It is usually prudent to...</i>	<i>Il est prudent/plus sûr de...</i>

d) Word count : English text (166 words); French text (180 words)

e) Glossary, see table proposed in answer (a) above.

Task 3: Poor Word-for-Word Translation

Aim: To raise the trainees' awareness to the word order of original English texts and their French translation. (it is, following Dudley-Evans et al. (1998), a way to explain that word for word translation does not serve the intended meaning).

Instruction: a) Study the formation of noun compounds below in comparison to their translations (inversed order, noun + preposition, noun+noun, adj+noun etc.)

nappe de feu (avec fumée)
 nappe de feu (sans fumée)
 incendie à flamme jaillissante (stable)
 fuite à faible pression (instable)
 boule de feu
 fuite de gaz à haute pression (direction déterminée par l'orientation de l'équipement)
 fuite de gaz à faible pression (direction déterminée par la densité du gaz - plus lourd ou plus léger que l'air)
 fuite de gaz à faible pression (direction déterminée par le vent prédominant).

Pool fire (smoky)
 Pool fire (non smoky)
 Jet fire (non flickering)
 Low pressure leak (flickering)
 Fireball
 High pressure gas leak (direction determined by equipment orientation)
 Low pressure gas leak (direction determined by gas density - heavier or lighter than air)
 Low pressure gas leak (direction determined by prevailing wind).

b) Some of the mis-translated phrases below have their words in the wrong order. Refer back to the full (Fenrch-English) versions of the document (appendix XI), then correct them.

1. <i>Temps de réponse</i>	→	response time	.....
2. <i>Capteur d'humidité</i>	→	moisture sensor	.....
3. <i>Température de stockage</i>	→	temperature storage	.....
4. <i>Pression d'utilisation</i>	→	operating pressure	.....
5. <i>Température maximale</i>	→	temperature maximum	.....

c) Deduce the French translations of the following noun compounds:

Temperature sensor	→	.....
Pressure sensor	→	.....
Operating temperature	→	.....
Lube oil system	→	.....

Key to Task 3 :

a) Apply the proposed constructions (inversed noun order, noun + preposition, noun+noun, adj+noun etc.) to the noun compounds.

b)

1. <i>Temps de réponse</i>	→	response time ✓
2. <i>Capteur d'humidité</i>	→	moisture sensor ✓
3. <i>Température de stockage</i>	→	temperature storage ✗ storage temperature ✓
4. <i>Pression d'utilisation</i>	→	operating pressure ✓

5. *Température maximale* → temperature maximum ✗ **maximum temperature** ✓

To sum up this sub-section, besides raising trainees awareness to the effects of word for word translation, the choice of some other tasks reflected the researcher's following the expert opinion of prominent scholars, like Dudley-Evans et al. (1998: 81), who put forth that translating the difficult-to-understand technical vocabulary is the only way to acquire it. To abide by the expert suggestion of Poncini (2002), too, providing the trainees with a glossary of the main industry-specific terminology together with short French translations aimed at familiarising the latter with specific terminology and preventing the former from falling in the trap of automatic translation. Finally, having learners to notice text length was inspired by the insider accounts of industry professional as to the long French versions, namely that is said to be 'wordy' (interview data).

4.10.4 Typical Small talk-Oriented Listening Tasks for Upper Intermediate Level

With regard to established trainee-engineers with upper Intermediate level, authentic listening materials should expose the latter to the fast NS speech, notably by emphasising episodes of social talk that interfere with professional talk. Initially, the aim is to familiarise them with general conversation topics produced by NS along with their general vocabulary. In this respect, relevant teaching activities similar to the ones provided by Holmes (2005: 362) will undeniably serve the above mentioned aim, and so, prove useful to ESP teachers. They are illustrated hereafter.

Topics
• <i>What are considered appropriate topics for use as small talk?</i> Having working learners/students observe, via an audio or video record, small talk interactions between different and identify the topics discussed (e.g., weather, sport, family, work) while comparing them with used in their own language community in terms of length and topic choice.
Distribution
• <i>Where is small talk placed in the speech event?</i> While small talk interferes with professional discourse in meetings or technical discussion for example, raising the learners' awareness to the moments in which the small talk occurs in an

interaction, e.g., at the beginning of the meeting, before leaving the meeting room, or between other topics, is equally important
• <i>When is small talk required/optional/prohibited?</i>
Teachers can draw learners' attention to extraordinary situations where small talk is needed with, e.g., in an emergency situation, in moments of anger, embarrassment, etc.
• <i>How frequently does small talk occur in the course of the working day?</i>
Teachers can use foreign Radio or TV programmes to draw the learners' attention to the frequency with which small talk occurs in different work contexts: e.g., when and how often does it occur after the first meeting of the day? In parallel, reference to their own internal workplace interaction can be made for comparison purposes
• <i>How long does it last in different contexts?</i>
Teachers can draw learners' attention that small talk is brief in the midst of professional interaction and longer in others, e.g., longer at coffee break
Functions
• <i>How can small talk be used to express positive feelings to another?</i>
Learners can observe in soap operas that small talk lasts longer among those who know each other well, who are friends, etc. They can note when it is brief, and discuss why.
• <i>How can small talk be used to oil the wheels in a tricky encounter?</i>
In view of helping learners discover the usefulness of small talk in maintaining good relations, the teacher can provide examples of people using small talk to calm down the atmosphere in a complex encounter, or to resettle a conflict after relations have been difficult, or to pave the way for a request for a favour.

Table 4. 3: A Model of Small Talk-Related Awareness-Raising Tasks Proposed for Upper Intermediate Level Practising Engineers (Adapted from Holmes, 2005: 364-365)

Though the above suggested teaching tasks do not forcibly target specific NS social talk, it is believed that expanding the professionals' understanding of, and enlarging their exposition to these previously perceived unfamiliar topics and language will certainly reduce the risks of embarrassment or uneasiness during such non-professional-related conversation topics. Alternatively, to make them safely handle such unexpected situations, regardless the origins of their interlocutors, more focus on the frequency, functions and topics of social talk is to be recommended through additional audio materials specifically highlighting small talk

episodes during lunch breaks or first time contacts with business partners. In the absence of recordings, trainers can make use of modern business communication textbooks (Handford, Lisboa, Koester and Pitt, 2012) that contain all the subtleties of work-related oral communication, ranging from pre-meeting or office small talk, to dining out.

To conclude this section, As such, tasks engaging trainees in interacting with or role-playing some aspects of real-life interpersonal communication, using the transcript of authentic meeting data, was another approach that attempted to foster maximum materials and tasks- authenticity (Hussin, 2002, cited in Belcher, *ibid.*). In short, preparing classroom tasks aiming likewise at having their insider perspective enriched, it is hoped that learners will themselves become '*astute analysts of the specialist discourse*' (Huckin, *ibid.*: 17) who can responsibly use the TL and analyse others' language behaviour once they are found in similar work situations (Upton, 2012)

By putting into practice Dudley-Evans and St John's (1998) suggestion, the researcher also attempted to trigger the learners' insider domain-specific knowledge by having them to convey the meanings or definitions of some specialist engineering terms while using additional resources (drawing, a communication strategy that was reported to be constantly used in real-life work interaction). Besides authentic materials, learner involvement was aimed at through the choice of suitable classroom practice, or tasks (similar to task four on materials) that triggered the learners' problem solving abilities. Likewise, instructing trainees to collaboratively engage in solving field-specific problems about, say, best materials in terms of resistance, was an attempt to replicate communication situations similar those they will encounter in real-life EOP settings (Belcher, 2009).

The emergence of translation as a process-oriented communicative task from the findings of the present study urged the researcher to propose it for ESP pedagogy for low-proficiency-level engineers. To improve their reading comprehension, for example, interlingual translation tasks had the students to establish links between existing specialist knowledge in the customary working language (here, French) and the new target language under the assumption that they accelerate the language learning processes (Pouya, 2015). the use of authentic reading materials - appendix XI.- for classroom practice was a way to ensure

trainees' engagement in such a meaningful, real-life communicative task. Below is the chapter's conclusion.

5.9 Conclusion

This chapter has provided a summary and discussion of the findings deriving from both direct and indirect data collection methods before proposing some theoretical and practical implications along with suggestions for further research. The target needs uncovered through direct and indirect data gathering methods revolved around engineering and business English, providing therefore an answer to the first research question. Swinging between these two facets of engineering-specific vs. business-oriented interpersonal language use appeared as early as the first systematic findings of the semi-open questionnaire. *En passant*, it has been also possible to uncover immediate and delayed target needs thanks to the present needs data. To the research question evoking the national engineers' present strengths, weaknesses, and wants, the findings indicate that the latter also vary depending on the engineers' work experience and career advancement as target needs do. That is, the target need that seems to be already attained, thus regarded as a strength by mid-experience and experienced engineers is still a present need (more precisely, a weakness), hence, a priority training need or want for inexperienced engineers, and the same is true about work-experienced and mid-experience engineers, respectively. Accordingly, the training expectations seemed to be related to the lacks –rather than strengths- of engineers with different English command level and working experience. Then, more insight was yielded by the interview findings and finally online illustration of these two aspects was plain to see in both the email and meeting corpus. Sound pedagogical suggestions were framed in tandem with all these above findings. Besides proposing suggestions for stakeholders (ESP practitioners and training policy makers, *inter alia*), this chapter also proposed a model for tailor-made instructional materials and activities as based on the hitherto collected workplace evidence (email and meeting discourse samples) putting therefore the third hypothesis into effect. Below, the overall conclusion of the present research is proposed.

Endnotes to Chapter Four

1. On demand or not.
2. See chapter three, questionnaire results, section 3.2.8.2 Employees' Training Expectations.
3. These genre variations or flexibility that is influenced by local context, and so have to do with creatively using some multilingual strategies, like doing translations in other languages, which nevertheless abide by Handford's (2010) discursive practice of 'reformulation'
4. See glossary, in appendices, for a definition of the term.
5. When exemplifying the professions that use symbol-dominated genres, Du-Babcock and Babcock (2007, cited in Handford and Matous, 2011) stated engineers as a case in point.

6. This assumption also reflects the engineers' perspective reflected in the following quote from the interview data: (TMM1) *"Americans speak but English. It is seldom to see an American speak another language than English"* (author's translation).
7. From field note data.
8. Problem-solving reflects the engineering mindset as already established through lit review and authentic meeting analysis and as confirmed by existing literature (Drobot, 2016).
9. From the moment that NNS accent was reported to be easier to understand.
10. See interview findings (section: NS accent)/questionnaire findings (section: training expectations).
11. At earlier stages of the questionnaire data analysis, their responses served comparative purposes only, see methodological chapter, section: Sampling for more details on this purposive sampling.
12. Lockwood (2012), studied telephone conversations in a call centre where it was the main target task. Naturally, she was able to record of samples of authentic discourse this only task researched, and make ensuing practical recommendations).
13. Including access to the actual textbooks used and programmes adopted.
14. Refer back to chapter one for an overview of critical needs analysis otherwise termed rights analysis. For detailed account, see Upton (2012); Blecher, (2009, 2004).
15. See chapter 3, questionnaire results, Likert Scale data.
16. This is confirmed by middle-manager from the supplies department. He reports what happened to him with a potential non-French-speaking supplier to whom he sent an offer for tender written in French. However, he received no response. Such supplier's non-response confused him until he realised that it was perhaps due to his French language choice. Ultimately, when the supplies middle-manager sent the same message again in English his partner's response came about immediately (Fieldnote data).
17. In the interview data, a technical manager elaborates on this difference:
In the more technical side it (communicating) is somehow feasible because the (technical) word has a range of meanings but the legal word has a meaning that is very limited." (MM1)
18. A technical manager elaborates on this issue:

“When it comes to the legal aspect, we do not translate. We do not take risks. So we require our partners to work in French. In legal communication, the impact (of a misused word) is so major that you cannot venture to use legal English when you don’t master it to 100% (TMM1)

19. A middle manager from the maintenance department said in this regard:

Unfortunately, we lose a lot of money because of French. French made us lose a lot because the hydrocarbons industry and world leaders are Anglophone...Our tender specifications are produced in French. Most take time and money, it’s very - according to a US company, they said that the translation is very expensive. We pay these translation costs indirectly...(MMM2)

20. According to Lavric et al, (2009), non-adaptation strategy is applied by clients under the firm belief that suppliers have to adapt to their language choice and not vice versa.

21. As the finance manager reveals:

Sometimes we ask the Americans to provide us with a translation of the whole contract from English to French. They are afraid from deviating as of the intended meaning (FMM)

22. In French, ‘*un langage de sourds*’, to be faithful to his originally stated comment (fieldnote data).

23. field notes data, informants’ word-for-word recorded expression.

24. Vandermeeren (2005: 163) conceives ‘*managers’ ideal of how competent their staff should be in a certain foreign language*’ as ‘*subjective need*’. See literature review chapter for more details on this author’s understandings of needs.

25. While orienting here to delayed target needs, some employees from the finance department are perfectly aware that they may well be allocated another job position that demands a certain competence in English. This is why they prefer to stay alert and be open to this possibility by preparing themselves to the eventual use of English. They seem convinced about the importance of bettering their level. Among the many similar positions that illustrate this, a financial manager’s words are chosen:

(FA1): The non-mastery of English penalises us. Even in case there will be negotiations with the Chinese, the Japanese, the British, the French, I could not intervene in such meetings. For an eventual renovation of the plant in the future, there will be a great deal of interactions with foreign partners. In this case, we cannot conduct meetings with them.

26. During the researcher's fieldwork in the plant, many employees have invoked their colleagues who have been recruited by a famous foreign prestigious firm after they passed the English test. Working in that firm means better working conditions. *"All those with a good command of English have already left the company for employment abroad/are already there"*. Some of them deliberately stated that English training is not generalised to the whole industry employees as part of the company's strategy to prevent its workforce from leaving the company for better employment opportunities abroad. A middle manager from the finance department confirms this fact by reflecting the employer's stance:

I want to keep a good agent (in my company), I'll teach him English, he will apply for a job in a Qatari or a Norwegian company. So I think if we want an agent to use English in his say business writing habits we have to do it gradually like that on the day he is ready to leave the company, the company will have recovered much of its investment in human resources unless we put that with a loyalty contract: I teach you English, I give you the basic training that are known but with a loyalty contract, you have up to five years or ten years, you do not leave the company.

General Conclusion

In a bid to provide a model for a workplace-embedded account of the English using purposes and specific language and learner needs of Algerian engineers, an onsite investigation into representative power plants of national energy industry took place with the aim to translate the findings into useful pedagogical implications for practice. Doing such an onsite visit to the world of professions was a response to many ESP scholars and applied linguists' call, thus far tackled in the theoretical chapter, to downplay the connotations of ESP as an applied field that is isolated from the target communicative situations of learners, and that the ESP materials are always imagined.

In a workplace where English is the *de facto* language of international business and technology, the target English needs highlighted consist of a blend of specialist and general interpersonal communication skills. While the first seem to be pivotal to dealing with and accessing to innovative engineering knowledge, *inter alia*, the second is necessary to ease the communication process with foreign business partners. As such, this study has shown that it was impossible to isolate specialist language knowledge from the professional context in which it is used, and how specialist linguistic knowledge develop in tandem with professional expertise and vice versa (i.e., how language weaknesses were accompanied with gaps in technical know-how).

The notion of shared professional knowledge -otherwise previously termed technical know-how – has not only emerged from the interpretive quantitative and qualitative data of the questionnaire and interview respectively, but it has also come to the fore out of text analysis of both emails and meeting samples. This particular finding concretises one reality about current ESP research that does not examine specialised language *in abstractu*, but looks at communicative practices in context. This conclusion partly confirming earlier calls to ESP researchers to venture in the professional world had also a bearing for pedagogical implications, notably in relation to adopting the narrow-angle vs. wide-angle approach to ESP teaching.

Under the banner of more general communication skills, interpersonal communication in English projected both a target-oriented and process oriented perspective to needs. From one side of the coin, entertaining business partners via engaging in isolated small talk events turned to be the target communicative need through which the local industry professionals can reach the profile of global engineers. From the other side of the coin, interpersonal communication processes or strategies interfering with professional communication revealed the process-oriented facet of needs and how the uncovered language using and learning processes had a pivotal indirect business-oriented role in both dissipating ambiguities (clarification and repetition requests) and fostering collegial relationship (politeness strategies). Henceforth, engineers' feedback or direct doings revealed episodes of interpersonal communication that ranged from the simple politeness and clarification strategies that interfered with professional talk, to isolated small talk episodes.

To discern the just summarised specific purposes from different angles, the multi-disciplinary approach adopted in this study is groundbreaking. While initial ethnographic methodologies like desk research, discussions and field notes helped frame the research theme, the indirect data collection methods of questionnaire and the interview represented both the quantitative and the qualitative investigations of needs. En passant, supplementing the questionnaire findings with statistical treatment and the interview data with corpus analysis tools yielded in pointed results.

For example, the interview findings were data-driven thanks to the use of the corpus linguistics tool, TXM software, that provided first-hand verification of the emergent themes accompanying the most frequent terms of the interview. Then, following the benchmark provided by TXM first-hand concordance lines, ample subsequent manual examination of the interview transcript was proceeded to following Long's (2005) suggested method in seeking the point of view of other sources. An informal triangulation of the interview accounts of agents from different job positions as well as departments has also helped validate the findings related to the habitual target tasks performed/needed in English. Besides the employer-employee perspective that the high/middle managers and engineers respectively represented, additional view from the non-engineering departments including the financial, HRD, as well as the purchase was also proposed.

To make informed pedagogical suggestions, the study did not limit itself to asking mostly experienced informants –via questionnaires and interviews- about their domain-specific language usage and needs. The present thesis is an illustration of how research experience can inform ESP through putting into practice the three areas of ESP activity, which are needs analysis, language analysis and materials development. Throughout its chapters, this study has confirmed how ESP research and practice can benefit from useful contributions of the findings and methodologies emanating from different areas including genre analysis, discourse/conversation analysis, and corpus linguistics workplace studies.

Empirical data collection enabled the researcher to self-experience the target tasks, the language used and situations involved, which is a necessary condition for any ESP practitioner to achieve. It also helped collect and analyse authentic samples of target discourse in view of extracting prototypical structures of the genres analysed. By adopting this stance, the present study aimed at departing from imagining ESP materials or relying on irrelevant textbooks that do not reflect authentic workplace language usage.

In so doing, this study has aligned with recent trends that advocate for a holistic approach to NA for ESP, that not only consider the working professionals at the centre of the investigation (i.e., the major source of target/learning needs, lacks, and wants) but also build up authentic materials out of their discourse projecting hence a situated ESP pedagogy. Through its contribution to innovative NA practice, the present research therefore attempted to project the idea that classical NA models using indirect methods (such as tests, interviews or questionnaires) *per se* are limited in perspective, thus need to be reviewed.

Only when approaching the most representative professional genres that the researched Algerian industry professionals regularly used has it been possible to clearly highlight the previously described specific linguistic and the interpersonal or social dimension of language use. Likewise, pedagogical implications argued for a narrow-angle approach to teaching short-term objectives relevant to the immediate needs first expressed by the newly entrant engineers (i.e., emphasising specialist language that is related to the immediate need for technical or engineering English). In parallel, the practical section also argued in favour of the inclusion of the wide angle approach to address the remote needs that emerge within career advancement, requiring, in parallel, more English proficiency of experienced engineers (i.e.,

including more general language and interpersonal communication skills) - similar to that of global engineers.

Addressing the evidence-based specialist and interpersonal language use at later stages through teaching tasks, a sign of good ESP practice that translates its research findings into teaching materials, forged likewise the link between both research and pedagogy. In this vein, the present study offers additional contributions to many -burgeoning and classical- fields of ESP research including corpus linguistics in ESP, genre/discourse analysis in ESP, innovative NA methodology, besides ESP pedagogy.

Whereas genre analysis helped uncover the communicative purpose and discourse features of the email and meeting genre that the Algerian engineering community in question uses, software-assisted corpus analysis of the meeting genre in particular, offered descriptive counts and contextual examination of the most frequent textual features (via keyword search and concordances). Through its high frequency counts feature, the use of CL enabled for deeper insight into the lexical and lexico-grammatical features of the discourse of engineers in their work meeting mainly, revealing a blend of both engineering-specific (technical and sub-technical) and general interpersonally-oriented language, reinforcing therefore the results of existing investigations into the spoken discourse of engineers.

Likewise introducing corpus tools under the form of teaching activities in the practical recommendations section was aimed to help the ESP teacher familiarise learners with these tools first; then, exploit the advantages gained from using them in discovering the structure and context of spoken or written specialist discourse produced. As such, the aim was to sensitise learners to the possibility they afford to acquire specialist or technical vocabulary in the form of ready-made collocations or lexical chunks. Besides raising their awareness as to the existence of interpersonal communication instances, too, exposing trainees to authentic exemplars of language use through corpus tools was also a proof criterion for the existence of these two aspects of language for both the trainees as well as for public scrutiny. Following the suggestions of prominent applied linguists (for e.g., McCarten, 2010: 423), introducing the concepts emerging from the analysis of professional talk into teaching materials is still new.

To this end, activities proposed to practise them were, more often than not, presented in a non-threatening way through raising the learners' awareness to, or having them notice and think about the usage. Another concluding remark, concerning the preparation of some activities related to engineering-specific or technical English, elucidates earlier issues raised in the theoretical chapter as to the need to have a working knowledge about the specialist domain of learners. The linguistic manipulation of this vocabulary urged researcher to look for additional engineering -often electronic- resources to be able to validate her data-driven observations and enrich her knowledge about the specialist context in which the technical/sub-technical terms are used. This hands-on-experience is a counter-proof to some debated issues putting into question the assumption of ESP practitioners having their specialist knowledge increased.

The overall research experience is therefore a vivid illustration of ESP researcher-practitioner's professional development through the author's initiating herself to assuming the different roles allotted to the ESP practitioner which are, researcher, needs analyst, materials writer, etc. In turn, the present research provides a methodological model to follow as a contribution to ESP practitioner's and/or teacher's professional development. Even though the author of this research has not previously taught engineers, this experience has nevertheless prepared her to be able to do so. This research experience, hence, proves that insider knowledge, which is also pivotal for the qualification of ESP practitioners can be gained if the latter immerse themselves in the domain specific world of the target community.

To sum up, unearthing the English using purposes of Algerian energy industry professionals required an examination of many needs perspectives, genres, and linguistic features as possible while most ESP studies have examined *one* aspect of needs (learner or language need); *one* target situation or genre (that is, either emails, or meetings, or telephone conversations); if not, *one* phenomenon (that is, either lexis, or grammar, or politeness strategies). This why, it is hoped that the findings derived from the present research enterprise will bring contributions to the relevant areas of expertise tackled.

On the basis of a deeper appreciation of both the ESP researcher' immersion into the world of professions and the working learners and domain experts' valuable insider information that the present research has attempted to project, it is hoped that large-scale ESP

research into various Algerian business contexts would be encouraged, with full access to both professionals' own accounts and authentic discourse, to allow for the development of more focused rather than imported ESP courses; more in-house, rather than imagined, ESP materials.

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Appendix I:

Glossary

Glossary

Authentic discourse samples/ (written/oral) texts/ situations: genuine texts, or communication situations, not originally meant for teaching purposes but which are used as non-adapted materials in classrooms to expose learners to real world use.

Authentic materials: teaching materials derived from authentic situations, reflecting real world, rather than imagined or simulated language use.

Back channels: Characterise the supportive speech overlapping in which the current speaker's turn is supported by other participants verbal signals to continue, like uh-huh, yeah

Chain initiator: is said of the very first or original email message that announces the onset of email communication

Concordances: synonymous of key word in context (KWIC) which includes the words that co-occur with the key word in a (digitally stored spoken or written) text from both the right and left context

Content move (in emails): also called informational move. It is a move that carries the central content of the genre

Convergent communication: communication in which the participants show a supportive behaviour and active listening. one sign of convergent communication is back channeling (uh-huh).

Co-occurrence: simultaneous occurrence of two or more words forming a word cluster in the sentence. Collocations are generally sorted out from the latter clusters' high frequency.

Corporate distance: is said of business partners from different companies who are not acquainted to each other (unlike work colleagues) and are therefore self-conscious about their language usage, and use politeness strategies.

Corpus/corpora: is a/are collection(s) of written texts/transcriptions of oral texts in an electronic form, used to analyse recurrent linguistic items within the corpus itself.

Dialogue messages: characterise the emailer's response to their correspondents' queries and the latter's ensuing a feedback reflecting a conversational mode.

Domain experts: they are valid sources of insider knowledge about the target situation because they possess enough professional and insider knowledge that make them well

positioned to provide information about their specialist professional area. They are the opposite of non-domain experts accounts.

Ellipsis: in DA, it results from omitting certain grammatical elements within the utterance

Email message embeddedness: is said of the message chains that emailers shifting from one topic to along a period of time another generate.

External meetings: meetings conducted with participants from other companies often across national borders (international meetings).

Internal meetings: meetings conducted within the same company, that is, the participants are the company staff only. For example a manager gathering his subordinates. See external meetings

Layout move (in emails): it is a move that frames the layout of the genre (e.g., opening and closing moves in email)

Linguistic intuition (of applied linguists): abstract descriptions or introspections of target language usage not grounded in empirical evidence or authentic instance of target discourse

Minimum response: economical use of language mostly characterising conversations in which a speaker's turn is reduced to one single word utterance or the use of ellipsis to say but essential things.

Multiparty gathering: gathering in which more than two participants participate, for e.g., meeting.

Overlapping speech: occurs when the next speaker takes the turn while the current speaker's turn has not yet finished resulting in two speakers speaking at the same time. supportive overlapping is also called back-channelling.

Postman messages: email messages whose communicative purpose is to provide (requested) attachment.

Proactive talk (or speaker): talk in which the (proactive) speaker directs the discourse through requests, asking questions, giving opinions, etc. see its antonym reactive talk/speaker.

Reactive talk (or speaker): talk in which the speaker's taking part in the conversation is only reactive in nature like answering direct questions.

Relational language: also called **interpersonal** language. In talk, it often interferes with transactional language. It directed towards maintaining good interpersonal relationship. But it is necessary to the good progress of the latter.

Repair: in CA, repair can be self-initiated or other-initiated and refers to the speaker's or other's taking a turn to correct the previous speaker's problematic utterance.

Retrospection: is said about the data or accounts revealed by the respondents when providing feedback about their use of the TL. Data may be selective, biased, contaminated or even manipulated in the sense that the responses may carry the respondents' own attitudes or views as opposed to actual usage

Rhetorical devices: concerns the strategies that accompany language use in a certain style to have more effect on the audience

Small talk: also called phatic communication, relational or social talk or socialising which is the opposite of professional, task-oriented or transactional talk. it consists of whole talk sequences that revolve around general conversation topics meant for entertaining (business) partners and building relationships.

Source triangulation: in the present study, source triangulation was sought via the respondents' accounts against their own doings as well as employees accounts against the managers' accounts.

Sub-genre (genre): a lower-level division of a macro genre for e.g., the sub genre of abstract that belongs to the macro-academic genre of dissertation.

Summons-answer sequence: in CA, it refers to a two-part sequence in which the first part is uttered by a speaker and functions as an appeal to the second part which is an answer to it (produced by another speaker).

Target Group: people about and from whom needs-relevant information will be gathered

Textualisation: Also called lexical realisation. In genre analysis, it refers to the linguistic or lexical manifestation of moves or discursive practices.

Transactional language: refers to the business-oriented language that characterises professional encounters, is governed by conventional features and specific language.

Transition relevance place: in CA, it refers to the suitable moment signaling a shift of turn.

APPENDIX II:
Questionnaire (Original French AND
English Version)

APPENDIX II: Questionnaire (Original French AND English Version)

Ce questionnaire rentre dans le cadre d'une recherche de Doctorat en Anglais qui a pour objectif de retracer l'usage de l'Anglais comme outil de travail en entreprise. L'une des premières phases de la recherche est de se procurer à l'aide de ce questionnaire des informations de base sur vos domaines d'usage d'Anglais, vos attitudes envers son utilisation, etc. Vos réponses seront traitées dans l'anonymat. Merci de prendre soin de bien lire et répondre à toutes les questions qui vous conviennent.

1) Renseignements Professionnels : Cochez la case qui vous convient.

Département :

Fonction :

Catégorie : **Exécution** ☐ **Cadre** ☐ **Cadre Sup.** ☐

Sexe : **Masculin** ☐ **Féminin** ☐

Ancienneté Professionnelle: **1 à 5 ans** ☐ **6 à 10 ans** ☐ **10 à 15 ans** ☐

16 à 20 ans ☐ **21 à 25 ans** ☐ **26 à 30 ans** ☐ **plus de 30 ans** ☐

A) Pouvez-vous brièvement expliquer en quoi consiste votre travail ?

.....

B) Évaluez vous-même votre niveau d'Anglais à partir du tableau ci-dessous.

	Très bon	Satisfaisant	Non-satisfaisant
L'oral			
L'écrit			
Ecouter /comprendre			
Lecture			

2) Usage Actuel de l'Anglais

A) Au cours de votre travail, vous arrive-t-il/vous est-il arrivé de communiquer en Anglais avec des clients/ visiteurs/partenaires étrangers/expatriés ? **Oui** ☐ **Non** ☐

*Si c'est **OUI**, sont-ils généralement : - Des natifs (Américains, Anglais, Irlandais, etc.) ☐

- Des non-natifs (Hollandais, Japonais, Espagnols, etc.) ☐

B) Dans quelle(s) tâche(s) utilisez-vous l'Anglais comme outil de travail et à quelle fréquence ?

Types d'Usage d'Anglais	régulièrement	souvent	parfois	rarement	jamais
Réunion de travail					
Conversation Téléphonique					
Négociations					
Réception/guide de visiteurs étrangers					
Utilisation de manuels/codes/plans conçus en Anglais					
Présentation (d'un mécanisme, d'un projet...etc.)					
Autre (précisez SVP).....					

C) En général, sentez-vous que votre échange/communication en Anglais avec les partenaires/visiteurs étrangers réussit?

Oui ☐ **Non** ☐

*Si votre réponse est **OUI**, est-ce grâce à ...?

- Vos connaissances en Anglais technique ☐
- Votre maîtrise d'Anglais général (communication en général) ☐
- Vos connaissances technique /votre savoir-faire professionnel ☐

Autre :.....

*Si votre réponse est **NON**, est-ce à cause de :

Vos faibles connaissances en Anglais technique ☐

Votre manque de maîtrise d'Anglais général (communication en général) ☐

Vos faibles connaissances dans le domaine technique ☐

Autre :.....

D) Comment remédiez-vous aux problèmes d'usage d'Anglais au travail?

.....

E) Suivez/suiviez-vous une formation d'Anglais?

OUI ☐

NON ☐

*Vous faites partie/avez atteint quel niveau?

Niveau 1 ☐

Niveau 2 ☐

Niveau 3 ☐

*Sentez-vous que cette formation répond/a répondu à vos besoins de travail ?

Oui ☐

Non ☐ pourquoi.....

F) Souhaiteriez-vous ajouter un **commentaire sur vos attentes de la formation d'Anglais ?**

.....

3) Vos attitudes envers l'Anglais et son utilisation dans l'entreprise.

A) Comment réagissez-vous à ces déclarations ?

	Tout a fait d'accord	Neutre	Pas du tout d'accord
L'Anglais est une langue de travail très importante en entreprise.			
L'Anglais ne devrait pas être la seule langue de communication internationale à l'entreprise.			
Je peux très bien faire mon travail sans utiliser l'Anglais.			
Une bonne maîtrise d'Anglais augmentera mes chances de recrutement par des firmes étrangères.			
Une bonne maîtrise d'Anglais augmentera mes chances d'accès à des postes supérieurs.			

B) Souhaiteriez-vous ajouter un dernier commentaire sur l'Anglais comme Langue de travail et de Communication externe à l'entreprise Algérienne ?

.....

Merci pour Votre Temps et Coopération

Questionnaire (English Version)

This questionnaire forms part of a PhD study that aims to describe the use of English as a working tool in your company. One of the earlier steps in this research is to obtain basic information about your areas of use of English, your attitudes towards its use, and so on. Your answers will be treated anonymously. Please be sure to read and answer all the questions.

1) Professional Information : Check the box that better describes you after precisising your department and job.

Departement :.....

Job

Position :.....

Category : Lower manager ☐ Middle manager ☐ Higher manager ☐

Gender : **Male** ☐ **Female** ☐

Working experience in years: 1 to 5 ☐ 6 to 10 ☐ 11 to 15 ☐
16 to 20 ☐ 21 to 25 ☐ 26 to 30 ☐ more than 30 ☐

C) Could you briefly describe your job responsibilities?

D) Please, rate your own level in the four skills according to the following table.

	Very good	Satisfactory	Non-satisfactory
Speaking			
Writing			
Listening			
Reading			

2) Actual Usage of English

A) do you happen to use English for communication with external partners or visitors

Oui ☐ **Non** ☐

*if **YES, OUI**, are they generally : - native speakers (American, British, etc.) ☐- Non-native speakers (Dutch, Japanese, Spanish, etc.) ☐

B) Which communicative task do you generally perform in English and to which frequency?

Types d'Usage d'Anglais	régulièrement	souvent	parfois	rarement	jamais
Work meeting					
Telephone conversation					
Negotiation					
Hosting/guiding Foreign visitors					
Use of technical manuals and documentation					
Presentation of a mechanism, a process, etc.					
Other (specify).....					

C) Generally speaking, do you feel that your communication with business partners is successful?

Yes ☐ No ☐

***if your response is YES, is it because of.....?**

Your good Technical English level ☐

Your general language and communication skills ☐

Your technical or professional know-how ☐

Other :.....

*** if your response is NO, is it because of.....? -**

Your poor Technical English level ☐

Your poor general language and communication skills ☐

-Your poor technical knowledge ☐

Other :.....

D) How do you cope with communicative challenges during your daily work related usage of English?

.....

E) Have you/do you benefit(ted) from in service English training YES ☐ NO ☐

*What level have you reached level 1 ☐ level 2 ☐ level 3 ☐

*Did/does training target your workplace needs ?

YES ☐

NO ☐ WHY ?.....

F) Do you wish to express any training expectations ?

.....

3) Your attitudes towards English and its use in the company.

A) what is your attitudes as regards these statements ?

	Strongly agree	Neutral	Not agree
English is a very important working language within the company			
English should not be the only language of international communication			
I Can Do my Job Without Using English			
Good English Command Means Higher Job Positions			
A good English command increase Employment Opportunities			

b) Would you like to make a final comment as to the use of English in your company?

.....

Thank you for your time and cooperation

Appendix III:
Recoded Categorical Data (Questionnaire
Final Comments)

Appendix III: Recoded Categorical Data (Questionnaire Final Comments)

A big effort has to be made to render english the first language of international communication revisit educational/corporate policy
A language learnt at school and less used at work is less mastered onsite practice to learn english . 95% of technical documentation is in English so English mastery is compulsory to facilitate the interpretation and exchanges English needed for technical communication
All those having regular contact with foreigners must have a good level in English English needed for international business communication
Apart from receiving documents in english, we do not use english for communication English needed for technical communication . using english for international communication brings about an additional value to the company that aims to grow eco1mically and align with other foreign firms English needed for international business communication . to invest in teaching english is to invest in human resources. More importance should be given to English training
Company responsible should give more importance to english More importance should be given to English /English training
Company should invest more in training (english) workforce More importance should be given to English training
English is a complementary tool for the technical engineers in the company English needed for pragmatic ends (tool) professional skill/performance
English is a means to accomplish work tasks. its mastery is part of professional competence English needed for pragmatic ends (tool) professional skill/performance
English is actually ranked second between company and foreign suppliers English needed for international business communication
English is an addition, to acquire it is a positive thing English needed for pragmatic ends (tool) professional skill/performance
English is an additional professional skill English needed for pragmatic ends (tool) professional skill/performance and a means of communication English needed for international business communication . high level manager must show interest in english training More importance should be given to English training
English is an important tool that i would need in case i change the job position English needed for pragmatic ends (tool) professional skill/performance/additional professional skill/employment opportunities
English is an international language English needed for international business communication
English is being interested in even in french speaking countries. English needed for international business communication we are late
English is important for documentation so we must use it English needed for technical communication
English is important in the technical domain English needed for technical communication
English is the first language eco1mically, it must be given its right place English needed for international business communication
English is the language of science and technology English needed for technical communication
English is the language of scientific, economic evaluations that the Americans lead. English is the language of the future. but other languages have equal importance in eco1mical communication, like French, Chinese, Russian, etc. English needed for international business communication
English must be given more importance because our use of tech1logy requires a good knowledge of English English needed for technical communication
English must come before French at work the better revisit corporate policy way to learn English is

through direct contact with foreign partners English needed for international business communication
english must replace french at school and at university revisit educational policy
english practice at work and on site especially with newly recruited engineers
english should be put at the same level as french revisit educational/corporate policy . the higher authorities have to be interested in this language.english training should be generalized to all lower managers More importance should be given to English training
english should be valued as a profitable element revisit educational/corporate policy
english should replace french revisit educational/corporate policy
english technically important English needed for technical communication (EST) . company should encourage workforce to learn and practice English More importance should be given to English training
english the language of the world powers. English needed for international business communication
English useful for communication and technological updating English needed for technical communication (EST)
for certain job positions, English training must be systematic and necessary More importance should be given to English training
french should not solely used as a foreign language revisit educational/corporate policy notably that english is the world first language English needed for international business communication
handicapped because of on-mastery of English English needed for pragmatic ends (tool) professional skill/performance/additional professional skill
helps develop technical knowledge eases communication English needed for technical communication (EST)
importance of English for hydrocarbon industry English needed for technical communication (EST)
important language in industry English needed for technical communication (EST)
important language in industry English needed for technical communication (EST)
important working language English needed for pragmatic ends (tool) professional skill/performance/additional professional skill
in our company, English is a necessary tool for work English needed for pragmatic ends (tool) professional skill/performance/additional professional skill
in terms of technology English is the first English needed for technical communication (EST)
it is very important to learn English More importance should be given to English training to use it for external communication in our company English needed for international business communication
language for international communication with anglosaxon partners English needed for international business communication
learning English requires personal effort and will personal effort to learn and practise english
looking for opportunities to master conversation skills with foreign partners English needed for international business communication
maximise use of English in Algerian company revisit educational/corporate policy
more training for engineers More importance should be given to English training
number one in industry English needed for technical communication (EST)
only training can save us More importance should be given to English training
our linguistic ability is the result of training programme. More importance should be given to English training English conditions our work: the efficient realization of our work depends on whether or not we master English English needed for pragmatic ends (tool) professional skill/performance/additional professional skill , whereas french is appreciated by the legal department, the technical, economic English needed for international business communication and financial ones prefer english English

needed for technical communication (EST)
personal effort to learn and practise english is also necessary personal effort to learn and practise english
technology comes from the occident so we are obliged to submit and forcibly use english English needed for technical communication (EST)
the company must better the English skills of its workforce through training More importance should be given to English training
the language of technical documents. company must provide training in English More importance should be given to English training
the use of English has to be enlarged because it is widely used over the world. it vehicules knowledge English needed for technical communication (EST)
the world first language must be learnt More importance should be given to English training
there was no English instruction in my undergraduate studies (degree in administrative law) revisit educational/corporate policy
training is opportunity to use English, Algeria should encourage English learning to benefit from industrial economic and technological resources More importance should be given to English training
training must be provided More importance should be given to English training
training should align with professional reality learning foreign languages should be encouraged because French is also sometimes not well acquired
unfortunately English is not important in professional carrier/qualification in our department. The Algerian state has to encourage the citizens to learn English. revisit educational/corporate policy
useful at work English needed for pragmatic ends (tool) professional skill/performance/additional
useful for searching technical documents English needed for technical communication (EST)
very important tool English needed for pragmatic ends (tool) professional skill/performance/additional especially in the technical domain English needed for technical communication (EST)
we use technical English in our work English needed for technical communication (EST) . We have never studied this kind of English at school or university revisit educational/corporate policy . The company must give compulsory training to all its employees More importance should be given to English training
when we do not use english we forget it (i worked with the americans for 3 years) onsite practice to learn english

Appendix IV:

Interview Transcript

Appendix IV: Interview transcript (original French version)

Head of supplies department SHM1

On utilise beaucoup l'anglais ici surtout parce que nous avons beaucoup de soumissionnaires anglo-saxons principalement des américains. Notre base de données concernant la pièce de rechange et des équipements en majorité elle est en anglais. Disons que 50% de notre travail se fait en anglais. Puisque le complexe a été fabriqué par les américains, ce qui fait même côté technique, on ne parle pas français. Je leur dis tel ou tel pièce, plonge, 'inch' on parle langage technique gate valve, voilà. C'est les échanges d'e-mails avec les américains : valves. 'i need to know what is the size between...', moi ça va, la relève doit...même notre base de données elle est écrite en anglais. La désignation des articles, les sous-articles. Ils ont appris. Il sait que c'est une valve quatre pouces, il sait que c'est une valve deux pouces. Maintenant c'est mener un dialogue : Dialoguer avec les...il faut pratiquer, regarder des films.

On fait des erreurs l'essentiel est que notre interlocuteur nous comprend donc les erreurs sur le plan grammatical, sur le plan orthographe. C'est du parler et un peu écrit (vidéo-conférence, mails et téléphone)

(le staff) Ils sont faibles en anglais, il y a un changement en baisse

Les gens actuels il faudrait leur faire une formation en anglais technique, surtout technique

Nous avons eu la chance de travailler pendant la rénovation du complexe, nous, où on avait un contact direct avec l'entrepreneur qui était américain pendant 4 à 5 ans.

Les travailleurs actuels ne font pas d'efforts, ils ne font pas d'efforts en répondant par exemple à e-mail qui arrive en anglais aux fournisseurs. Ils préfèrent le rédiger en français et le traduire mais des fois le sens n'est pas le même et en général ils demandent à leur aîné. [il font appel] ou à moi ou au technique parce que le technique il a beaucoup de contact en anglais.

Nous les avons inscrits à des formations d'anglais, les différents cadres. Déjà ils vont passer leur examen d'anglais en fin juin

Je vois [l'amélioration grâce à la formation en anglais] sur le terrain quand ils se débrouillent tous seuls

Il y a même le français qu'ils ne maîtrisent pas, donc il faut leurs inculquer les langues

Il faut qu'ils parlent, il faudrait qu'ils répondent aux mails, qu'ils parlent au téléphone déjà

Quand ils ont des échanges de mails avec le partenaire étrangers, je suis en copie, s'il y a une bêtise j'interviens. Le risque est minimum parce que quand on demande une pièce, quand on demande un équipement, on demande des références, on donne des plans. Même si ce produit est devenu obsolète il n'est plus fabriqué et tout ça, l'entrepreneur ou bien le fournisseur nous envoie une proposition, on l'étudie avec le technique on donne notre accord ou non

TMM1 Chef de service simulation et mobilisation depuis 4 ans (17 ans d'expérience au technique)/technique (on est sollicité par les autres services : par le service inspection ou le service étude en cas de besoin de simulation ou de calcul de dimension, dans le cadre soit de l'exploitation ou de modification, ils nous sollicitent pour faire de calcul ou des simulation, on effectue les prestations demandées et on livre des rapports pour le service étude et le service inspection, on est des prestataires pour les deux autres services.

Le rôle de l'anglais/Français

Pour le moment le principal c'est le français. L'anglais c'est beaucoup plus c'est pour la documentation. Actuellement je fais une recherche sur internet, electric motor magnetic... c'est-à-dire la recherche elle est effectuée en anglais parce qu'on a constaté que sur le net que l'information recherchée, si on fait la recherche en français que en anglais, en anglais on trouve cent fois plus d'information, pour un ingénieur c'est capital. On ne peut pas se permettre de travailler avec un pour cent d'information alors que en utilisant l'anglais on a cent plus d'information sur le net, c'est-à-dire la même information si je la cherche en anglais elle est beaucoup plus riche et beaucoup plus abondante, elle est beaucoup plus technique. en français la documentation sur le net elle est trop pauvre. Pour un amateur ou pour un universitaire c'est bon, mais pour des professionnels pour l'industrie, ce n'est pas suffisant. On est obligé d'utiliser l'anglais pour la recherche. Toutes les recherches nta3na c'est en anglais.

Niveau personnel d'anglais

Actuellement, mon niveau personnel pour comprendre pour lire, je n'ai aucun problème. Je peux comprendre à 100%. C'est beaucoup [grâce à] la pratique. J'ai eu l'occasion de travailler sur un projet de chaudière en 2006, entre 2006, 2008. Donc on avait en face des japonais. En début de projet on avait beaucoup de difficultés à communiquer, mais la nécessité de faire avancer le projet nous a poussés à communiquer en anglais. Initialement, c'était difficile, vu que les japonais, ils ont un anglais facile. Les japonais, leur anglais il est facile à comprendre, donc l'apprentissage s'est fait facilement. Mais c'était la phase projet qui m'a permis de d'avoir une- je ne peux pas dire maîtriser mais d'améliorer mon anglais. avant 2006 c'était plus difficile pour moi. Mais la phase de projet, c'était une phase de deux ans et il y avait le contact au quotidien. Pendant deux ans de projet, il y a des problèmes au quotidien, parfois des malentendus, donc on est obligé de communiquer de dialoguer de s'énervé, de blaguer, donc on apprend, on apprend... Le projet le quotidien c'est beaucoup de choses, on s'excuse du retard, on programme un rendez-vous, on a un peu de tout. Initialement, c'était beaucoup plus avec des gèstes, c'est-à-dire on écrivait, on faisait des dessins, mais petit à petit.

Actuellement, on reçoit des visites d'anglais, d'américains. Avec les anglo-saxons on a des difficultés pour communiquer en dehors de l'anglais technique, on n'arrive pas, moi personnellement, j'arrive pas à comprendre quand on parle hors sujet donc je suis obligé de demander de répéter de parler doucement. Mais quand on parle du sujet, donc je n'ai pas de problème parce que c'est des mots connus, le contexte il est connu, donc on arrive à comprendre, mais dès qu'on sort du contexte technique, par exemple une blague, ou lors du repas ou- c'est très difficile pour nous de (comprendre)

Traductions

La documentation d'origine elle est en anglais.. Le français généralement c'est les traductions que les entrepreneurs font à notre demande mais ils ne sont pas réalisés d'une manière professionnelle. Généralement, c'est de traducteurs, c'est des licenciés en anglais qui ne connaissent pas le domaine. Donc on trouve parfois en lisant le français des choses bizarres. Même nous, on conseille les ingénieurs de ne pas utiliser le français. Les manuels en français sont déconseillés. Ils sont définis pour les étudiants pour les stagiaires, pour l'induction mais pour travailler il faut utiliser la copie anglaise parce qu'elle a été réalisée par les professionnels. Mais le français il a été traduit par des personnes qui ne sont pas spécialisées. Parfois ils utilisent des mots qui ne sont pas adaptés ce mot-là, il peut changer complètement le sens du- On peut trouver sur nos manuels des cas qui font rire. C'est tellement clair que ce n'est pas le mot, mais parfois ça induit en erreur. Les manuels dans la documentation et dans les data sheets. Tout est en anglais. 90% de la documentation c'est en anglais

Il y a beaucoup d'ingénieurs qui ont des difficultés à travailler parce qu'ils ne veulent pas faire l'effort de maîtriser l'anglais. Ils veulent toujours utiliser la copie française parce que c'est un effort sur soit, on doit, c'est difficile de dévier mais il faut le faire.

Visites d'étrangers

Dernièrement il y avait les italiens ou les japonais ou les hollandais de shell, l'anglais c'est la langue universelle pour communiquer avec eux parce que le français c'est uniquement avec les français. Parmi nos partenaires, les français occupent un pourcentage minime. La plus part c'est des américains c'est des anglais donc on a besoin d'anglais pour communiquer

Le deuxième point c'est la documentation. La documentation elle est anglaise parce que l'usine a été fabriquée par une entreprise américaine. Donc la documentation d'origine, la documentation qui a vraiment une valeur c'est la documentation anglaise. On est obligé d'avoir une maîtrise. ici à force de travailler en anglais, pour lire un document en anglais technique bien sûr, on n'a aucune difficulté. On comprend à 100% sans utiliser les dictionnaires. Pour comprendre avec les italiens, les hollandais, les japonais on comprend facilement. Avec les américains, les anglais c'est un peu difficile mais on arrive à communiquer, dans le domaine technique on arrive à communiquer. Quand on sort du domaine technique pour les anglosaxons c'est un peu difficile.

Les **e-mails** courts, pour demander une information, pour répondre à une... on le rédige facilement, c'est quelques mots, on est habitué à les utiliser. Pour aller à des descriptions détaillées d'un problème, on utilise les traducteurs online, ... translate. Quand il s'agit d'e-mail qui dépasse une page qui a vraiment des détails à fournir. Quand il s'agit d'aspect juridique, on ne traduit pas. On ne prend pas le risque. Donc, on oblige nos partenaires à travailler en français. Au juridique tellement l'impact majeur. Quand on a pas la maîtrise à 100%, on peut pas se permettre. Même le contrat, on le signe avec les américains en français, on les oblige à signer en français. Eux, ils doivent faire l'effort de traduire parce qu'ils ont les moyens. Nous, peut-être qu'on a moins de moyens. Et l'impact de l'erreur d'un

mot qui concerne les pénalités les délais, on peut pas se le permettre. dans le côté technique plus au moins parce que le mots a une plage mais au juridique le mot a un sens qui est très limité. Au juridique actuellement les contrats en l'entreprise sont tous en français. On n'a pas de contrat en anglais. Mais le contrat final qui sera signé par notre directeur c'est le contrat en français. Les échanges lors de la discussion des clauses du contrat, on communique en anglais pour dire voilà ce qu'on veut dire par cette clause mais la version finale elle est en français.

Négotiation de contrat

dans les phases finales, ils apportent des traducteurs avec eux. Lors des phases initiales de contrat on parle en anglais, sans problème. Parce que le contrat, à 90%, c'est des clauses standards. Parfois il ya quelques clauses concernant le délai, la garantie, les pénalités, ceux-là, vraiment, ils ont des spécificités. A l'entreprise, on a un contrat standard. On peut le modifier légèrement. On peut pas sortir de son [cadre]. C'est une entreprise étatique mesuré par le code de marché public. Donc on a des clauses vraiment standards. Quand le contrat est vraiment important, on veut l'accomplir, on peut bouger légèrement. On prend l'accord des structures centrales : finance, juridique. On bouge légèrement, mais sinon c'est des....lors des négociations on parle anglais, on leur dit que la version finale qui sera signée sera en français. Donc [eux, il faut qu'ils fassent] un effort pour le [traduire]. Ils peuvent avoir des traducteurs professionnels qui peuvent traduire le côté juridique. Parce qu'[il faut qu'ils] maitrisent vraiment à 100% pour pouvoir utiliser le mot avec son propre sens et le vrai.

Les présentations, les congrès, les séminaires. Donc on a des contacts avec les [étrangers]. Soit professionnel dans le cadre d'un contrat ou bien c'est général dans le cadre de- parfois ils viennent en visite rien que] pour présenter leur matériel. Quand je dis officiel, y a pas de concrétisation par un contrat. Toutes visites d'étrangers, elle est gérée par une procédure au niveau de l'entreprise. On est obligé de demander l'accord du ministère pour recevoir les étrangers. Donc elle est officielle dans ce cadre, il y a une procédure à suivre. Mais ce n'est pas officielle parce qu'il y a pas de contrat derrière. C'est une visite à une journée ou deux jours. Il va présenter son matériel. Mais la visite elle est officielle bien sûr. Elle est enregistrée, [on a] les accords et tout.

Quand on lance des appels d'offre, les soumissionnaires [viennent] pour avoir une idée claire sur les spécifications, ils [viennent] pour une journée, pour une demi-journée.

La formation

L'entreprise a investi [en nous en vérité]. C'était intéressant, mais quand je compare [la formation] avec la pratique [du] projet, ça n'a rien à voir, ça n'a rien à voir. La formation, malgré qu'on ait connu la phonétique, la prononciation correcte, ce n'est pas très important. Quand on parle avec un américain, [c'est lui qui] fait l'effort de nous comprendre. Parce que c'est un contrat, il va prendre de l'argent contre son travail, donc la prononciation avec un américain ce n'est pas très important et même si on ne comprend pas on lui demande de répéter. Pour enrichir le vocabulaire, il n'y a pas mieux que l'échange. L'échange tel qu'il est. L'entreprise si vraiment elle veut investir dans l'anglais, c'est de garantir un contact, soit en recrutant des gens qui maitrisent l'anglais, faire des entretiens chaque semaine. Il faut utiliser l'anglais. Le vocabulaire, on ne peut pas l'enrichir par une formation. Pendant la formation, malgré qu'on voit des milliers de mots, on les enregistre dans nos cahier, et après on retourne à notre travail, on travaille en français. On fait un effort d'écouter la musique anglaise, de voir des films, mais ce n'est pas suffisant.

The push button c'est-à-dire le bouton poussoir, donc ça c'est un exemple d'utilisation de l'anglais.

La plupart de notre environnement est en anglais

Le staff sont très faibles en anglais

On constate que les nouveaux ingénieurs ont un manque de maitrise énorme. Par rapport à nous quand on était [nouveau ingénieurs], c'est vrai on était faible en anglais, mais on avait un minimum. Maintenant on constate qu'il a- ils sont très faible en anglais, mais une peur de l'anglais énorme, c'est-à-dire les gens ne veulent pas faire l'effort parce qu'ils sentent [que] c'est trop difficile. Tant que cette peur y est on ne peut pas apprendre. Il faut la franchir. Même si on fait des erreurs on se moquera pas de nous. Nous, quand on parle avec les américains, on s'excuse au début qu'on n'a pas un anglais convenable. Eux, au contraire, ils disent que vous êtes mieux que nous parce que vous parlez trois langues. C'est-à-dire, ils nous réconfortent toujours, parce que c'est vrai, nous on parle l'arabe, le français, l'anglais. Les américains ne parlent que l'anglais. C'est très rare de trouver un américain qui parle une autre langue que l'anglais. C'est pour ça qu'il faut pas avoir honte. C'est-à-dire, c'est pas

notre langue maternelle. On doit faire l'effort de l'utiliser, et ne peut améliorer notre niveau qu'en l'utilisant.

Pour espérer lire des livres ou faire des formations ce n'est pas très efficace.

Le plus grand projet que j'ai travaillé dessus, c'est le projet chaudière. C'était pratiquement en anglais. Je suis parti à Tokyo deux fois. Ce qui m'a étonné au Japon, les gens ne maîtrisent pas l'anglais. C'est étonnant, vraiment j'ai été étonné. Au début je pensais qu'il [prétendaient] qu'ils ne pouvaient pas communiquer. Mais finalement les gens ne maîtrisent pas l'anglais. Au Japon, ils ont un phénomène, malgré que c'est un pays touristique, le Japon. Il y a des millions de touristes mais ils ne parlent pas l'anglais. Le policier ne parle pas l'anglais, aux magasins ils ne parlent pas l'anglais. Au Japon, ils parlent en japonais. Même les ingénieurs ne maîtrisent pas l'anglais. Ceux qui étaient avec nous dans le projet, ils étaient une trentaine d'ingénieurs. Ils y avaient trois ou quatre qui maîtrisaient l'anglais. Le reste c'est bien sûr de très grands ingénieurs japonais. Mais ils ne maîtrisent pas l'anglais. Ils ne parlent pas l'anglais carrément [ce n'est pas qu'] ils maîtrisent l'anglais. Pour eux c'est la langue japonaise, pour communiquer avec les autres langues, c'est des ingénieurs spécialisés qui maîtrisent deux ou trois langues. Ils les utilisent pour traduire.

Celui qui a le meilleur anglais parmi nous est monsieur dddjjj. Lui, c'est le meilleur. Il a plus de facilité au travail. On peut compter sur lui. Quand on a une visite d'étrangers importante. Donc, il devient un potentiel important, C'est-à-dire pour le management, pour les directeurs, pas rien que pour nous [les ingénieurs]. C'est un collègue qui- surtout quand il y a des réunions importantes avec les étrangers. [il devient comme] une solution. Quand il y a une visite d'ordre générale, ce n'est pas un problème. [mais quand la visite est] importante, les gens doivent communiquer une information, on doit avoir une information, on doit. On doit la comprendre, on doit la communiquer. Donc, [ici] ça présence [devient] essentiel. Quand [la réunion] est plus ou moins générale, une présentation ou on peut poser la question plusieurs fois, on peut faire comprendre par un signe ou en écrivant, là il n'y a pas de problème. [mais] parfois la réunion elle est très importante : pour signer un contrat. [ici] vraiment [il faut] une personne qui maîtrise. Ici le meilleur c'est Djedai. Peut-être c'est son parcours, il a fait plusieurs projets. Il a [travailler] au projet de rénovation avec PK. Il a aussi fait le projet ppp. C'est-à-dire il a fait plusieurs projets et il a communiqué en anglais. C'est ce qu'il lui a permis d'apprendre. Il est impressionné par [les américains]. C'est-à-dire [Quand il y a] l'intérêt personnel [il peut] maîtriser tant qu'il y a pas l'intérêt-.

[Les nouveaux recrues] ils ont une barrière et ils doivent la franchir. Jusqu'à maintenant ils utilisent encore les moyens en français pour eux [l'anglais c'est trop difficile]. Ils faut faire l'effort d'utiliser l'anglais et poser des questions [quand quelqu'un ne comprend pas] il pose des questions, [qu'il utilise] le dictionnaire, le logiciel translate, c'est plus pratique. [maintenant il y a] les moyens [que nous n'avions pas] qui facilitent l'apprentissage. Il faut faire le pas.

Selon moi, c'est l'anglais, l'anglais. Si l'entreprise peut changer complètement la langue de travail et même l'état. On mettra la deuxième langue, la langue anglaise. C'est-à-dire, [il y a] des pays comme la Syrie, par exemple elle a été colonisée par la France mais elle utilise comme deuxième langue l'anglais. C'est-à-dire c'est possible. Bien sûr ça doit se faire en plusieurs générations. Il ne faut pas le faire brusquement mais on doit le faire parce que le-le Français, [c'est comme s'il nous tire] vers le bas. C'est-à-dire le monde entier communique en anglais.

Il ne faut pas que la langue devienne un handicap. Il faut un moyen de transfert, un pont, un outil. L'outil il faut qu'il soit facile à utiliser

Morad a les capacités linguistiques. La preuve il a atteint un niveau de maîtrise où il peut parler avec des Américains pendant des heures. C'est-à-dire [ça m'est arrivé d'être présent pendant leur conversation]. Il peut parler pendant des heures ; il passe d'un sujet à un autre alors que pour moi c'est impossible je peux parler d'un sujet bien déterminé mais pour passer d'un sujet à un autre pour blaguer au milieu, ça je ne peux pas. [lui] puisque [il a] un intérêt personnel, [il a] l'amour de cette langue

Head spm (17 years of experience)CHM

[on suit la] procédure de passation des marchés depuis le début jusqu'à la fin, c'est-à-dire jusqu'à la attribution du marché ou la fructuosité [ou bien] nous sommes les garants de la procédure des passations de marchés.

L'anglais généralement on l'utilise [pas pour communication interne] mais surtout [dans notre] relation avec l'étranger : quand ils déposent les plis, quand ils demandent généralement des

clarifications et tout. Bons les étrangers, les anglais, les anglosaxons [nous écrivent] en français. [peu de partenaires] [nous écrivent] en anglais. Nous dans le cahier de charge on le dit. Même la langue du cahier de charge c'est le français, ce n'est pas l'anglais. C'est très rare [de recevoir des mails en anglais]. Mais [dans notre groupe/département, il y ceux qui ont appris] l'anglais, ils peuvent répondre. Même [le staff] ils ont fait une formation en anglais ça dépend des niveau, niveau un, niveau deux donc...les gens qui ont chwia- ils sont un petit peu poussés [dans leurs] capacités c'est [le staff du -département-] technique. [ils ont un bon niveau]. Les DAO c'est à notre niveau pour ce qui est des DO. Dans la réglementation, les DO, c'est moins de 50 millions, les DO c'est la consultation elle est prise en charge par la structure. Donc c'est eux qui envoient [les messages] aux soumissionnaires. Généralement ils [staff du technique] maîtrisent bien l'anglais, donc [ils leurs écrivent et leurs répondent en] anglais Même [nous] parfois [quand on a des difficultés d'usage d'anglais] on fait appel à eux. Mais généralement c'est des petits messages, des () donc ...même [moi] [j'ai l'application] translation (eng) parfois [je traduis et je réécrits]. J'utilise un petit logiciel donc...

Même eux, [ils comprennent] parfois-notre choix de langue [ils nous écrivent] en anglais, [quand je leur réponds] en [ils m'écrivent à leur tours] en Français. Donc ça ne pose pas de problème.

[le personnel a suivi]- Je prévois des formation, [ils la suivent]. Normalement tous les ans deux formations pour chaque juriste, pour chaque financier [et je juge] est-ce que vraiment il nécessite ou il nécessite pas ça -la formation en anglais- [peut-être] il nécessite autre chose [dont il a un manque]. Parfois s'ils insistent, surtout pour l'anglais [disant] bon, puisque [il y a deux formations, sans problème, je lui mettrai] l'anglais, et c'est un plus pour lui et pour l'entreprise aussi. Donc c'est ça.

Bon [moi] j'ai pas fait l'anglais, j'ai fait l'espagnol. Parfois l'anglais [je comprends quelques mots] mais [quand les collègues sont avec moi], les techniciens, les ingénieurs, je pose la question, [ils m'expliquent] voilà, voilà, voilà

Bon, moi, je suivais une formation en anglais pendant quelques temps puis j'ai arrêté. J'ai fait niveau 1. pourquoi, moi j'étais pas- le service passation des marché n'existait pas encore, j'étais chef de service juridique, donc tu fais une formation à chaque fois chef de département te rappelle. [Je viens ici puis je retourne puis je reviens puis je retourne] après deux ou trois séances j'ai coupé court. Et vu mon âge aussi. J'ai 52 ans, c'est vieux!

L'anglais, pour les techniciens, les ingénieurs au technique, la maintenance, je dirai oui à 100% même pour le juriste. Parce que parfois on traite beaucoup de dossiers de gré à gré. Et parfois on fait des réunions [avec -les partenaires étrangers- qui viennent ici] donc la langue [peut être] une barrière. [quand on la comprend pas]....

on fait une réunion c'est une réunion avec le partenaire et même [quand nous participons] c'est pluridisciplinaire : les ingénieurs, nous (les juristes, comptables et financiers) [tous] nous avons ça. Même si on ne comprend pas....

Des anglosaxon [qui comprennent] le français, donc même [quand ils nous parlent] en anglais [ils nous font comprendre] en français. Donc ça ne pose aucun problème. Parfois des français avec eux, ils travaillent avec eux dans la boîte, donc le message passe.

Généralement même COP (la commission d'ouverture des plis) [en la présence des] les technicien [ces derniers leur expliquent un peu] même hna parfois on demande, disant qu'on aimerait bien que vous nous envoyiez la traduction (en français), c'est parce que même [dans] le cahier de charge [on dit que] les document doivent être en français.

Le problème n'est pas dans les traduction, ils apportent un traducteur. Le problème c'est qu'on négocie le contrat. L'aspect juridique, l'aspect financier, l'aspect fiscale. C'est ça le plus important. Tant que ça soit en français, c'est ...

Parfois on va vers les Américains ils font la traduction complète du contrat s'ils traduisent de l'anglais au français ils ont peur d'une chose il peut y avoir une certaine déviation dans le sens.

Chef de service juridique

Le control des cahiers des charges, spécialement les projets de contrat conformément au- par rapport au règlement en vigueur c'est la passation de marché en vigueur chez l'entreprise. On a la fiscalité, c'est une section, on a les assurances, plus contentieux, le plus important ici au LG et en plus des tâches quotidiennes concernant la vérification des contrats, la participation aux différents comités ad hoc et on est membre dans la commission d'ouverture des plis (COP).

Il y a des tâches dont SPM s'en charge concernant la publication des cahiers des charges. On avait une coordination avec les fournisseurs soit locaux soit étrangers pour le retrait des charges, par e-mail, seulement pour la phase de publication des cahiers de charges, donc cette phase, cette étape-là c'est spm qui s'en charge. Donc ce contact direct au premier- les premiers contacts c'est via spm. D'accord, le retrait, les faxes.

Maintenant *on a* des contacts avec les étrangers *dans* l'étape négociation des contrats, c'est surtout *dans* les contacts gré à gré *ou dans* les comités ad hoc quand il y a des commentaires sur le projet de contrat *quand on a* des contacts avec les fournisseurs. Généralement *il n'est pas* direct, mais par le billet de la structure initiatrice du dossier, par exemple la structure qui a le besoin technique c'est-à-dire la structure responsable de l'opération *dans ce cas-là on fait* des comités *on a* des réserves on étudie les commentaires des fournisseurs *ensuite* nos commentaires *ou* nos réponses *et on répond* par faxe par le billet de la structure initiatrice.

nos projets contractifs sont en français. *Il y a* une condition *qu'ils peuvent accepter* : le soumissionnaire il peut fournir des documents techniques en anglais. *C'est* la structure initiatrice responsable de l'opération *qui traite avec eux*. Mais pour la négociation de contrat de gré à gré des fois on fait une réunion. Pour la négociation *on ne communique pas* par messagerie donc des fois en direct *on se met d'accord avec eux*, c'est mieux. La majorité en langue française mais ils parlent des fois en anglais avec ceux qui maîtrisent l'anglais. Même moi je maîtrise l'anglais même moi je maîtrise l'anglais mais pas comme un ingénieur. Parce qu'il travaille avec même les recherches sur internet, les spécifications, les caractéristiques sont rédigées en anglais. C'est à l'échelle internationale.

En réunion on les comprend on peut répondre mais pas à tout. Sur l'aspect technique on a les - c'est surtout les ingénieurs c'est eux qui parlent en anglais. Même par messagerie il y a des négociations je vous montre un message.

Il y a des représentants qui utilisent la langue française et on se met d'accord. On essaie de comprendre à l'aide de la structure qui éprouve le besoin. On peut demander la traduction mais on ne rejette pas les documents en anglais. C'est la note qui stipule ça. Elle ne dit pas rejetez le. on peut demander la traduction, mais on rejette pas un document fournis en anglais. C'est ça l'objectif de la note. Parmi les dispositions générale les contrats rédigés en langue française mis à part les documents techniques qu'ils ne peuvent pas nous les rédiger en français on peut les accepter en anglais.

L'anglais est important pour la communication, communication verbale mais écrite c'est en français.

Je suis en formation, le test est pour le dimanche prochain. C'est intéressant bien sûr. La langue anglaise classique. [quand on passe aux] les exercices et tout c'est purement technique. nous avons même soulevé ce point. Parce que c'est les techniciens qui (en ont besoin)- il te donne un exemple, l'exemple ne parle que du technique, « turbo machinery » les installations. Quand il nous demande de mettre au futur, c'est facile. Mais quand il nous demande de mettre au passé composé ou au plus que parfait, c'est difficile parce que'on doit d'abord comprendre ce qui est écrit. Ce n'est pas comme les exemples simple, donc on leur a dit il faut que le programme [ne contienne pas que] l'aspect technique l'aspect juridique un aspect financier parce que nous- [en auront besoin plus tard]. Avant on a suivi ici une formation mais on l'a pas terminée. C'était ici au complexe et quand c'est au complexe, c'est toujours le boulot qui vous arrache du cours. On a fait l'anglais 'business', ça fait- en 2006, 2004 ou 2005

Pour définir qui doit suivre la formation, on juge son besoin en premier, son besoin par rapport au travail, bien sûr, faire une formation pour le travail. Il y des conditions, c'est le service formation qui nous donne le nombre à respecter

Dans ce service il y un seul cadre qui fait une formation en anglais. Parce qu'il y a des conditions que je ne peux pas citer. C'est pas comme nous voulons. c'est le chef de département qui- Nous, on fait les propositions mais il peut les écarter, il peut les laisser et le directeur doit donner son accord, donc ça nous dépasse

la maîtrise d'anglais ici [au service juridique] n'a pas un impact considérable c'est le français dont j'ai beaucoup besoin

Spm accountant

J'occupe le poste de comptable financier, département passation des marchés. J'ai été recruté par rapport à une formation que j'ai effectuée au niveau du Centre Perfectionnement de l'Entreprise. Un diplôme en expertise de comptabilité. On a effectué deux ans de formation en interne et la troisième

année c'était en alternance par rapport au boulot. J'ai été recruté en mars 2011. Je suis arrivé directement à la passation de marchés. J'ai un diplôme de sciences commerciales. Normalement il y a des cadres financiers, comptables et ingénieurs au département passation de marchés. Vu l'effectif réduit, on effectue tous les mêmes tâches c'est la passation des marchés dès le début de lancement de l'opération jusqu'à la signature des contrats. L'élaboration, le suivi, l'évaluation, on assure le tout. Que ça soit en interne ou avec le soumissionnaire ou l'attributaire jusqu'à la signature du contrat. Une fois le contrat signé, on lui donne un numéro et on le dispatche aux appro par exemple, ça dépend qui est la structure initiatrice et il font la gestion du contrat nous notre boulot s'arrête là. Grosso modo on a un contact ici avec les structures qui lancent les opérations. On a un contact avec des commissions qui font l'examen du dossier et on a un contact, nous on assure un contact en externe entre soumissionnaires et complexe. Le soumissionnaire pour retirer le cahier de charge il vient vers moi, pour avoir une clarification il vient vers nous, pour avoir une invitation c'est nous qui l'invitons pour l'évaluation c'est nous qui l'invitons. Donc on est l'intermédiaire entre les soumissionnaires. Jusqu'à l'attribution, jusqu'à la signature du contrat. après ça sera la gestion du contrat dans les structures.

On a pas mal de soumissionnaires de droits étrangers, c'est des anglais. Des fois ils nous envoient des mails en anglais, des lettres en anglais. Même moi autant que cadre financier je serai appelée à être membre fi dans les commissions d'évaluation. Donc on évalue leurs documents. Y a pas mal de documents, les bilans, les statuts en langue anglaise. Des fois, on demande la traduction. C'est la règle générale c'est on demande la traduction vu que la formation en anglais ici dans ce service elle est réduite à certaines personnes, comme moi par exemple j'ai pas fait de formation en anglais. Dans notre système, on a droit à deux formations par an selon notre besoin. Mais généralement, il n'y a pas l'application des deux formations. Par exemple moi en 2014, je n'ai effectué aucune formation : boulot c'est tout. A chaque fois on nous trouve une raison. Des fois on nous inscrit puis on nous dit que la formation a été annulée. Des fois on va au centre et le nombre est réduit elle est annulée. Des fois elle est programmée elle n'est pas faite. A chaque fois il y a une raison. *comme* par exemple nous, on a demandé anglais. Dans tout le département, il y avait un seul cadre juridique qui a fait l'anglais en initiation. Quand je te dis l'anglais en initiation, c'est ce que nous avons étudié au CEM. Mais l'anglais commercial et tout on l'a pas fait. On ne cesse de réclamer avec le supérieur avec la direction. La dernière information c'était : à la préparation du plan de formation c'est-à-dire la préposition que je fais pour être formée, l'anglais sera juste pour l'exploitation : les appro, technique et tout. Durant la préparation du diplôme d'expertise comptable on a fait anglais mais ce n'était pas, il y avait les intervenants étrangers et il y avait les intervenants locaux, il y avait un chevauchement entre eux. L'intervenant local, c'était tout ce qui est phonétique, c'était à côté de la plaque. Alors que l'intervenant étranger c'était purement l'anglais économique. Peut-être durant toute l'année on a eu deux intervenants de l'étrangers pour trois jours c'est trop serré. Donc pour vous dire on a eu le tout, c'est impossible. Mais les lacunes (en anglais) ici chez nous au département ce n'est pas ce qui manque. Parce que parfois on doit adresser des courriers on est destinataires de courrier de documents de mail, on essaye, mais pour écrire un courrier bien fait en anglais w ga3 et tout, à notre département, ça n'existe pas.

C'est toujours le cas (de recevoir des mails en anglais et de répondre en français)

Ça c'était un exemple d'un soumissionnaire qui nous écrit en langue anglaise. Y a pas eu de suite depuis le dernier mail je ne sais pas si c'est par rapport au paiement : il n'a pas pu payer les 50 dollars, je doute parce que c'est des sociétés. Autrement ils ont compris que la langue des cahiers de charge c'était la langue française peut être qu'il n'avait pas d'interprète. Apparemment c'est une histoire d'interprète. Parce que nous on a pas mal de sociétés américaines, comme même on arrive à travailler avec eux parce qu'ils ont des représentants en algérie ils font le tout. C'est lui qui retire le cahier des charges, c'est lui qui prépare l'offre. C'est lui l'interlocuteur entre moi et le soumissionnaire qui est de droits étrangers qui ne comprend pas le français. et il y a des sociétés de droits étrangers par exemple des américains ils nous envoient tout ce qui est documents à remplir, ils le remplissent en français. Il n'y a pas de soucis. Par exemples leurs bilans, l'attestation fiscale, la déclaration sociale, c'est des documents délivrés des administrations étrangères américaines, ils les apportent en anglais. Depuis que je suis là, je n'ai pas encore rencontré ni un juriste, ni un financier ni un comité d'évaluation qui a traité le document tel qu'il est. En anglais non. Généralement, on demande le document traduit. Les soumissionnaires qui ont déjà travaillé avec nous ils font les deux : ils nous envoient le document avec

une traduction. Généralement on leur donne des délais, dix jours, maximum dix jours. Sinon l'offre sera rejetée.

Anecdote : je sais pas s'il vous a expliqué son dernier dossier. Ils ont fait une consultation. Ils ont consulté des sociétés je crois de droits américains ou anglais. Ça été déclaré infructueux parce que les soumissionnaires ils n'ont pas compris la langue française, ils ont un peu dévié dans leur offre. Ici, quand c'est arrivé à l'évaluation ce n'était pas (ça). Il a relancé je crois qu'il va faire des efforts pour leur expliquer en extra tout ce qui est procédures propres à nous et comment déposer et tout. Il n'avait pas le choix fi la reprise du dossier il n'avait pas le choix c'était que les seuls fabricants qui pouvaient ramener la fourniture et effectuer la prestation. Autrement *quand on a* le choix entre les français et les anglais ils se confondent et ils traduisent et tout. Sinon *s'il y a comme je vous l'ai dit le cas de dj* comme dans son cas il n'y avait qu'eux il ne peut pas transmettre le dossier en version anglaise parce que je vous ai dit on a pas- la langue officielle propre à nous c'est le français. Je vous montre le cahier de charge, il y a une disposition qui stipule que la langue du dossier des appels d'offre c'est bien le français. Voilà, langue de l'appel d'offre c'est le français. Sauf que juste dans **l'annonce** on fait les deux mais la langue c'est le français.

Anecdote 2 : ça nous est arrivés que des soumissionnaire sont venus, de droits étrangers et une langue autre que le français qu'est-ce qu'ils font, ils ont retiré le cahier des charges, l'ont vu et après à chaque fois ils nous envoient et nous disent : « est-ce que vous pouvez nous transmettre la version en anglais ». des fois quand ils sont intéressés par les spécifications techniques, ils envoient un message en disant, « est-ce que vous pouvez nous transmettre une copie en langue anglaise ». On répond toujours que notre- on répond toujours NIET. nous la langue *de travail* propre à nous c'est le français. On ne peut pas vous traduire. Vous voulez faire la traduction faites-là à votre niveau. Et donnez-moi une autre en langue française. Moi j'ai fait l'anglais. Il y a des collègues avec moi qui sont limités en anglais. Ça pose vraiment des lacunes. Mais pour aller à ce niveau (ou on accepte des documents/dossiers en anglais), pas encore, il nous faut beaucoup de choses. Il nous faut un recrutement de nouveaux employés. Ceux-là sont à raser.

J'attends d'être inscrite en formation d'abord. Il paraît qu'il y a plusieurs niveaux. il y a initiation je crois. Parce que je n'ai pas été. Une collègue a fait des choses basiques : conjugaison et grammaire en anglais ici au centre de perfectionnement.

Jurist, chef de service RT

Depuis 2006 j'ai été recruté au niveau du service juridique département finance qui s'occupait à l'époque de tout ce qui est passation des marchés au tant que juriste, cadre juridique. J'ai été membres aux comission d'évaluation des offre. C'est-à-dire acteur. Le juriste c'est un acteur principal dans les passation des marchés, d'une part. d'autres parts, à l'issue d'évaluation des offres, des contrats ont été signés et parafés par les structures et le département finances jouait un rôle de contrôle dans la conclusion des contrats : control des aspects cross-contractuels. Pour le choix de la langue, les appels d'offres dans les instructions générales aux commissionnaires, la langue anglaise, on est instruits d'accepter des documents qui ont été fournis par les soumissionnaires. On était instruits d'accepter les documents fournis dans le cadre des soumissions des sociétés étrangères en langue anglaise. A cet effet, des actions de formations ont été lancées par le département ressources humaines pour rendre le personnel plus performant, pour plus de performance en matière de maîtrise de la langue anglaise. Généralement tous les cadres ont été concernés et plus principalement et nécessairement les acteurs dans les comités d'évaluation des offres. Tous les acteurs qui ont été dabs l'action d'évaluation et de concrétisation de contrats issues des appels d'offres. Etant donné que la plus part des appels d'offres ont été des appels d'offres nationales et internationales.

Pour la langue des contrats, tout ce qui st contrat c'est en français. On a pas un contrat en anglais. La phase contrat vient à la fin d'évaluation. Le contrat, on ne conclue pas un contrat avant d'avoir lancé un appel d'offre, c'est-à-dire le processus contractuel, pour faire un contrat avec un étranger. Avant ils déterminent le besoin. Ils budgétisent ce besoin, ils font sortir son étendu. L'étendu sera mis dans un cahier de charges. Le cahier de charge est validé, une fois validé, il est lancé au baosem, après être lancé au baosem, vient le délai, ils font l'ouverture des plis. Après l'ouverture des plis, il y a l'opération d'évaluation par des comités. Il faut comprendre le processus des appel d'offres : l'appel d'offre commence par le besoin, quand il y a un besoin, il est budgétisé. Avec la budgétisation, le cahier de charge est élaboré par la structure maintenance ou technique par exemple. Il comprend différents intervenats. Il est validé au complexe. Une fois validé, il va à la cellule de passation des

marchés. Avant il y avait le juridique qui s'occupait de tout ce qui est passation des marchés. Maintenant, ils se sont séparés : juridique à part avec le département finances et spm c'est passation des marchés. Quand l'appel d'offres est lancé dans baosem. On peut pas faire un appel d'offre sans le baosem. Ils font le placard publicitaire. Viennent les entreprises intéressées par l'appel d'offre, ils retirent le cahier de charge. S'il est intéressant, il fait sa soumission. Le placard publicitaire a une version française et anglaise. Les soumissionnaires intéressés déposent leurs offres. Une fois fait, quand vient le délai parce qu'ils leur fixent une date limite. Généralement cinq semaines à deux semaines. Après la date limite, on procède à l'ouverture des plis. Une commission d'ouverture des plis. Ils appellent les entreprises concernées pour que l'ouverture soit publique. Quand ils ouvrent les offres, ils font un PV. Une autre opération d'évaluation démarre. Un autre comité institué qui comprend un juriste, un financier, un technicien, un ingénieur évalue les offres proposées. Quand l'opération d'évaluation est achevée, ils sortent avec des conclusions : les offres retenues et les offres non-retenues. Les soumissionnaires des offres retenues seront rappelés pour déposer leur offres financières. En anglais, quand il y a une incapacité ils leur disent : « apportez-nous les bilans traduits en langues française. Ils les envoient en anglais, il y a ceux qui refusent, il leur demandent de leur envoyer la version française.

Quand l'opération d'évaluation est achevée, le contrat est concrétisé. L'entreprise est retenue, on aboutit à un contrat avec celle dont l'offre était ...le contrat a toujours été en français. Il n'y a pas un contrat en une autre langue.

Le rôle d'un juriste dans un comité c'est de garantir le maximum de sécurité juridique pour l'entreprise.

Formation :

La formation est en baisse. La maîtrise de la langue anglaise..le français c'est le premier- maîtriser- puisque la langue première des affaires et vient en deuxième position l'anglais. Si le juriste ne la maîtrise pas, ce n'est pas une chose qui est nuisible. Mais pour que le juriste soit plus performant, pour qu'il ait des compétences, il faut qu'il maîtrise la langue anglaise.

Head of service budget (Fmm)

I graduated commercial sciences

Cerner les besoins. Interpréter le besoin en matière physique. Le transfert depuis le besoin physique au besoin financier. On demande un budget et on suit le suivi de la consommation du budget brièvement avec les écarts, qu'est-ce qu'on a fait qu'est-ce qu'on n'a pas fait. Le budget généralement il est en interne. On travaille généralement en interne, néanmoins, on a un dossier de passation de marché. Il ne vous à pas manquer de constater qu'on a une passation propre à l'entreprise. La*** c'est un module de passation de marchés où généralement les soumissionnaires, les gens qui seront intéressés par les marchés à l'entreprises ne seront pas forcément francophones, des anglosaxons, des latins, toutes les catégories, toute la population qui existe. Il se peut un chinois soumissionne dans un marché parce que c'est un marché national et international. Normalement généralement on fait le français. Il y avait un écrit à un certain moment où les sociétés étrangères ont réclamé au président directeur général que leur niveau intellectuel permettait de parler ou bien leur langues natales ou bien l'anglais qui était une langue internationale. Nous les algérien on parle notre langue natale qui est l'arabe, non pas le français. Ils ont dit que l'anglais était la langue internationale, ils peuvent pas faire une traduction entre la langue natale et l'anglais. Ils n'allaient pas faire une autre traduction entre l'anglais et le français. Ce serait presque euh- donc puisque les documents qu'ils travaillent avec étaient tous en anglais, ils ont demandé au vice-présidents d'avoir une langue de communication soi-disant hors le français qui est évidemment l'anglais. Cette proposition a eu un avis favorable du vice-président et ça s'est soldé avec une communication interne que le vice-président a fait je pense en 2006 entre 2006 et 2008 et on a été instruit comme quoi les documents en anglais devaient être acceptés. Notre langue de travail c'est bien le français, néanmoins ce qui était documents en langues anglaise devaient être acceptés. Donc jusqu'à là il y avait un demi-mal. L'entreprise a opté pour cette solution et avait même engagé des sessions de formation en anglais. On a commencé par les ingénieurs parce que la documentation des ingénieurs généralement c'est une documentation technique et qui est fournie généralement en anglais. Ensuite on a généralisé pour les membres qui travaillaient au COTE. Et c'est la troisième année que le groupe est formé pour l'anglais un anglais pre-intermediate et intermediate. Après ça on verra est-ce qu'on continuera à travailler avec l'anglais ou bien il y aura une note qui va annuler et remplacer la précédente mais jusque-là il y a pas une note qui annule la première note donc

généralement les gens ils sont un peu méconnaissant de la première note. Ils disent parce que le vice-président a été écarté mais non, on travaille avec un poste, c'est pas la personne qui a émis la note mais c'est le poste qui a émis la note, tant qu'il ya pas une annulation par le poste la note elle reste toujours d'ordre. Administrativement parlant c'est un demi-mal parce que c'est des rubriques. Généralement c'est un bilan, c'est quelque chose de très simple de très court, même si on devrait avoir recours à un dictionnaire c'est faisable, mais bilan pour un homme pour un technicien qui a une documentation qui peut aller jusqu'à 120 pages, 180 pages voir même 300 pages pour quelques équipements, traduire 300 pages avec un dictionnaire c'est pas évident. Même pour les communications, il ne vous a pas manqué de constater que la communication elle joue un rôle très important dans une société. Si je veux appeler un soumissionnaire, il faut d'abord que je sache exprimer un besoin. On doit le comprendre. La communication c'est un émetteur un récepteur et un réseau de communication. Maintenant l'émetteur il y est le récepteur il y est mais le canal, il faut choisir le bon canal. Des fois on a recours à des appels téléphoniques pour exprimer voilà ce dont a besoin, on a besoin de vous...et maintenant s'il parlent l'anglais, si les chinois, si les canadiens- bon il y a des canadiens sous réserves qu'ils sont francophones- donc là, ce n'est plus un choix, c'est une exigence si on veut être ouvert au marché international, c'est une exigence, ce n'est plus un choix. On avait un choix après l'indépendance ou 80% des marchés algériens été passés en France, soit en France, soit vers un pays francophone de façon à- et encore j'irai plus loin que ça : est-ce qu'on saura négocier un contrat en anglais. Il y a des sociétés qui détiennent le monopole et ils exigent que le contrat soit fait en anglais. Nous on exige en français. On le mets en français. Mais leurs juristes sont malins. Il y a un article qui prévoit que s'il y a une contradiction entre le contrat en français et celui en anglais, celui en anglais prévoit, donc on est un petit peu pris au piège, ce n'est plus un choix, c'est une exigence. Vous avez tout compris. Pour les ingénieurs -l'usage d'anglais- c'est une exigence qui est à l'ordre du jour, un, deux ils ont plus la possibilité de communiquer. Moi je vous dis j'ai huit pages à traduire, ils ont 400 pages à traduire, donc s'il s'amuse à prendre un dictionnaire... donc ils sont obligé d'apprendre l'anglais. Trois, on a eu un projet avec (une société américaine), c'est des gens du domaine, donc ils ont le contact humain avec le chef de projet, donc ils ont une relation et une communication avec le chef de projet qui est anglais ou bien.

Il n'y a pas de différence dans le rendement interne -entre un cadre qui maîtrise l'anglais et un cadre qui ne le maîtrise pas- pour un cadre dirigeant c'est grave. Il est censé avoir des communications avec les banques et ainsi de suite, mais un cadre normale, il est tout-à-fait normal qu'il parle uniquement le français, l'anglais c'est un plus, c'est comme si on le préparait à être un futur manager, on commence à le préparer avec des niveaux plus au moins qui lui sont appropriés.

On ne peut pas mettre toute la population-en formation- maintenant le programme de formation doit se focaliser sur le métier de cœur, notre métier de cœur c'est les finances, notre data c'est les finance, l'anglais doit être quelque chose de support, elle ne doit pas être une vocation, la vocation des finances, la vocation des finances c'est les bilans, c'est les budgets, c'est ça notre vocation, l'anglais c'est un plus. Je ne peux pas privilégier l'anglais sur une formation technique qui est celle de finances, je peux la mettre comme complément mais pas comme acteur principal

Je vais vous dire une anecdote je veux garder un bon cadre, je vais lui apprendre l'anglais, il va postuler dans une société qatarienne, il va postuler dans une société norvégienne. Donc à mon avis un cadre si on veut imprégner l'anglais dans ses habitudes de transactions écrites et tout on doit le faire petit à petit comme ça le jour où il sera prêt à quitter l'entreprise, l'entreprise aura récupéré un bon, une bonne part de son investissement qui est bien sûr la ressource humaine, sauf si on mettait ça avec un contrat de fidélité : je vous apprend l'anglais, je vous apprend les formations de bases qui sont connues mais avec un contrat de fidélité, vous avez jusqu'à cinq ans ou bien dix ans, vous ne quittez pas l'entreprise et ça on ne peut pas le faire. Il faut voir avec les ressources humaines, ça me dépasse.

Il y a une certaine contrainte il y a un volume horaire à respecter, il y a un seuil un budget à respecter pour la formation. Il doit être réparti entre l'ensemble du personnel. Ce n'est pas les finances où bien les techniciens qui vont bénéficier de la formation en anglais au détriment de quelques autres formations, donc il faut voir la fonction de l'entreprise elle-même, la vocation de l'entreprise. On est une entreprise de liquéfaction de gaz, on ne va pas s'amuser à bâtir des immeubles, on ne va pas investir dans le bâti, donc on choisit notre vocation, on ne choisit pas la langue. Si c'était un outil de travail, ça serait en complémentarité, ça serait un complément à la formation, pas la formation elle-même. Avec le chamboulement et le manque d'effectifs peut-être qu'on va récupérer d'ici une année

deux années parce qu'il y a des départs massifs de l'entreprise : des départs en retraites, des mutations, on va dire un départ massif, donc l'effectif de l'entreprise s'est réduit à un niveau qui a atteint un seuil, donc, dans ce seuil, je ne peux pas libérer un homme et laisser le poste vide. Les formations c'est le strict nécessaire espérant que ça va s'arranger dans le futur.

On est francophones, c'est-à-dire si vous- le français, c'est une langue officielle de travail, si vous suivez les anciens chefs de gouvernement, la langue de travail c'est l'arabe. Mais que voulez-vous que je vous dise. Maintenant c'est une génération qui passe le flambeau à une autre génération. Il a suffi que la première génération soit francophone pour qu'on le soit tous.

C'est un choix, si j'aurai opté pour l'anglais, vous m'aurais posé la question : pourquoi pas le français. On a un acquis d'une langue française, on ne va pas le concasser on ne va pas le démolir entièrement. Pour notre hiérarchie ou notre gouvernement, c'est une question de choix à faire, vous devez à un certain moment prendre une décision faire un choix c'est ça. L'Algérie a fait un choix, a pris une décision en se basant sur un acquis bien sûr. Si on avait un acquis en anglais avant ça peut-être en aurait fait autrement. On a fait un choix, mais un choix guidé. On a pris une décision, mais une décision forcée. C'est comme si on l'avait pas faite, donc il est temps pour le changement, le changement devient une obligation certes mais on ne va pas tout démolir on va aller mollo. A l'entreprise, je pense que c'est le leader des entreprises algériennes, c'est une société qui est leader en matière de gestion, en matière de transactions internationales et tout donc on a commencé déjà par faire les premiers pas. Vous voyez le niveau d'un ingénieur ? Des fois on se dit qui est l'anglais, notre ingénieur ou bin l'anglais lui-même ? Ils ont un bon niveau, vous pouvez discuter avec monsieur B avec un certain Dj, c'est des gens qui négocient des contrats en anglais, c'est un anglais écrit, un anglais parlé, un anglais listening, entendu, donc leur anglais il est bon, donc maintenant, on a fini avec les structures techniques, on a commencé à avec les structures administratives. La maîtrise générale d'anglais : ça c'est notre plan, c'est notre vision lointaine, en tant que manager, il ne faut pas que vous ayez une vision courte. Un manager, il faut qu'il ait une vision lointaine, ce n'est pas du jour au lendemain qu'on va faire ce changement. On ira vers l'anglais soyez donc sûr de ça, le changement on le fera mais au bout de combien d'années tel est la question. Est-ce que c'est quinquennal, est-ce que c'est décennal, vingt ans, trente ans donc on doit faire un premier pas, la première génération après le premier. On a des indicateurs de mesures, ils sont là vous pouvez les consulter.

HEAD DPT TECHNICAL (THM)

Donc c'est le chef de département technique, complexe ... je suis au poste depuis six mois, j'étais autant que ingénieur chimiste au laboratoire, j'ai fait comme formation de base ingénieur en chimie industrielle. J'ai été recruté en 1993. J'ai fait le laboratoire pendant trois ans, puis je suis passé à la production pendant sept ans, puis je suis retourné au laboratoire autant que chef de service étude et développement et actuellement le chef de département technique. Presque la documentation technique c'est l'anglais : les normes, les références, les courriers, les échanges avec les étrangers et tout c'est, c'est l'anglais. Des fois on transmet en français, et ils [les partenaires étrangers] traduisent. C'est des faxes, c'est des e-mails, c'est des conversations téléphoniques, donc ici on a des ingénieurs qui maîtrisent bien l'anglais. On fait appel à eux pour nous assister. Nous, on assimile, l'anglais technique, on comprend mais. Pour faire passer le message, on ne parle pas beaucoup, c'est-à-dire on utilise plus le français que l'anglais. Le problème d'anglais c'est qu'on a bénéficié de pas mal de formations mais le fait de ne pas exercer parce que l'anglais il faut le pratiquer il faut le parler. C'est surtout quand il y a des visites, On a des journées d'études, On a des salons, On a des présentations des représentants des fabricants. On a des clarifications avec des fournisseurs, donc ici, on est obligé de parler en anglais. Ou bien on utilise les traducteurs, ou bien on utilise nos ingénieurs qui ont [un bon niveau en anglais].

Notre démarche au niveau du complexe c'est-à-dire chaque ingénieur a droit à deux formations par ans, et il fait le choix selon ses besoins. Après il y a une validation entre les structures qui ont le besoin et le DRH valide le plan de formation. Dans le plan de formation, il y a des ingénieurs, qui ont besoin dans leur quotidien de travail, il a besoin de la langue anglaise, il s'inscrit, et il y a un suivi. Il passe par niveau, niveau par niveau, niveau par niveau. Mais par exemple pour le management, ça [l'apprentissage d'anglais] devient une nécessité. L'on [management] arrive à un certain stade où on est confronté à négocier des contrats, à discuter avec des partenaires, à assister à des séminaires, à des conférences. Donc ici, il faut une autre démarche, une autre vision qui accompagne le [manager]. Vision entreprise, au moins sélectionné à l'échelle entreprise. Par exemple nous [les managers] quand

on reçoit les les délégations, les ministres, c'est le département technique, c'est lui qui va présenter et tout. S'il ne maîtrise pas l'anglais, avec traducteur..., donc c'est-à-dire accentuer le- ce n'est pas une formation standard qui confirme au bilan que la formation a été effectuée. Il faut des cours précis, disant chaque semaine, on aura des forums.

Il faut exercer. Je ne suis pas [satisfait] Personnellement je je peux mieux faire mais cette motivation qui pousse [n'y est pas] on est l'initiative propre initiative donc je dois trouver une démarche. J'ai même proposé au staff, [on s'est mis d'accord que] chaque semaine on fait une réunion ou on essaye de débattre en anglais. L'idées, les collègues l'ont accepté mais on n'est pas passer à l'action notre propre initiative tellement la charge de travail est importante. C'est-à-dire on se met dans des conditions ou on se trouve avec les étrangers. A part les français, tous les autres partenaires parlent en anglais. C'est-à-dire les italiens, ou les chinois, ou les Singapouriens ou les coréens, tous utilisent l'anglais

Même dans nos contrats. actuellement on est sur plusieurs contrats, c'est anglais, c'est des américains, c'est des singapouriens, c'est des italiens et l'échange se fait en anglais.

Mais on se débrouille. C'est-à-dire dans l'équipe. C'est-à-dire dans nos valeurs d'équipe, il y a une maîtrise, entraide. Mais le cumule d'expérience, de savoir, C'est-à-dire les mots, *il y en a*, mais comment les assembler comment les mettre en valeurs ? c'est pour ça qu'on a proposé de tenir des réunions, d'établir des rapports, comme ça les employés s'imprègnent, on apprend un mot, deux mots, avec le temps [on apprend]. Les réunions avec des anglophones souvent on fait appel à des ingénieurs qui maîtrisent, C'est-à-dire c'est un peu d'anglais un peu de français, un peu un peu de mélange mais le message le message passe et eux souvent ils ont des représentants algériens. Le contact direct, C'est-à-dire c'est un anglais auquel il [l'interlocuteur anglophone] s'adapte à notre niveau. Toi tu parles et lui il essaye de comprendre, on estime qu'on passe le message, on essaye il y a une entre-aide.

L'anglais c'est vitale au niveau de l'entreprise tous les départements qui ont une interface extérieur comme les approvisionnements. C'est des achats c'est important la maintenance aussi, ils ont des contrats, ils ont des spécialistes qu'ils sollicitent, la production un peu. Mais pour les manuels, on a des manuels en anglais, ou bien on fait une traduction, ou bien les employés maîtrisent l'anglais. La traduction c'est une autres paire de manche, est-ce que c'est fidèle, ce n'est pas fidèle. Mais ceux qui ont accompagné les américains ici ont appris l'anglais, c'était leur quotidien. Il faut se mettre dans des conditions ou quelqu'un se trouve dans l'obligation de parler, il parle. C'est ça.

Ingénieur en mécanique service inspection (TMI1)

On est de inspecteurs, je travaille en réglementation

Des fois on est appelé à consulter soit des logiciels en anglais, ou bien on a des codes qu'on travaille avec en anglais, généralement la version originale [des codes] est en anglais et il y a la version traduite qui est un peu limitée. Des fois la traduction est faite mot par mot et elle nous induit en erreur. Mais la vraie compréhension est en anglais. On a un manque d'anglais. On a une initiation en anglais mais il nous faut toujours à chaque fois le perfectionnement donc surtout la langue quand on l'utilise pas, elle risque d'être oubliée. On se débrouille un peu, pas nul et pas excellent. On aimerait bien avoir un perfectionnement en anglais. Si on arrive pas à déchiffrer un certain code en anglais. On a neuf ans d'expérience. Des fois on est appelé à travailler avec des étrangers surtout quand les organismes de control externes viennent, des fois on est obligé de parler avec eux en anglais. Leurs visite dépend du programme des arrêts de trains. Parce qu'on dépend des arrêts. C'est des organismes agréés. Ils viennent pour faire des inspections d'équipements spécifiques qui ne peuvent pas être réalisés par les organismes algériens. Faute d'agrément. Ils sont crédibles côté...en 2009 on a travaillé avec des portugais, après ça fait deux ans on a travaillé avec les français. Cette fois-ci on travaille avec un bureau de l'Italie, tant bien que mal, il ont un bureau à Alger, sinon. Ils nous envoyaient leur staff. Parce que c'est bureau multinationale, ils ont des algériens qui travaillent avec eux, c'est bon. Mais toujours est-il que l'anglais c'est une arme, pour nous c'est une arme. On doit à chaque fois être perfectionné. On a fait dans le cadre de notre formation 45 jours d'anglais. Mais comme ça fait huit ans ou neuf ans, on- quand on pratique pas on oublie

Mise à part la mobilisation des inspecteurs, des fois on reçoit des représentants des soumissionnaires pour visite. On doit leurs faire visiter soit le ... et l'équipement qu'ils doivent acheter, donc la fréquence, on ne peut pas avoir une fréquence précise. La dernière visite remonte à deux ans. Il y a une contrainte de temps et de lieu. Parce que la formation on la fait au niveau du complexe ou hors

complexe parce, c'est différent. Parce que des fois quand on est en formation normalement on est donc on coupe avec le travail, soit on est au travail, soit on est en formation. Des fois quand la formation se déroule à l'intérieur du complexe, on nous appelle et nous ne pouvons pas refuser. Aussi, concernant la durée. Disant une formation accélérée ou une fois par semaine, ça dépend. Ils s'y connaissent en cette pédagogie. D'après mon expérience, c'est mieux d'avoir une formation continue. Même nous, côté organisation au sein du service, ça sera un peu difficile. Pour démobiliser un ingénieur pour deux semaine ou trois semaine c'est pas évident, le plus courant c'est une journée par semaine pendant une année c'est ce qu'ils font. Ils mélangent les formations linguistiques avec les formations spécifiques liées à notre travail. Donc, ils nous exigent de choisir deux formations. Dans les deux formations qu'est-ce qu'on choisit. Nous, autant que techniciens, on va directement vers les formations spécifiques à notre [travail]. La formation linguistique ne doit dépendre, à mon avis, elle ne doit pas dépendre du plan de formation qu'ils nous envoient chaque année. [il devrait y avoir] un recensement au niveau du service de formation, disant, voilà la liste des ingénieurs qui doivent bénéficier de la formation parce qu'un ingénieur il est dans ce service. Ça se pourrait que la prochaine année il sera dans un autre service où il aura besoin de [l'anglais]. La formation en anglais elle doit suivre, à mon avis, elle doit suivre tous les ingénieurs, notamment les ingénieurs qui sont liés au chantier, c'est sûr, parce que leur majorité sont liés au chantier. Ou bien les ingénieurs qui expriment leurs besoins. Parce que nous, des fois on exprime notre besoin, mais il n'est pas accepté.

Moi, personnellement, j'ai bénéficié d'une formation en anglais, ça remonte à, ici au sein du complexe, en 2008- 2009, apparemment plus de six ans, donc il faut à chaque fois, on doit nous perfectionner. L'anglais qu'on le veuille ou non, c'est la langue de la technologie. Un ingénieur sans l'anglais est un ingénieur imparfait selon moi. Parfois quand on reçoit des étrangers, on fait appel à des ingénieurs qui maîtrisent l'anglais, quoi que ils n'ont pas une liaison directe avec ce dossier. On appelle la personne parce qu'elle maîtrise l'anglais. Quoi que elle n'a pas à travailler dans ce dossier, donc c'est un handicap pour un ingénieur. Maîtriser l'anglais en plus que son travail, ça sera utile : joindre l'utile à l'agréable. Nous on aimerait bien avoir des formations en anglais périodiques. C'est vrai on ne va pas demander [pendant toute] l'année [d'apprendre] l'anglais mais au moins [que ça soit] périodique, disant chaque trois ans, ils nous font une formation de rafraîchissement. Même l'ingénieur, quand il est dans le groupe, le groupe, ça te donne envie de pratiquer. Quand il y a un groupe pédagogique, il pratique. Quoi que ici, on te mentira si on te dit que je lis des documents [juste pour apprendre] sauf nécessité. Quand on est contraints à traiter des dossiers [en anglais], on fait des efforts supplémentaires. Mais quand on est dans un groupe [de formation] où tout le monde apprend l'anglais, il y aura une certaine ambiance qui te pousse à pratiquer, à pratiquer et à corriger l'orthographe et le vocabulaire.

On a fait '*general, general english*', , mais en vérité, c'était bénéfique j'ai pu améliorer mon [anglais], mais ce qui nous manque ici c'est technical [english] technical ici c'est un peu [demandé] c'est purement spécifique aux ingénieurs du [département] technique

Le français, on l'utilise comme un moyen de communication interne mais côté savoir côté technologie l'anglais c'est indispensable parce que notre système fonctionne en français. Si ça fonctionnait en anglais, c'est autre chose. Parce que toute la société fonctionne en français. Le plus qu'on veut c'est l'anglais pour des trucs spécifiques mais côté communication parce que toute la société parle en français donc euh. Si j'exige à un soumissionnaire anglophone de me parler en français hors que l'anglais c'est reconnu à l'échelle internationale. Donc

Dpt mécanique chef de service électricité (MMM1)

Ma fonction est autant que chef de service électricité. Je suis là pour gérer le service électricité en matière de ressource humaine, en matière du technique, eh, la gestion de travaux, c'est-à-dire tout ce qui est en relation entre le technicien et la gestion, d'accord? Principalement, comme le mot l'indique, c'est la maintenance des équipements électriques, elle comporte tout ce qui est- tout ce qui a un lien avec l'outil de production de l'énergie électrique tel que les turbogénérateurs, en matière de maintenance et de l'entretien, donc turbogénérateurs, liquéfaction électrique qui contiennent eux aussi des équipements tel que les tableaux électriques moyenne tension et basse tension, des moteurs électriques, des transformateurs électriques au niveau du site, on les appelle aussi des chargés. Le rapport on le fait souvent, le rapport c'est quelque chose d'évident pourquoi parce que à chaque intervention à chaque problème, il y a un résultat il y a une production, une production en matière d'intervention. Cette production doit être réussite [disant] j'ai intervenu, c'est bon tout est rentré dans

l'ordre mais il faut qu'elle soit mentionnée noir sur blanc, pour au moins que ça reste comme historique d'intervention. Pratiquement, y a pas d'anglais. Moi j'ai fait le technique avant. Au technique y a de la documentation en anglais principalement, j'étais au département technique pendant, pendant [tu peux dire 12 ans] d'accord, [ça ne fait pas longtemps depuis que je suis dans ce service tu peux dire depuis] huit mois. Au technique, on est plus proche de l'anglais que la maintenance malgré que notre documentation principale normalement elle est en anglais, d'accord ? et elle est bien écrite et bien rédigée en anglais qu'en français c'est-à-dire même la traduction [de la documentation] elle est- parfois elle n'est pas vraiment expliquée. D'accord, il ya comment dirai-je il y a des traductions qui ont été faites, c'est pas des traductions, c'est des translations. Pour moi, selon mon avis [la traduction en français] ne sert vraiment à rien. Par contre si l'individu prend le document tel qu'il a été rédigé au préalable en anglais, là s'il fait un effort il va comprendre le système mieux que de le voir traduit en français

On avait plus de chance, avant, d'accéder à une formation en anglais qu'actuellement. Actuellement, je ne sais pas pourquoi ça a diminué tant que ça. [au point où] la formation en anglais elle est [devenu] tributaire d'un directeur. [bref] c'est le système qui- des fois il est bon des fois il est défaillant, mais j'espère que ça va se régler [ce] problème [de formation en anglais en baisse]. Mais l'effort dont je vous ai parlé c'est l'effort de quelqu'un qui n'a pas la chance de faire cette formation, tu es obligé de- d'apprendre tout seul l'anglais, d'accord. Moi personnellement ça m'a, ça m'est arrivé de payer des formations personnel d'accord [à l'extérieur- de l'entreprise- je prenais des cours] pour m'améliorer. Donc c'est l'anglais technique, un peu de la littérature (anglais général) mais principalement, [tu peux dire] quelque 90% c'est de l'anglais technique, d'accord ? avec des petites aides du dictionnaire, on peut s'en sortir, ok ?

Moi j'ai une bonne expérience avec les partenaires étrangers tel que la construction des nouvelles chaudières on a été en contact direct avec les japonais qui parlaient anglais principalement et on devait parler anglais c'est là où je me suis un petit peu perfectionné c'est-à-dire pour moi c'est la pratique, c'est bon d'apprendre l'anglais, mais si on le pratique pas on va le perdre, au fil du temps on va le perdre, c'est évident. Par contre si vous avez un partenaire qui parle anglais et que vous êtes dans l'obligation de le répondre l'anglais parce qu'il ne va pas comprendre une autre langue que l'anglais, là vous allez vous perfectionner indirectement sans le savoir, d'accord ? Vous apprenez des mots d'ici, de là donc euh. C'est le moyen qu'on a trouvé. Le meilleur moyen c'est de le pratiquer et de suivre des formations. Ce n'est pas le meilleur moyen. On ne peut pas esquiver la formation académique. Mais c'est mieux s'il y avait la formation académique plus la pratique au niveau de site, c'est- c'est plus meilleurs, [vous voyez ?], donc la meilleure façon d'apprendre l'anglais et le garder longtemps c'est la pratique et bien sûr les formations académiques qui devraient venir au fur et à mesure à chaque besoin [vous voyez ?], donc voilà.

Les réunions

Les réunions se passaient en anglais, elles se basaient principalement sur tout ce qui est technique bien sûr et les différentes disciplines, c'est-à-dire en instrumentation, en process, en mécanique et en électricité, donc c'était multidisciplinaire et c'était très, très, très bénéfique. Voilà donc on avait de l'avantage d'apprendre d'autres disciplines que l'électricité, quoi encore, des fois on utilisait la langue des mains si on n'arrivait pas à trouver le mot. Et des fois on emprunte des mots d'une autre personne pour l'utiliser, voilà, oui, bien sûr. L'autodidacte dès fois il emprunte des mots, des gestes d'une autre personne, pas forcément de la langue qu'il détient. Dès fois c'est la personne qui est à côté de lui ou le japonais qui est un peu éloigné de lui qui va comprendre ce qu'il dit, il va utiliser le mot utilisé par cette personne pour son objectif, pour son dialogue, il va l'utiliser, il va euh, c'est ça que je veux dire.

Nos collègues nous aidaient à faire passer le message, il y avait de- et au fur et à mesure avec le nombre de réunions qui va se multiplier vous allez comprendre et apprendre mieux donc au fur et à mesure vous aurez une certaine liberté d'expression, que vous pouvez par exemple conduire une réunion.

Les **e-mails** dans ce service, rarement mais Au technique c'était souvent des fois avec des fournisseurs des fabricants qui parlent anglais, on devait écrire, entrer en relation avec eux par écrit bien sûr d'accord ? Euh je vous cache pas, je me fais aider par un logiciel par exemple par un logiciel de traduction dans le cas où- des fois j'écris tout le paragraphe. C'est efficace à un certain degré dans le sens où vous écrivez vous-même le texte vous-même de A à Z et vous vous faites aider par (le logiciel de traduction) juste pour savoir est-ce que ce que vous avez écrit en anglais veut dire ça en français, l'idée est-ce qu'elle y est. Des fois même le fabricant, même l'interlocuteur n'a pas vraiment besoin

d'un anglais académique très fort pour comprendre le souci- votre souci il suffit que l'idée y est dans un paragraphe quelconque pour que le message passe, d'accord ?

.L'anglais c'est un outil de travail, surtout dans notre domaine de l'industrie, de gaz et de pétrole. L'anglais c'est, c'est un outil de travail. Pour comprendre les équipements, pour comprendre les équipements il est plus judicieux de les lire et de les comprendre en anglais que de les lire et de les comprendre en français sauf si c'est un équipement qui vient de l'Europe ou de la France, mais pratiquement ici au complexe presque 80% des équipements viennent des pays anglophones donc c'est- on est obligé, c'est une obligation d'apprendre. S'il y a une formation en anglais, [mes attentes sont] d'apprendre l'anglais au maximum pour écrire et parler sans aucune aide. Par rapport à d'autres personnes je me débrouille très bien.

Finance department (accountant agent) FA1

Nous, en tant qu'administration, en tant que finance l'usage d'anglais ta3na on peut dire qu'il est nul sauf dans le cas où on fait partie d'un d'une commission pour alignement technique ou alignement financier, dans ce cas-là on reçoit des documents. On ne reçoit pas de gens le parler on l'utilise pas. Même dans le cas où on reçoit des documents en anglais, on demande la traduction. On n'est pas qualifié pour [les traiter]. Donc quand on reçoit des documents en anglais, on est obligé de demander la traduction. J'ai une licence en sciences commerciales option finances. On n'a jamais utilisé l'anglais que ce soit dans nos études, que ce soit dans notre travail. La communication dans nos mails, elle se fait en français. La communication en externe elle se fait par l'interface d'un secrétaire quand on est dans le cadre d'une commission, il y a un secrétaire soit dans le département approvisionnement, soit dans le département technique c'est eux qui ont une interface pour éviter toutes interactions avec les entreprises, pour éviter comment on appelle ça pour éviter quelque chose. Moi je ne comprends pas l'anglais que ce soit quand je regarde un film, puisqu'il n'y a pas un sous-titre en français, je ne peux pas le regarder en version anglaise ou en VO. Donc l'anglais pour nous, on a demandé des formations en anglais, pour ne pas demander la traduction dans le cas où on reçoit une communication en anglais, des fois on reçoit des bilans en anglais, on ne peut pas les lire, je ne comprends pas, j'ai des documents des fois qui viennent des départements les appro. Ou bien technique, je ne peux pas les comprendre. On a même pas le droit à internet. Nous en tant que cadres on n'a pas internet. Si j'avais internet, il y a les outils pour traduction, traduire, on comprend. Donc, on ne nous donne pas les outils, je ne peux pas faire des efforts. Les efforts seraient que je vais à (une école privée), mais je n'ai pas le temps: Père de famille je ne vais pas. C'est ça. On a demandé. Les autres complexes apparemment je sais qu'il y a des gens font la formation en anglais. Les chefs de services l'ont déjà fait, monsieur (le chef de service finance) madame (la chef de service...) elle l'a fait. Apparemment, ils montent de niveau en niveau. On a un plan à faire, un plan de formation chaque année on nous demande et on inscrit anglais donc c'est à eux de juger si ça va nous servir ou pas.

Demain il y a un poste à qatar ou en europe ils demandent l'anglais, ils demandent la maîtrise d'anglais. Moi je serai pénalisé. L'entreprise, elle est à l'étranger aussi, pour postuler à l'étranger il faut avoir une maîtrise d'anglais. Moi je vais pas mettre que je maîtrise l'anglais ou que je parle l'anglais alors que dans l'entretien je vais caler. Ça [la non-maîtrise d'anglais] nous pénalise autant que cadre. Même dans le cas où il y aura des négociations dans le futur, on sera amené à négocier avec des chinois, des japonais, des anglais, des français. donc moi, dans une réunion avec des étrangers je ne peux pas intervenir. Demain on sera appelés à rénover le complexe, il y aura beaucoup d'interactions avec les étrangers, donc dans ce cas-là, on ne peut pas on ne peut pas tenir des réunions avec des étrangers. Je serai obligé de passer par ceux qui le décident, donc ça pénalise, ça pénalise. la formation, la formation, il n'y a pas d'autres solutions. La formation c'est l'outil qui doit nous servir pour améliorer [notre niveau], je ne sais pas, qu'il y est une population. Ils ont ciblé une population des techniciens, ceux qui ont une interface. Donc c'est une approche de la hiérarchie, cibler ceux qui travaillent avec les étrangers, donc je ne sais pas. Il (L'anglais) n'est pas valorisé à notre niveau, parce que pour nous les finances c'est la comptabilité, alors que les finances dans les grandes entreprises c'est la gestion du porte-feuille, c'est les actions, les (), c'est acheter vendre alors que nous, non, c'est acheter la pièce de rechange, c'est faire les prestations de service.

C'est pas un choix parce qu'on maîtrise pas l'anglais, je ne pense pas que ça c'était un choix. Si c'était un choix, la langue internationale serait l'anglais. En Algérie ça a toujours été le cas (le français prend la place de l'anglais). En entreprise algérienne, le français prend le dessus, sur l'arabe, sur- c'est le français qui prime, sur l'arabe, sur l'anglais. Je n'ai jamais vu une communication en arabe, sauf pour

les condoléances. Donc c'est le français qui prime sur l'anglais. Mais je pense que l'anglais devrait prendre le dessus. Les premiers temps, ça fait sept ans, on a fait un test pour évaluer notre niveau, on n'a pas eu de résultats, je ne sais pas qu'est-ce qu'ils ont fait de ce test mais après, Il y a eu quelques chefs des services qui ont eu accès à cette formation et quelques chargés de dossier comme les appro. C'était destiné à la plus part des populations des cadres.

La maîtrise de l'anglais elle devrait être encouragé au niveau de l'entreprise et même dehors parce que je pense que c'est la langue qui va financière économique et même touristique je pense que l'anglais aurait dû être la première langue, donc on apprend l'anglais au lieu du français. La monnaie d'échanges pour les hydrocarbures c'est le dollar c'est même pas l'euro, le dollar c'est quoi ? C'est Américain, Américain c'est l'anglais. Donc je pense que dans une entreprise qui traite d'autant plus en dollars, en anglais donc ça devrait être un outil d'échanges.

Département Mécanique, chef de service craft MMM2

Actuellement je suis intérimaire au poste chef de service mécanique. Sinon avant j'étais au département technique service étude pendant quatre ans. Donc le passage logique selon le système pour un ingénieur doit commencer par la maintenance. Parce que avant c'était la théorie. Donc juste la première année, donc le plus important c'est la symétrie, c'est-à-dire voir tout ce qui est théorique, le toucher des équipements. Après j'ai travaillé au planning et méthodes, service planning et méthodes. J'y suis resté six ans. Non cinq ans.

Donc l'anglais, quand est-ce qu'il y a eu le premier contact ou la première occasion, c'est la première opportunité pour dire ah j'ai besoin de l'anglais, c'était au ici craft. parce que la plus part de la documentation technique c'est en anglais. Surtout les équipements ici au niveau du complexe c'est des équipements qui ont été installés depuis la construction, moitié moitié. Il y a des équipements qui ont été installés c'est-à-dire les années soixante-dix où il y avait que les expatriés ici, les algériens étaient ici comme soutien c'est tout. La plus part de la documentation ancienne c'était en anglais. Après il y a eu la deuxième phase, c'est la phase rénovation durant les années quatre-vingt-dix où il y a eu de nouveau cahiers de charges, la copie en français c'était exigée parce que sûrement les managers et les techniciens qu'il y avait maîtrisaient le français. Du point de vue formation, pour les gens qui sont passés par l'IAP, avant c'était en anglais, après le français y figurait même dans la formation. Donc la documentation est fournie en double langues français et anglais. Donc, la première c'est la documentation, du point de vue technique ce n'est pas aussi difficile qu'on pense, même tu peux rapidement (), même ici au niveau du craft en 2005, voilà en 2005, j'ai été affecté avec une équipe sur une turbine de GE, le job leader c'était un américain, donc les premiers jours- en 2005, c'était que l'anglais avec l'américain. Même parmi les américains tu trouves des accents différents, on comprend l'un facilement, mais l'autre non. ce n'est qu'après quelques jours, quand on s'habitue à son accent qu'on peut comprendre. En 2005, je me rappelle, j'ai demandé de me programmer une formation en anglais. Donc c'était une bonne expérience. Je me souviens de la première intervention dans le projet turbine propane. Tellement la communication était facile que l'ingénieur m'a chargé de faire le travail complet avec (un autre ingénieur). On a révisé tous seuls cette turbine. Le canal de communication était fait. Côté technique, l'anglais technique, disant : compresseur, turbine, même l'outillage, disant : .. hammer, même pour les expliquer, on peut les montrer, mais l'anglais (général) c'est un peu (difficile) L'anglais on peut le diviser en deux parties, c'est l'identification des objets, et la deuxième c'est l'utilisation de la langue pour communiquer : donc par exemple, un mécanicien simple, le plus important pour lui, c'est de savoir identifier les objets, que ça c'est un hammer, et cetera, d'accord ? sinon, pour la communication, tu lui parles de ta vie, comment tu mènes ta vie, c'est ça qui est un peu difficile

Après j'ai été affecté au service planning et méthodes, j'y suis resté six mois à peu près. Au GP, c'est un autre type d'interlocuteurs. C'était la meilleure occasion

L'évolution réelle de la conversation c'est pas à l'université, c'est pas la formation. Les collègues qui me voyaient en conversation avec (les partenaires étrangers) me disaient : « mais tu n'as que niveau deux » c'est le face-à-face, c'est le contact au quotidien

L'avantage c'est qu'on était confronté à des équipes qui viennent de n'importe quel point du monde. Donc tu vas parler avec un philippin en anglais, avec un américain [tu vas parler] en anglais, avec un canadien [tu vas parler] en anglais, avec un anglais [tu vas parler] en anglais hahhah. C'est pas le même langage, C'est pas la réflexion, ils ne réfléchissent pas de la même façon, tu sens que chaque

individu, son caractère il est différent, il est traduit en quelque sorte par l'utilisation de ses mots, donc c'est ça.

Du point de vue documentation, c'était l'occasion pour négocier. Par exemple au GP, la première, la deuxième phase. Quand on dit la première phase, c'est que je suis resté avec eux trente-cinq jours minimum. Tu dépasses la phase, tu commences à négocier en tant que (représentant d') entreprise. Donc on entrait pour mener une réunion en anglais. On a eu l'occasion de travailler avec des Japonais, beaucoup. C'est-à-dire, on a atteint (un certain niveau). Malheureusement quand ses phases de pratique se terminent, on est resté deux ans sans pratique, tu comprends un peu mais pas aussi bien qu'avant. Il faut [de la pratique] en continu. Quand on est en continu, on reste dans la même cadence. La première fois, j'ai eu l'occasion de suivre une formation d'ici au centre de perfectionnement d'entreprise, malheureusement la personne qui était au centre pour faire cette formation tout le temps il utilisait le français, il nous donnait l'impression qu'il n'était pas là pour nous apprendre mais pour discuter. C'est un autre monde pour lui, donc il était là pour discuter en arabe. Malgré que plusieurs fois, on lui disait c'est pas la peine qu'on vienne, ça s'est fait plusieurs fois, jusqu'à ce que je leur ai dit : la formation j'y vais plus, je perds mon temps. Il ne voyait pas la valeur de cette formation pour nous. Le type de formations qu'ils font pour moi, il lui faut une autre, une réflexion à nouveau pour voir.

Pour un ingénieur et pour un technicien, ce sont ces opportunités qui ont un peu créé la différence. Parce que...un technicien, il n'est pas censé négocier, par exemple un contrat, dans notre procédure interne. Donc il est censé travailler. Il y a des techniciens ici qui suivent une formation (d'anglais) à l'extérieur pour leur travail. Ce sont des techniciens qui aiment leurs métiers. Il faut qu'on passe à l'étape de vouloir apprendre l'anglais, l'anglais c'est un métier c'est tout, donc le fait qu'on comprend ça, ça y est c'est bon on saura que ce n'est pas difficile, sauf que ça dépend des opportunités, parce que par exemple. Par exemple un ingénieur, demain quand il est gradé il devient préparateur, donc automatiquement, l'interlocuteur étranger est un ingénieur, donc il est censé comprendre l'anglais. Moi, personnellement au début ils m'ont dit vous êtes l'interlocuteur des anglophones. J'avais le sentiment de quelqu'un qui ne sait pas nager. C'est ce sentiment là que j'avais au début. Quand j'entrais chez le chef de service, je me demandais pourquoi il ne parlait pas (avec les ingénieurs étrangers) en anglais. Ne pas maîtriser l'anglais, c'est un handicap. Quand on le considère comme outil. Pour postuler pour le poste d'un chef de service ou un chef de département, dans certains cas, quand on ne maîtrise pas l'anglais, on a peur. Demain on reçoit des partenaires, je dois travailler je suis obligé de parler l'anglais. Dans les conditions de la bourse de l'emploi, on trouve ce critère. Ce qui est important, c'est-à-dire à l'entreprise, parmi le personnel, il y a des anglophones, il y a des francophones, et il y a des arabophones. Dans le staff, quand il y a ces distinctions, automatiquement, ça va influencer les décisions prises. Les anglophones dont l'ancien ministre faisait partie voulaient augmenter le statut d'anglais. On était allés à la probabilité de mettre les cahiers de charges en anglais. Malheureusement, on perd beaucoup d'argent à cause du français. Le français nous fait beaucoup perdre. Pourquoi parce que l'industrie des hydrocarbures, les leaders mondiaux c'est des anglophones, soit technologie, savoir-faire, documentation, qualification de personnel et cetera, c'est des anglophones, les premiers c'est les américains, après il y a les japonais, il y a donc imagine, que pour nous, ces compagnies ont créé des boîtes ici en Algérie juste pour avoir le partage français- Anglais, ça c'est une. Ils s'adaptent pour l'argent. Nos cahiers de charges, sont issues en français. la plus parts prennent du temps et de l'argent, c'est très d'après (une entreprise américaine) ils ont dit que la traduction est très chère. Donc ça nous prend du temps et de l'argent. C'est pas le partenaire qui paie les frais de traductions, c'est nous qui la payons indirectement elle est inclus. Je me dis que place n'est pas ici, ce poste nécessite quelqu'un qui maîtrise bien l'anglais. On ne sait pas nos intérêts. J'aimerais bien si vous avez assisté à une réunion. Il y avait les grands responsables, un syrien, un égyptien, un Américain, l'autre français. la réunion s'est faite en trois langues anglais, français et arabe. L'égyptien comprenait mais ne savais pas parler en Anglais, L'américain parlait anglais, le syrien ne comprenait que l'anglais, il parlait arabe-anglais. Le français comprenait le français et l'anglais mais ne parlait pas en arabe.

La conversation téléphonique c'est important, c'est complètement différent, presque c'est la plus difficile

A un certain moment on ne voit pas l'anglais comme une langue qu'on doit (), l'important c'est que le message passe, donc, c'est ça qui va améliorer notre niveau pour que l'on parle bien l'anglais, on

n'aura plus ce complexe et cette opportunité n'est pas donnée à n'importe qui, elle n'est pas donnée à tout le monde.

Pour un ingénieur, il est appelé à rédiger des messages en anglais, de parler en anglais, d'assister d'autres personnes, au moment où les étrangers sont présent sur site, à n'importe quel moment, tu es appelé soit à négocier... Les étrangers, quand ils connaissent une personne (qui maîtrise l'anglais) ils préfèrent passer à travers cette personne pour avoir une information et tout ça.

Mécanique Planificateur MI1

Au planning et méthodes il y a beaucoup de sections, préparation, qui est la notre, il y a la section planning, il y a la section prévention, il y a la section coordination et la section statistiques. Je suis ingénieur en génie mécanique et je suis aussi ingénieur spécialisée en maintenance. J'ai eu l'ingéniorat à l'université ensuite j'ai étudié à l'IAP pour devenir ingénieur spécialisée en maintenance. J'ai deux ingéniorats si vous voulez.

Yes, just to give you example. I'm looking for spare parts, so, this is a listing of parts provided by GE from the united states, this is a standard list for overall inspection. We need this list of spare parts to know what we have to order, what we have to buy. And we have also this handbook which is also provided by GE. It contains all schemes all drawings, all details about our equipment. This equipment has been installed in 1993 it is updated, because GE sends us what we call technical letter to tell us there are updates on that part, on that part. Ça c'est un exemple. j'essaie. Je sais que je suis loin du compte mais bon. Ce manuel a été procuré par GE en anglais et un autre en français. Personnellement, j'essaie de travailler le plus possible avec la version originale, l'anglais, pour différentes raisons, pour, parfois pour mieux comprendre parce que des fois la traduction n'est pas très bien faite et aussi exercer mon anglais, pour améliorer mon anglais. Même si c'est un petit peu plus ardu évidemment. C'est plutôt les phrases courantes entre guillemets qui nous posent problème mais on fait des efforts et puis il y a parfois des documents qui ne sont qu'en anglais. On reçoit des documents qu'en anglais, c'est-à-dire que le fabricant ne fait pas l'effort de traduire peut être qu'il n'a pas les compétences, peut-être qu'il n'a pas- dans les contrats on demande que la documentation soit en anglais et/ou en français. il y a beaucoup de fabricants qui sont américains donc ils produisent pas de manuels forcément en français. Parfois ce n'est pas possible mais on s'accommode. On peut échanger des avis, on peut demander assistance, on utilise les traducteurs sur internet et cetera. On se débrouille, ça va. Evidemment, j'aurai aimé avoir une formation en anglais beaucoup plus technique, pour le langage courant et cetera mais bon, on se débrouille et puis. On demande la formation régulièrement et on attend notre tour. Ça peut être des britanniques, ça peut être des américains, en tout les cas ils sont des anglophones, même s'ils sont européens, ils sont anglophones et ils sont en contact permanent avec nos techniciens donc ce serait intéressant justement que nos techniciens aient une formation en anglais pour qu'ils puissent directement avec eux, parce qu'il arrive que l'ingénieur sert d'intermédiaire, c'est-à-dire que le spécialiste américain va exprimer un désir, une idée, nous on va essayer de comprendre ce qu'il veut dire et on leur explique. Vous voyez ? mais ce serait beaucoup plus facile pour eux et très utile d'ailleurs qu'ils aient accès à une formation en anglais pour faciliter leur travail. Nous si on est sur place, c'est qu'on fait aussi le suivi des travaux. Si j'ai accès à la formation, j'aimerais pouvoir parler couramment, arriver à parler couramment, parce que il y a pas mal de gens qui viennent, chacun avec son propre accent il y a les texans, il y a l'Amérique du nord, il y a des britanniques, il y a des allemands et cetera et des fois il nous est assez ardu (difficile) d'échanger des mots de tous les jours si vous voulez, quand il s'agit d'une chose de bien précise ça va, quelque chose de technique c'est-à-dire avec un schéma ils nous expliquent : « you have to fetch this, to obtain this » des mots simples, et des fois il y a même l'explication qui peut par exemple être ardu et donc il y a la fameuse phrase : « could you speak slowly, please can you repeat », donc personnellement, non, je ne suis pas satisfaite de mon niveau en anglais, c'est-à-dire en toute honnêteté. J'arrive à m'exprimer, j'arrive à m'expliquer j'arrive à rédiger, c'est-à-dire je communique mais j'aimerais que ça soit mieux. Voilà. Même si on comprend pas un mot on peut demander à notre interlocuteur de choisir un autre, d'utiliser un synonyme, c'est-à-dire il faut que le message passe. il faut absolument que le message passe. Il faut que ce soit clair pour nous pour qu'on sache de quoi on est en train de parler, donc on fait des efforts pour ça, c'est-à-dire on demande et puis ils sont coopératifs aussi. C'est plus simple pour nous d'avoir une meilleure maîtrise. A n'importe quel moment on peut être appelé à travailler avec des partenaires étrangers, eux ils maîtrisent l'anglais. Il faudrait qu'on soit à même de les comprendre, de comprendre

les petites subtilités du langage, quand il s'agit d'un contrat par exemple, pour ne pas qu'il y ait des () et cetera voilà.

L'entreprise qui est nationale mais qui a des échanges internationaux. Les cadres, les techniciens, et cetera devraient avoir un niveau minimum (d'anglais).

Chef de service achat SMM

Autant que chef de service achat, je m'occupe de tout ce qui est achat de ...pour les achats extérieurs, c'est l'entreprise qui définit les processus d'achat et comment on achète et aussi les modes de passation de marché appel d'offre

Dans l'organigramme des approvisionnements. Dans le département Il ya service gestion de stock et service achat. Service gestion de stock s'agit du stock du matériel tout ce qui est besoin. Achat, s'occupe de tout ce qui est achat de matériel. Dans le service achat, nous avons trois sections, la section achat, la section PVT et la section planning. La section achat s'occupe du lancement des appels d'offres. Quand on reçoit le besoin...

L'anglais (entre en jeu) dans les correspondance entre nous et américains, entre nous et les japonais, c'est-à-dire avec les gens qui ne parlent pas le français, on est obligé de leur écrire en anglais par e-mail tout ce qui a rapport avec l'achat la plus part du temps c'est par e-mail. Même parfois on les appelle par téléphone. Les fax normalement on les rédige en anglais mais parfois on les rédige en français. On a des visites des américain des j'assiste en réunion parfois il y a quelqu'un qui fait la traduction normalement. Les appels d'offres sont tous issus en français, c'est juste la publication chez (nom de revue) qui est en deux versions placard en français placard en anglais. La traduction des objets normalement ce n'est pas quelque chose (de difficile) parce que c'est facile. Parfois j'utilise le traducteur, Parfois j'utilise le traducteur. Il te donne pas les détails corrects. Les correspondances internationales, c'est le côté technique, c'est le côté commerciale. Tu n'es pas obligé de traduire phrase par phrase mais tu comprends ce qu'il veut le soumissionnaire. Parfois je réponds en anglais, je fais des efforts pour répondre en anglais sinon en français. parfois je fais des efforts pourquoi, pour ne pas rester dans le même niveau. Il faut pas abuser du traducteur pour ne pas s'habituer à cette méthode (passive). J'ai demandé au niveau de la formation pour apprendre l'anglais. Normalement on a le droit. Donc la formation, on a pas besoin que du côté théorique, comment on appelle ça, comment on appelle ceci. Ça dépend du prof qui enseigne. Il y a ceux qui enseignent juste comment écrire ça, orthographe ou je ne sais pas. Il y a un prof qui te faisait parler en anglais. Ce que tu as fait hier. Il te laissait parler ton propre anglais. Après il te faisait des remarques. Il ne parlait qu'en anglais. On a appris de lui. Je suis resté au premier niveau. Je ne vous mens pas, je voulais suivre des cours d'anglais chez le privé.

Quand j'ai pris ce poste la première formation que j'ai proposé c'était l'anglais. Ça fait neuf ans que je travaille en entreprise. On n'utilisait pas l'anglais beaucoup parce qu'il y avait un chef de département qui parlait très bien l'anglais parce qu'il a travaillé avec les américains. alors il nous représentait. Quand un partenaire parlait c'est lui qui lui répondait. Il est sorti en retraite. En ce qui me concerne, je parle peu pendant les réunions parce que j'ai peur de faire des erreurs bien que c'est normal. Parfois il faut parler. Ce n'est pas (). L'essentiel est que tu parles. Mais en majorité (nos échanges se font par) des e-mails. C'est rare où tu trouves des échanges verbaux. Même la présentation, quand ils la faisaient, les américains étaient toujours accompagnés de quelqu'un qui parlait français.

Quand j'ai pris ce poste, mon premier souci c'était l'anglais. Je devais apprendre l'anglais, Ou bien via l'entreprise sinon via le privé. Il faut faire des efforts chez soi. En premier lieu pour mon rôle, pour mon poste et ensuite pour le côté personnel.

Les partenaires sont de l'Europe, les américains, on a deux, c'est toujours les mêmes qui traitent avec nous. Parmi eux il y a un libanais qui a vécu en Amérique.

Le message technique, on le comprend parce que les mots qui y sont, on les connaît

Message technique, on le comprend

Chef de service études, technique TMM2

Puisqu'en est en département technique et on est en majorité en contact avec des anglophones que ce soit même des européens mais qui prononcent la langue anglaise qui travaillent en langue anglaise. Le handicap pour nous c'est à des contrats pour des acquisitions nouvelles, les achats et tout avoir un champ ouvert plus vers les anglosaxons. Donc tout le temps on est sollicité. Au moins vous allez avoir que ce soit des clarifications, de la documentation. il y a une partie importante de la langue anglaise. Donc toute la documentation aussi

Elle est donc on se retrouve dans la documentation, il y a des trucs qui ne conviennent pas (en français). la (version en) langue française n'est pas à la hauteur. Pour arriver à lire, ses mots sont inadéquats. On préfère aller vers la langue anglaise pour les deux parties que ce soit européens ou les zones francophone pour arriver à comprendre de quoi il s'agit. Généralement, on est quotidiennement en contact avec la langue anglaise mais pas au sens du parler mais c'est juste la documentation, la consultation. Parfois, les écrits sont faits avec des entrepreneurs ou des partenaires étrangers dans des réunions elles sont programmées quand il y a visites. On a tendance à préférer que tout le monde comprenne au moins qu'est-ce qu'on est en train de dire. Parce que vous avez même des égyptiens qui n'arrivent pas à comprendre (notre) arabe le matériel et même la langue française ça pose pour eux un handicap. Le moyen unique c'est de parler en langue anglaise. On a un cycle de formation ou quelque chose comme ça mais la pratique, le parler il y a un manque. On arrive à s'entendre à comprendre par le simple disant comment, c'est pas développé au sens matière de discussion mais elle sont limitées au sens du cursus universitaire, pas comme quelqu'un qui a une prononciation/formation anglaise (diplômé en anglais), comment il expliquent, comment ils reçoivent l'information. Ce n'est pas donné à tout le monde mais on commence à- mais ça consiste en grande partie. On arrive à comprendre, disant, l'essentiel le parler autour d'une table, on parle de tout et de rien, donc c'est possible qu'on soit sorti du domaine de quoi nous a réuni aujourd'hui, si c'est par exemple une machine, un équipement, on a cette terminologies autour de l'équipement qui est bien préparée et tout ça, on arrive à faire face, mais si vous me posez une question sur le temps, le climat par exemple, votre chat, je ne sais pas, il se pourrait que les gens vont bugger, donc il y a une préparation, il y a un effort parce que elle n'est pas dans la langue, parce que c'est pas un quotidien. Il va jamais se performer dans cette langue. Si on va dissocier la personne d'une culture d'un langage de ce que nous avons eu ..en français parce qu'on est en train de discuter en continu journalier, on travaille en français. au moins du point de vue procédural d'aller communiquer avec ce champs là. le contact on arrive à le former à travers le contact partenaire-partenaire quand on prépare le par-terre d'acquisitions des équipements. En local on va parler le dialect, avec un restaurateur avec un transporteur de personnel, mais avec les partenaires étrangers c'est imposé. Premièrement c'est le moyen. Etre contractuellement uni, il y a un document, ça se passe en quelle langue. Si c'est la langue française, il est préférable de discuter convenablement. Imagine qu'on doit discuter en langue anglaise, il faut la maîtriser. Le canal qu'on a créé parfois c'est au programme. On pourrait parler en anglais. Mais parfois notre document il est rédigé en langue française, ça marche pas, ça ne colle pas. On va pas imposer quelque chose. Il doit y être un élément fondateur d relation entre les partenaires comme personne pour qu'il arrive à comprendre leurs besoins et tout ça. Mais pas au sens parce qu'on doit de parler en français. que moi je m'impose aux anglais, aux américains, chacun a son.. on arrive à discuter avec lui en langue anglaise, de le comprendre. Si vous imposez à l'autre un moyen un chemin, c'est lui qui cherche le partenariat. On est francophone, plus ou moins on parle la langage française et quand on discute avec un anglais lui-même il a appris la langue française mais il comprend, si je discute (en anglais) avec un américain, j'arrive pas à compléter une phrase. il doit, c'est son devoir pour arriver à être en entente avec

Tout le monde arrive à communiquer en langue anglaise, si va discuter, on va discuter avec un japonais, avec un américain ou un anglais, les gens moi j'ai pas besoin de connaître la langue italienne, elle n'est pas assez prise en charge en matière de, à l'école, il y a que la langue française ou la langue anglaise les populations concernés les italiens, on a des projets avec eux, le seul moyen pour qu'on arrive à s'entendre c'est de parler en langue anglaise.

Quelqu'un qui n'a pas, pour discerner la difficulté ou le manque qu'on constate en performance ou à l'écrit c'est difficile en matière de langue. La langue anglaise ne te permet pas d'évaluer une personne, est-ce qu'il est capable, est-ce qu'il va bien présenter un travail, est-ce qu'il va discuter avec son partenaire convenablement. Ça fait presque...Mais lui, il va sentir le besoin et on laisse le choix, c'est lui qui va l'exprimer, simplement, vous ne pouvez pas envoyer tout le monde en (formation en) langue anglaise parce que les contraintes, que ce soit pour les formateurs, pour les ingénieurs vous ne pouvez pas libérer par exemple chaque mercredi dix ingénieurs. Ça pose un handicap mais si c'était par exemple une formation qui les accompagne à long terme. Généralement on fait comme ça, chaque année c'est une vingtaine d'ingénieurs pour ne pas perturber le fonctionnement du service. moi une fois, il m'ont dit tu as dépassé l'âge il m'ont évoqué ça, c'est aberrant, j'arrive à avoir peut-être les 43 quelque chose comme ça, j'ai dit j'ai fait une formation consistante avec des profs des docteurs et tout

ça. J'attends pas qu'ils m'appliquent bien j'arrive à m'appliquer moi-même, discuter, cibler un grand point et le discuter. Ma satisfaction personnelle elle vient elle vient quand le natif vous dit monsieur vous parlez bien l'anglais, on arrive à vous comprendre, behn j'ai pas besoin que mon collègue m'évalue. Le terrain m'évalue, le terrain parce que maintenant je suis seul entre deux ou trois personnes avec des écossais qui parlent un peu une langue spécifique, propre à eux, tu trouves même un japonais avec lui qui nous accompagne et on arrive autour d'une table, que ce soit en mangeant ou en boulot de discuter sur des choses, il me disent vous parler l'anglais bien, moi je dis mais non je parle pas l'anglais- je parle pas couramment moi je sais, mais vous arrivez à comprendre ça c'est impeccable, c'est impeccable.

Dpt Technique, ingénieur: TI2

We speak in Arabic.... (laughter)

Je suis ingénieur en mécanique service étude département technique. Au service étude il y a deux sections, section exploitation et investissement. Moi je m'occupe de l'investissement. Le travail principalement consiste à l'élaboration, le suivi de cahier de charge, des contrats faits par le technicien. Principalement c'est les cahiers de charge les demandes d'offre tout ce qui concerne les fournitures les prestations de service ça nous arrive même de faire des petits projets au complexe. Actuellement il y en a en section électricité un projet de climatisation. Aux investissements, on a plus de contacts avec l'étranger. Comme dans les messages, les appels téléphoniques on utilise principalement l'anglais mais des trucs officiels, comme xx a dit c'est en français. Ça veut dire les documents sont en français, tel que le contrat, il reste en français, tout ce qui est officiel, même la documentation qu'ils envoient après (le contrat) les manuels, les documents restent en français. Ça nous arrive des fois parce qu'on a beaucoup de documentation ici en anglais. Donc côté communication, de mon côté je communique en anglais, ça nous est arrivé de conduire des réunions, le projet chaudière avec les japonais, peut-être c'est la pratique parce que j'ai commencé le premier projet avec les américains, peut-être parce que j'aimais l'anglais depuis mon jeune âge, je chantais en anglais, j'aime chanter en anglais, donc dans le projet chaudière on communiquait 100% en anglais, ça m'est arrivé une fois dans ma vie où j'ai fait une présentation en anglais aux États-Unis. Je n'ai jamais fait de présentation avant ni en arabe ni en français, quand ça m'est arrivé, c'était en anglais. Genre ce n'est pas une présentation scientifique ou de recherche mais une présentation devant une audience. C'était réussi, c'était bien, c'était une bonne expérience. Ça nous arrive de recevoir beaucoup de visites, visiteurs lorsqu'il y a des festivités genre journée techniques scientifique ou une assemblée de gaz, ils envoient des gens qui parlent bien l'anglais et on assure les visites techniques de la zone, on part par bus comme un guide touristique, on leur dit : « voilà, ça c'est le complexe », chaque année on le fait, on reçoit des délégations et – la dernière fois remonte à Mars, les visiteurs de l'assemblée de gaz sont venus et ils ont organisé une visite et ils sont venus ici pour voir toute la zone, et ici il y a eu une présentation avec la direction c'est-à-dire à côté de la maquette, dans la terrasse voilà. C'est un accompagnement. L'anglais, on l'utilise beaucoup dans les communications, c'est-à-dire côté communication. C'est un moyen de communication, des fois c'est technique, des fois c'est commerciale, des fois c'est contractuel, le but c'est technique, le fond la finalité c'est technique mais entre nous ici on utilise le français et même puisque l'usine a été construite par les américains, les normes même les anciennes communications, c'est-à-dire si tu revois l'historique, tu vas trouver que les anciens parlaient mieux anglais que maintenant parce qu'ils ont côtoyé physiquement les américains, ce qui n'est pas le cas pour les dernières promos. La communication interne on parle principalement le français. C'est-à-dire la maîtrise d'anglais est en baisse, avant l'entreprise c'était...maintenant les gens parlent beaucoup moins l'anglais, avant presque tout le monde parlait anglais même les gens de l'administration et tout. Maintenant, ils ne savent pas parler et ils ne veulent pas apprendre, ils appréhendent, la langue anglaise leur paraît difficile d'accès. Je ne sais pas. Il n'y a pas cette volonté de pratiquer, voilà.

Ce que j'ai remarqué, il y a des gens qui ne sont pas intéressés, ils ne veulent jamais se casser la tête pour apprendre, ils disent simplement : « je ne connais pas l'anglais, c'est tout, je ne suis pas fort en anglais » ce n'est pas bien, l'anglais c'est un moyen, c'est tout, la langue c'est un moyen.

On fait appel à moi pour les visites, avec les collègues quand quelqu'un reçoit un message en anglais. Ou des fois les présentations parce qu'en direction des visites, dans le cadre. Ça ne veut pas dire que je suis le seul, ça ne veut pas dire que personne ne maîtrise. Il y a des gens qui savent parler qui savent écrire mais ils disent que je connais le strict minimum. Dans le projet chaudière je n'étais pas le seul, on faisait des communications tous les jours. C'est-à-dire les Japonais ne parlaient pas français, même

les documents financiers étaient en français. Les communications quotidiennes c'était en anglais. On a des fabricants Américains qui viennent presque deux fois par an, ce sont les seuls américains qui sont restés. Leur dernière intervention était en février-Mars. Ce sont des fabricants d'équipements stratégiques, des échangeurs, donc ils viennent dans les complexe 1 et le complexe 2 avec des contrats et tout, donc c'est les seuls américains, c'est la seule société américaine où sont restées des équipes américaines. Ils viennent ; ils font des interventions de deux- disant trois semaines à peu près, trois semaines ici sur site. Les réunions on les tient en français entre nous en français et en arabe. Les réunions externes, avec des gens qui parlent français, on parle français, avec des gens qui ne parlent pas français ni arabe on va parler anglais, on ne va pas parler autre chose, c'est des japonais, c'est des allemands. Les langues utilisées sont l'arabe, le français, l'anglais. Pendant la réunion, je parle avec l'étranger en anglais, mais des fois mon collègue ne comprend pas, je lui explique en arabe ou en français. dans les réunions, des fois même le directeur ne maîtrise pas bien l'anglais, donc on est obligé de traduire entre nous, ou des fois pour prendre une décision interne, je parle à mon collègue pour que l'autre ne me comprenne pas, mais c'est normale, c'est normale. Même les japonais le font, ils parlent avec nous en anglais, mais entre eux, ils parlent japonais, c'est- enfin c'est normale.

Ingénieur technique, étude TI3

J'occupe le poste d'ingénieur étude. Je suis responsable de tout ce qui est étude et montage de dossiers, de dossiers techniques, selon selon les besoins exprimés par soit une structure qui exploite, soit département technique, soit département production, soit département maintenance, grosso modo c'est tout ce qui est montage technique, montage juridique on soumet ça, après l'établissement de cahier de charge au département au service cellule passation de marché pour une lecture et d'éventuelle révision, correction ou ajustement juridique, dans le cadre juridique. C'est nous qui font appel à ses structures là justement pour qu'on reste dans un cadre réservé un cadre juridique bien bien déterminé, à l'entreprise je suis depuis 2006, je suis dans le domaine professionnel depuis 1994. Généralement ici une journée de travail elle est bien chargée, une journée de travail généralement ça ne suffit pas, généralement je termine le travail chez moi. L'anglais c'est plus que nécessaire, parce que généralement on a affaire régulièrement à des gens qui sont anglophones, ce qui fait que l'usage d'anglais c'est indispensable. Pratiquement toutes les nationalités utilisent l'anglais comme étant une langue matrice, pratiquement toutes les entreprises utilisent l'anglais donc et parlent l'anglais sauf le monde francophone qui savent qu'on maîtrise le français donc on communique en français. toutes les zones non francophones utilisent l'anglais. Ça dépend de la spécialité en laquelle on est mais généralement nos partenaires pratiquement en majorité c'est des anglophones. L'anglais n'est pas d'usage commun en interne, on communique plutôt en français, peut être en arabe mais en anglais pas souvent sauf pour un terme comme ça technique qu'on est obligé d'utiliser, sinon ça sera le français ou l'arabe. On va pas communiquer à un américain en français, lui aussi il ne va pas communiquer avec nous en français, donc ça va de soi, mais avec un français ou un belge ou un suisse, donc on est obligé (de communiquer en français). Avec un italien on est obligé d'écrire en anglais, avec un espagnol on est obligé d'écrire en anglais, on ne va pas lui écrire en français et lui compliquer la vie. Donc on utilise une langue internationale qui est commune entre tous les pays. Il y a des gens qui se débrouillent pas mal (en anglais) sauf que, une langue qui n'est pas pratiquée donc elle risque d'être oubliée, qu'on la perd au bout des années d'expérience si (on) ne la pratique pas, si on (ne) l'utilise pas dans notre vie quotidienne, donc on risque de la perdre.

Il y a des formations d'anglais. Moi je n'ai pas bénéficié parce que j'ai trouvé d'autres priorités, priorités techniques parce que il y a un nombre limité de, on n'est pas libre dans la formation, il y a des thèmes à choisir, même le nombre de thèmes il est bien déterminé, ce qui veut dire que, () par un planning, par, bien sûr on ne peut pas former parce que pratiquement l'effectif il est assez assez nombreux, on ne peut pas former chaque individu quatre ou cinq thèmes selon le principe, selon le besoin exprimé. Le besoin, il apparaît au fur et à mesure que l'on active dans le domaine il apparaît le besoin, on ne peut pas comme ça prédire dans l'avenir un besoin dont on éprouve pas, le besoin il apparaît avec la fonction ou bien avec les nouveaux objectifs qui nous seront assignés dans le temps apparaissent les besoins fonctionnels qui nous permettent d'évoluer rapidement et d'aller vers nos objectifs d'une manière concrète. Ça dépend des fois on porte assistance à à des projets, certains éprouvent le besoin d'être formés en management, d'autres formés en anglais techniques, d'autres formés dans la spécialité elle-même, perfectionnement, tout ce qui est innovation technologique, ça dépend des besoins exprimés en fonction des objectifs.

C'est une pratique courante parce que une p

Dans nous ne pouvons pas la maîtriser tel que l'italien, l'espagnol, le tchèque, par contre on maîtrise l'anglais, on maîtrise le français on maîtrise l'arabe, donc avec ces trois langues on pourra, si on utilise l'anglais c'est dans le sens de créer une plateforme commune pour qu'on puisse être plus objectif et plus concrets dans le monde professionnel, si on se comprend pas donc on ne peut pas se réunir. On ne peut pas se réunir avec un interprète, techniquement ça marche pas, parce que on doit voir les réponses instantanées on doit se comprendre, il faut qu'on utilise une langue dont on maîtrise.

Je suis pour l'anglais, techniquement c'est une langue forte, je comprends mieux en anglais, même les logiciels qu'on utilise ce sont des logiciels qui sont initialement initiés en anglais bien sûr et traduits en français mais toujours la traduction, elle ne répond pas, elle n'est pas traduite fidèlement à la version originale. Le logiciel vient comme ça en plusieurs versions, il y a la version originale toujours c'est la meilleure. Je te donne un exemple par exemple quand on dit 'avancement du projet', en anglais 'current progress', c'est-à-dire l'avancement actuel du projet, l'avancement actuel, donc tu vois, l'anglais il est fort techniquement moi je ne suis pas un homme de littérature pour le dire mais littérairement peut-être que le français c'est une langue forte, mais techniquement l'anglais ça ira mieux, même on parle peu on se comprend mieux. Le français, on doit parler beaucoup pour se comprendre, on doit même des fois parler et schématiser, faire des schémas, en anglais, en se comprend mieux c'est-à-dire il y a des trucs là très simplifiés. C'est clair que l'Algérie se situe dans un espace africain, donc une ancienne colonie française, donc on a hérité d'une langue française, donc c'est tout-à-fait normal. L'anglais, ça va venir avec le temps, avec les générations futures. Le français disparaît, c'est clair que le français est en train de disparaître en Algérie. Remarque, les gens, de moins en moins d'Algériens parlent le français. L'ancienne école. Maintenant c'est plutôt l'arabe, un anglais mal-mal maîtrisé, un français qui n'est pas du tout maîtrisé, structurellement, des phrases qui n'ont pas de sens, donc, je dirais que notre avenir c'est pour l'anglais, même ici, parce que comme même, puisqu'on a voulu arabisé les structures, le fait de laisser tomber cette langue française ce qui veut dire que elle a été mal entretenue, mal euh, ce qui veut dire que les gens sont balancés vers l'anglais, à défaut.

Les appels d'offres en français, en français. on exige que ça soit en français.

Ingénieur technique, étude T14

Cette usine date depuis 1973, les normes de sécurité ont changé il faut mettre à jour nos équipements, tous les équipements, carrément, comme par exemple, le projet sur lequel on travaille, la non-conformité des équipements de climatisation, avant ils y avait les (brand name), les anciens, ce (brand name) il est nocif pour la couche d'ozone, pour l'effet de serre et tout. Et l'Algérie, elle a signé le Protocole de Kyoto, alors il faut mettre en conformité ces équipements, et on est en train de les remplacer, pour les remplacer, il faut préparer un cahier de charges, lancer un dossier d'appel d'offres et le publier. Les offres sont venues, on les a traitées, on a signé le contrat et on est en cours de réalisation. Même le produit c'est italien, les italiens sont venus on est partis chez eux, (l'échange était) en anglais, en anglais mais ils nous ont ramené des interprètes. Pour moi la communication en réunions était difficile parce que, moi et ceux qui m'ont accompagné, on ne maîtrisait pas l'anglais. Moi personnellement je suis nul en anglais. Je connais des choses techniques, mais en communication.. j'ai fait deux formations, une au complexe, mais à cette époque j'étais tout seul ici, il n'y avait pas des collègues pour m'aider, je m'absentais beaucoup parce que j'avais la charge de travail. Et la deuxième aussi, la deuxième je l'ai fait il y a deux ans ou trois ans, je l'ai fait au centre de perfectionnement, l'animateur était bien sauf que aussi pour nécessité de service, on avait un programme chargé, on avait beaucoup de travail, je me suis absenté, j'ai pas trop assisté et l'inconvénient de ces formations, ce que j'ai remarqué, qu'ils forment un groupe dans lesquelles il y a différents niveaux. Il y avait quelqu'un qui maîtrisait mais qui voulait repasser le même niveau, il est devenu le seul qui parlait. Ceci est un problème réel que j'ai vécu dans les deux formations. Et même une fois j'ai fait une formation- j'ai essayé de faire une formation chez (le privé), je ne l'ai pas terminée. Premièrement, à cause des horaires, on sortait tard du travail et on commençait une heure plus tard, je n'avais pas le temps de me reposer, quatre fois par semaine, deux heures, il y avait des gens plus supérieurs que moi, le climat du groupe change et l'animateur ne communique qu'avec les bons. Même moi je me sentais à l'intérieur, quand je les voyais branché, je ne cherchais pas à savoir, je ne disais que 'oui' c'est tout par contre si j'étais avec des gens qui ont le même niveau, peut-être que j'aurais communiqué mieux pour m'améliorer. C'est ça. Nous par exemple, on a des

communications avec des soumissionnaires ou des sous-traitants qui nous envoient un e-mail en anglais. On doit communiquer avec eux en anglais. Ici, dans mon cas, je vois avec mes collègues qui maîtrisent l'anglais pour m'expliquer le (du partenaire étranger) si je ne l'avais pas compris et ils rédigent avec moi une réponse. Moi je l'écris en français et eux ils essayent de (la traduire en anglais). On a des gens qui maîtrisent bien l'anglais. Des fois on reçoit des visiteurs. Par exemple on a des équipements on a des systèmes qui- parce que cette usine la totalité, pas la totalité, mais 90% des équipements, ce sont des équipements américains. Américains ou japonais et les deux parlent en anglais. Même les japonais ne parlent que l'anglais. Ils ne parlent pas une autre langue.

Ingénieur technique/informatique TI5

Généralement, nous l'anglais on l'utilise seulement pour les trucs techniques. En informatique, y a seulement des, par exemple on a des mails ou des messages d'erreurs. Des mails des fournisseurs. Mais sinon on ne répond jamais, c'est des mails pour nous informer sur ce qui se passe, s'il y a de nouveau matériel, s'il y a de nouveau- des modifications, sinon on ne répond jamais à ce genre de mails. Hormis les mails, c'est de la documentation. Généralement toute la documentation code DCS est en anglais. Quand on ne comprend pas on utilise internet pour traduction, pour traduire. On va dire à 80% elle est bonne mais généralement la traduction elle a toujours. Quand on fait la traduction de l'anglais vers le français ou du français vers l'anglais sur internet ça change, c'est pas à 100% fiable. Mais on arrive à se faire comprendre ou à comprendre le contexte du ... un ingénieur qui maîtrise l'anglais, il perd moins de temps de traduire de comprendre, il perd beaucoup moins de temps que quelqu'un qui ne maîtrise pas l'anglais. Concernant l'efficacité, peut-être que ça ne va pas changer grande chose mais il gagnera plus de temps, pour faire son travail, pour comprendre mais sinon une grande différence non je ne crois pas, c'est un handicap, ne pas connaître l'anglais c'est un handicap mais on peut gérer, on peut réussir à se faire comprendre, on peut réussir à- on a des difficultés d'usage, c'est pour ça on passe directement au traducteur. ou des collègues qui maîtrisent l'anglais, qui peuvent comprendre que veut dire réellement ce message, voilà. Ça m'est arrivé (d'assister à des réunions où il y a des étrangers), ça se passait difficilement, c'est très difficile de comprendre surtout avec leur anglais à eux, les anglais ou les américains, ce n'est pas un anglais que nous, nous avons appris à l'école, c'est-à-dire c'est plus difficile de les comprendre par ou par, tu comprends un mot sur cent. Dans une phrase il faut vraiment- quand on ne maîtrise pas on ne peut pas réagir, on n peut pas et généralement les gens qui ne parlent pas l'anglais, ils vont pas essayer d'intervenir dans une conversation, ils ont peur de dire n'importe quoi, que les gens vont leur comprendre, ils les comprendront vraiment à travers. C'est pour ça on demande de la formation. J'en ai fait à l'extérieur, avec mes propres moyens, il y a trois ou quatre ans. Mais malheureusement quand on ne pratique pas on oublie. (la formation) Elle doit être déjà commencée par la base, vraiment refaire tout dès le début et que ça soit une formation de longue durée pour que les gens n'oublient pas pour que les gens- une formation d'une- un jour par semaine ce n'est pas suffisant, parce que généralement en entreprise, c'est une journée par semaine pendant plusieurs mois. un jour par semaine ce n'est pas suffisant parce que tu oublies facilement, si ça pouvait être par exemple une heure par jour ou une heure et demi par jour, je crois que c'est mieux que tout avaler pendant une journée, une formation de huit heures par jour un moment donné tu..généralement tous les gens qui partent en formation, qui travaillent à l'entreprise, pour eux la formation c'est du repos. Tous les gens qui partent en formation, pour eux c'est un moment où ils être coupés du boulot. Surtout quand la personne n'est pas intéressée par la formation un homme qui va sortir en retraite dans deux ou trois jours, vous le mettez en formation si lui n'est pas si lui ne veut pas l'utiliser. Il ne va pas apprendre. La solution c'est de former les nouveaux recrues, les gens qui sont là depuis cinq six ans ou une année et après dix, quinze ans, ça va (donner des résultats). A trente ans de service ou vingt-cinq ans de service on ne peut plus rien apprendre, c'est rare d'être- que quelqu'un aurait envie d'apprendre vous trouvez des gens qui travaillent huit heures par jour et des gens qui travaillent une demie heure par jour. Ça dépend dans quel poste ils sont ça dépend dans quel département ils sont. Nous comme informaticiens en DCS on est peut-être un peu tranquilles. Tout le matériel vient de l'étranger, généralement c'est des américains, c'est des japonais c'est des philippins, c'est des anglais, avec tout ce monde-là généralement ils ne parlent que l'anglais, même s'il est espagnol, la langue utilisé partout c'est l'anglais, alors si tu ne connais pas l'anglais, ça va être vraiment dur.... même dans les négociations, même dans les- voilà c'est mon avis. Il faut qu'on apprenne l'anglais le plus vite possible.

Chargée de formation DRH

Pour l'anglais, nous c'est l'aval là où le gaz est déposé, chacun a sa politique en matière de formation, nous l'aval, on a la formation langue anglaise, on doit la faire avec les organismes liés l'entreprise. Si tu vas à l'amont il peuvent la faire avec un organisme privé ou à la commercialisation, pareil. Nous l'aval, c'est tout ce qui est entreprise. Alors, l'anglais, on l'avait commencé avec notre direction RHU, il y a un département FOR (formation), ceci avait le droit, avait l'habilité de sous-traiter avec les organismes privés et faire la formation anglaise. En 2010, la formation avec le privé est terminée, non seulement parce que le contrat était terminé mais parce que quand ils sous-traitent c'est un contrat de trois ans de courte durée pas un contrat de dix ans je suis arrivée en 2006, c'était avec le privé. C'est vrai, il ont fait la formation avec le privé, je ne sais pas c'était quel organisme. Nous autant que cadre, on nous a demandé de procéder à l'analyse de cette école. On a commencé à faire des entretiens avec nos participants et nos stagiaires en formation. On a fait une étude concernant l'apport. l'entreprise elle se base sur la formation de qualité pas sur le nombre, disant on a formé tant d'agents. non. On a formé 10 mais voilà la qualité. Tandis qu'en formant cinquante et la qualité est zéro, ce n'est pas alors on se base sur la qualité, on a fait une petite analyse, on a commencé à interviewer faire des entretiens individuels avec nos agents qui étaient en formation et ça ne nous empêchait pas de les appeler un-à-un pour faire l'entretien avec eux pour voir le niveau, on leur donnait des fiches d'évaluation, on a vu que le niveau n'était pas celui dont ils avaient besoin c'est vrai qu'ils ont fait intermédiaire, pré-intermédiaire, elementary, c'est bon, quand ils ont atteint le niveau upper ils ont poursuivi avec pré-intermédiaire et intermédiaire alors que le niveau upper avait son niveau spécial, quand on est upper c'est le top alors que c'était pas le cas. Cette petite analyse nous a poussé à annuler avec le privé parce qu'on cherchait la qualité. La première préoccupation c'est la qualité qu'on va donner dans la formation qu'on va donner à l'agent, que ça soit en langues ou en management, c'est ça la préoccupation unie en agents, parce qu'il va venir et va travailler au technique. Au technique, ils soumissionnent, ils ont toujours le contact avec l'étranger, aux approvisionnements aussi. Donc tout le temps ils font le contact, même s'il n'y a pas le contact direct il y a les pvc les documents dont ils ont besoin, c'est typiquement anglais. Il faut vraiment que l'ingénieur comprenne et met à l'aise l'étranger qui vient, l'étranger n'aura pas besoin de ramener un traducteur. C'est ça notre but, c'est de mettre en œuvre la formation pour que ça soit une formation de qualité.

On est entré en contrat avec un autre organisme qui fait partie du centre... il a des enseignants et des niveaux différents et tout. On est en train de faire les fiches d'évaluation. Ils disent que c'est bon. Il y a l'écho entre agent-agent qui disent : « la formation est bonne allez-y ».

L'agent qui va en formation, c'est pas le drh qui va le désigner, c'est la structure. On est en train d'élaborer le plan de formation : le un plus un c'est pour l'année à venir. Cette année et spécialement cette année, puisqu'il y a une forte demande pour la langue anglaise, le français un petit peu, mais pour la langue anglaise, il y a une forte demande, on est en train de faire une petite analyse. Cette année on ne va pas consolider l'anglais avant que la direction ne le consolide avec des taux, on va faire un taux, avec les agents et leurs structures respectives. Il y a une demande immense pour l'anglais et nous l'organisme- chaque département a quatre à cinq services et il y a trois quatre cinq, comme dans le technique, il y a l'étude, l'inspection, SNCC, l'instrumentation, la logistique on ne la compte pas, alors il y a ça quatre-là. Il y a dans chaque service il y a une dizaine d'ingénieurs en plus, nous, lors de réunions, dans leur intérêt on négocie le besoin, disant donnez-moi celui-là pour l'anglais, j'accepte l'anglais, mais dans les agents, donnez-moi au moins deux priorités, celui qui a vraiment le plus de besoin pourquoi parce qu'on est limités par le cota que l'organisme formateur nous donne. Cet organisme formateur ne prend que vingt, vingt de chaque complexe, nous à notre tour, on a une priorité pour le département technique, les appro. aussi, ils en ont besoin au service achats, productions un petit peu parce que ce qu'ils ont des schémas et tout, parce que complexe ce ne sont pas nous qui l'avons construit. On voit par priorité de service. On a le cota vingt, des fois le cota on le dépasse et des fois on leur dit par téléphone, faites quelque chose c'est par nécessité par.. en plus ceux qui sont en train de terminer leur niveau, de vingt, ils ont pris treize, parce que le centre à son niveau, quand il commence à classer ses niveaux, il les trouve saturés, quand le groupe est saturé il doit diminuer de ce complexe de l'autre, ça se pourrait qu'à un autre complexe, il lui a pris vingt, un autre complexe n'a pris que deux, ça dépend de notre part. quand nos besoins sont envoyés à l'organisme formateur. Le (nombre de) formateurs, les salles sont limités normalement pour faire une formation en langue il faut un labo, vraiment il faut préparer tout ce qu'il y a à apprendre en anglais, parce que ce n'est pas quelque chose du c'est un peu spécial, normalement, dès qu'ils rentrent en salle ils

commencent à parler en anglais, ils ne doivent pas faire l'écrit, parce qu'ils ont besoin de l'anglais pratique, parlé, oral, 100% oral. J'ai vingt stagiaires et à savoir si l'organisme formateur les accepte tous. Nous on est fournisseur en matière de formation vis-à-vis nos départements. Avec l'organisme formateur, les choses s'inversent. Ici les départements sont nos clients et nous sommes leurs fournisseurs. Avec l'organisme formateur, on devient leurs clients et ils deviennent nos fournisseurs. C'est très difficile de sélectionner un formateur qui répond aux besoins de- parce que nous c'est un besoin industriel, c'est l'industrie. On ne peut pas- on a besoin d'un anglais pratique et oral dans les deux cas, il y a deux ans il y a eu une formation spécifique elle est très très intéressante, pour l'acquisition de nouveau matériel, pour cette fois pour un matériel électrique ils sont partis en Italie. En Italie pour communiquer tu parles anglais, tu n'es pas obligé de parler en italien pour partir là-bas. Il faut au moins avoir des acquis en anglais et tout. Tu apprends l'anglais, tu s dans n'importes quel bled, tu parles anglais, c'est international. Pour acquisition de matériel ils les envoient mais pour être formés. Ce sont des enseignants universitaires qui forment. Ils (les formateurs) ne sont pas de l'entreprise. On a des compétences parmi le staff, si tu entends comment ils parlent (si bien en anglais). Il faut vraiment des études détaillées et spécifiques pour pouvoir dire que nos agents font une formation en anglais.

Ingénieur en instrumentation, service étude, département technique.TI6

Principalement, je ne sais pas ça dépend des jours, grosso modo, il y a les cahiers de charges, les modifications, et le suivi de l'exploitation.

L'anglais (occupe dans le travail) un pourcentage, disant à peu près 2%. Ça dépend des soumissionnaires. Comme par exemple nous avons reçu des asiatiques qui ne parlent pas le français, ils nous parlent en anglais. Ils font des efforts pour nous parler en français, mais leur français est catastrophique. Les spécifications en anglais c'est facile et en français c'est la même chose mais la rédaction de je ne sais quoi, il y a un problème, je parle du français. L'anglais nous l'avons appris, c'est facile, c'est normal. C'est grâce à l'habitude. surtout On comprend les mots techniques. Sinon l'anglais académique, on trouve ça un peu difficile. J'ai dix ans d'expérience. Même l'anglais, avant d'être embauché ici, je l'aimais. C'était quelque chose de nouveau, je parle de mon cas, j'étais toujours le premier en anglais.

Bon, pour ce qui est des modes de communication, on a ici que la messagerie. Le téléphone j'évite pourquoi parce que je sais que je vais me bloquer, je vais me bloquer. Je comprends celui qui est en communication avec moi mais je trouve des difficultés. Par e-mail, normal, si jamais j'ai un pépin, je vais vers (le traducteur par internet). Aussi par e-mail, je ne peux pas écrire un anglais avancé, je fais des erreurs, tu comprends. Je cherche la traducteur, je demande l'aide des amis aussi, des collègues. on s'entre-aide. Et ils (les partenaires étrangers) nous répondent normalement. Ça veut dire qu'ils comprennent.

Des réunions, aussi même pas 1%, quand il y a des projets IHU avec des japonais on fait des réunions en anglais. Eux aussi, ils ont un anglais pas tellement bon, un anglais cassé. On parle aussi de l'anglais cassé. Mais ces grands projets ou les projets d'envergures ne se font pas tout le temps. Ils se font rarement. Comme prochainement dans deux ans ou trois ans il y a aussi un projet d'envergure, peut-être qu'on va aussi travailler avec des américains ou des anglais. Sinon pour utiliser l'anglais tout le temps, non. Ou bien on l'utilise entre nous : « how are you.. ? », sinon on n'a pas un travail en anglais. Ou bien la documentation la documentation, on l'a en français et en anglais. La (documentation) en anglais, tu la trouves plus riche que le français. La version française de la documentation est faite par des anglais. et l'anglais ou l'américain, fait des erreurs en français, pour lui c'est normal mais c'est plein d'erreurs.

Comme tous les ingénieurs ici, j'ai fait une formation en anglais, je suis arrivé au niveau 4. Normalement, il y a 5 niveaux. Je l'ai fait ici, avec (nom d'une école). Il y avait un prof qui venait ici à chaque fois. Dernièrement, on a fait une autre formation, 'process control', qui contient un module en anglais. Ce prof là- bon nous on connaît l'anglais un peu. Mais notre problème majeur c'est la prononciation- la prononciation et faire de phrases en continu, on le fait pas. C'est ça notre problème, c'est en communication, sinon en lecture, normal. Le vocabulaire, on l'a pas ; les mots comme je vous l'ai dit, il n'y a pas et le problème, comme je vous l'ai dit, on ne la pratique pas, à moins si on a même pas, comme je vous l'ai dit, même pas 1% des messages qu'on envoie au soumissionnaires anglais ou italiens, pas français, en anglais, ou bien la documentation. Sauf ces choses-là. Le cahier de charge en

le fait en français, sauf qu'il y a certains modèles, une page sur cent ou deux-cents on la fait en anglais, c'est facile.

Ingénieur préparateur maintenance IM2

En majorité, la documentation, tu la trouve en anglais. La traduction, quand elle est faite par des italiens, ou ça dépend qui la prépare, par exemple, ils ont apporté un bouquin original c'est en anglais, mais notre traduction, quand les italiens la font, la traduction tu la trouve- quel que soit de préférence quelqu'un doit aller à quelque chose d'original, tu comprends bien, mais il faut quelqu'un qui comprenne bien l'anglais.

Généralement ces constructeurs-là, en majorité, tu les trouves des américains, qui détiennent le monopole. Ou bien c'est des japonais, mais ils traduisent leur travail en anglais. Tu trouves même les japonais, leur langue de communication c'est l'anglais. Ça fait, tu es obligé de connaître l'anglais. On a besoin de n'importe quel chose, en documentation ou dans la pièce, tu trouves 'watcher' (rondelle), disant...tu la trouve 'blader', (obligé de connaître) ces mots techniques-là. Et nous quand étudiait en IAP, on a étudié ce côté (d'anglais) technique, peut-être qu'on est limité côté communication, mais quand on se trouve dans une situation, par exemple il y a un problème dans le compresseur, et on veut parler (en anglais), on le fait sans problème. Vibration on sait parler

Ici, à chaque- je ne sais pas, quand il y a un arrêt d'un train, ils sont obligé de faire des contrats, pour révision de compresseur. Les mots techniques tu les trouves aussi, dans notre stock, tu trouves la pièce en anglais. Même un technicien qui a un niveau bas, rencontre l'anglais à travers la pièce. Pour moi celui qui ne connaît pas l'informatique et l'anglais, excuses-moi (est nul). Malgré (la maîtrise du) français. C'est vrai, toutes les langues sont bénéfiques à apprendre, même moi, j'apprendrais bien le kabyle. mais l'anglais est la langue de la technologie. On dit que la langue française est la langue des poèmes, l'arabe est la langue de la religion, mais l'anglais est la langue de la technologie. Tu cherches un livre, tu ne le trouves qu'en anglais. Mais il faut que tu sache le lire en anglais. C'est indispensable, ne pas connaître l'anglais c'est comme ne rien connaître.

On faisait des briefings. Ça dépend, ça prend un quart d'heure, on voit les travaux qui sont en difficultés ou en instance ou bien ce qui reste ou ce qui est achevé. Tu trouves des difficultés

Le chef de département qui travaillait avec nous a étudié 5 ans (dans un pays anglophone) il est venu directement ici, quand ils faisaient des réunions en anglais il s'y trouvait facilement, il est devenu directeur ensuite chef de zone, puis il est parti travailler avec les américains, c'est déjà grâce peut-être à la langue. Tu trouves peut-être sa capacité (professionnelle) moyenne, mais la langue la bien aidée. Il devenu celui qui traduit, celui qui (...). Le nombre des américains (expatriés) a diminué. Parfois dans les contrats, ils viennent vraiment par nécessité. Même les contrats ont diminué. Avec les nouvelles procédures réglementaires. Maintenant pour commander un équipement il faut ce bulletin, l'appel d'offre, signé, et tous ces documents-là. Ça prend trois ou quatre ans pour recevoir la commande.

Il y a ceux qui n'attendent que la formation en anglais. Moi je donne des formations ici et au siège. Puisque je maîtrise ce domaine, je voudrais donner ce que j'ai. L'anglais, les gens veulent l'apprendre pour un but. Moi j'ai appris l'anglais à l'institut, puis j'ai travaillé avec les américains. Il y a quelques-uns qui voulaient aller travailler dans une firme étrangère, ils ont commencé à l'anglais, ils ont acheté un logiciel cher pour apprendre l'anglais.

Ça dépend de la volonté de quelqu'un d'apprendre l'anglais. L'apprendre et ne pas l'utiliser régulièrement, on risque de l'oublier.

Ingénieur en mécanique au sein du service inspection/technique TI7

Je suis un inspecteur d'équipement statique de la zone utilités 'off site', c'est le moteur du complexe, il s'agit du dessaleur, thermo-générateur, refroidissement, l'amenée haut de mer, le système de refroidissement à air dans la partie off-site il s'agit de bac de (), les bras de chargement, la partie de chargement.

L'utilisation de l'anglais, tant qu'on aura des travaux, c'est l'utilisation des documents en anglais puisque le complexe a été construit par la société américaine, donc la majorité de la documentation chez nous c'est une documentation en anglais, par exemple si on va vers un document simple, celui-là concerne les spécificités. Même quand le document est en français, la majorité des termes sont anglais, ce sont des mots techniques. On a la consultation des documents. Dans le cahier de charge, ils mentionnent que la langue utilisée pour le cahier de charge c'est le français. C'est un défaut. En

anglais, on aura plus de possibilité pour soumissionner les dossiers et tout. Actuellement, on traite qu'avec les européens, les français, les italiens et tout, mais les américains ...? J'ai assisté à un séminaire où un algérien tenait un groupe en arabie saoudite. Il disait que les américains, dès qu'ils voient un cahier de charge en français, que ce soit la qualité ou l'ampleur du travail ou l'argent mis, ils les mettent directement à part. c'est un défaut de l'entreprise, c'est mon avis, selon moi, s'ils mettent deux cahiers de charges : un en français et un- et l'autre en anglais, ou deux versions pour donner la chance aux autres sociétés. Ce sera mieux. Moi je propose. Mais c'est que la majorité de notre formation s'est faite en français. On trouve des ingénieurs qui comprennent les documents en anglais, mais quand il s'agit de parler, c'est (difficile)

Des fois il y a des workshops, des séminaires en anglais, on a une certaine base de la langue anglaise, on a le savoir. On a fait une formation de deux mois à l'institut, c'était bénéfique. Mais après il n'y a pas de continuité. Ce sont des langues vivantes si on ne la pratique pas avec le temps elle disparaît. Il faut la continuité la formation plus la continuité, l'utilisation avec l'entourage. C'est plusieurs choses reliées. Des fois on fait des recherches par internet parce qu'on a besoin d'information, on trouve des documents en anglais. Dans l'utilisation des codes et des normes, à 90% ce sont des normes standard américaines (d'inspection). Il y a la norme européenne mais la construction de notre complexe et la majorité des équipements et l'exploitation de l'énergie dans la majorité est américaine.

Chef de service inspection/technique TMM3

J'occupe actuellement le poste de chef de service inspection en même temps j'assure l'intérim du département technique parce que le chef de service est en congé. Le service inspection son rôle c'est d'assurer la qualité de travail, le suivi et la qualité de travail conformément soit à des procédures normatives qui existent au niveau du complexe et en plus par rapport à la réglementation et beaucoup plus à la réglementation et l'application- la réglementation Algérienne, les normes internationales, donc on veille beaucoup plus à l'application et à ces normes-là.

Généralement, l'anglais c'est, la documentation elle est toute en anglais c'est-à-dire les normes, par exemple les codes xxx les codes, bon l'xxxx on le trouve en français, le code xxx et les différents plans de constructions sont tous en anglais, donc on utilise généralement l'anglais pour le suivi des travaux c'est-à-dire les plans, la documentation c'est en anglais, si vous avez la chance de visiter la (salle de) documentation vous allez voir, il y a beaucoup de manuels en anglais qu'on utilise dans notre exploitation.

En communication externe, dans le cadre des appels d'offres, des cahiers de charges, c'est ça on a le- on travaille avec les soumissionnaires, parfois les soumissionnaires ne maîtrisent pas bien le français, on est obligé de traiter avec eux en anglais, d'accord ? c'est ça l'usage de l'anglais. C'est le service étude normalement qui s'en charge sa vocation est d'établir le cahier par contre dans le cadre du traitement des appels d'offres, il y a des membres désignés du service inspection ou bien même parfois moi parce que j'ai trois ou deux cahiers de charges que je j'établie annuellement dans le cadre de la dérogation de l'expertise, je communique parfois les informations en anglais aux soumissionnaires. Mon niveau actuel n'est pas satisfaisant, l'écrit peut-être, le parler..., j'ai fait la formation, mais indépendamment de l'entreprise, à l'université de--- parce qu'ils font la formation en anglais mais je n'ai pas continué, d'accord ? parce qu'il y avait deux fois par semaines, chaque samedi et mardi après-midi donc, j'ai terminé le premier niveau et je n'ai pas continué pourquoi parce que la charge de travail, j'espérais que- c'est-à-dire de faire la formation au niveau du centre de formation de l'entreprise en attendant, au moins je suis inscrit avec ().

En réunion, généralement c'est beaucoup plus parce que généralement les (étrangers) quand ils arrivent ici on trouve généralement deux ou trois personnes qui parlent le français donc on n'a pas eu de problème. La communication en anglais, la communication en anglais je n'arrive pas à communiquer à cent pour cent avec avec... des fois parce que nous avons un chef de département qui maîtrise très bien l'anglais parce qu'il a fait une formation à l'étranger, donc généralement, il y avait toujours la présence du chef de département pour assister à ce genre de réunions. Il était le facilitateur on va dire il maîtrisait la langue donc pour coordonner les échanges. On doit faire la formation en anglais pour pouvoir par exemple avancer dans nos dossiers, les communications, l'écrit, l'oral, le téléphone, c'est très important.

Chef de service/section électricité département maintenance MMM3

Dans le domaine de l'anglais, on les inscrit pour des formations. Moi personnellement l'anglais, je () ça va. Grâce à l'école, on avait de bons profs là-bas. Commenant par le collège. C'est eux qui m'ont

donné l'envie d'apprendre l'anglais. L'usage d'anglais actuellement est dans le domaine de documentation. Si je mets la main sur le premier document (qui est sur mon bureau), je le trouve en anglais parce que ici américain et tout il y a la documentation des fournisseurs, c'est l'entreprise américaine qui s'est chargée de la documentation, c'est des américains mais ils ont traité avec la maison à Londres. Ils ont exigé des documents des traductions en anglais dans le contrat de la rénovation des fois on trouve de mauvaises traductions, donc nous, on préfère la documentation d'origine qui est fournie en anglais. D'accord donc, la maîtrise d'anglais elle est importante. Quand j'étais ingénieur au technique j'écrivais (des e-mails) aux fournisseurs, parce que ce sont des fournisseurs américains je leurs écrivais des (prestations) techniques mais ne vous moquez pas de moi, ha ha ha, mais ne vous moquez pas de moi ha ha ha

Les techniciens écrivent en français avec des petites lacunes, beaucoup de lacunes, même. En anglais, ils maîtrisent quelques mots mais pas au point d'écrire, je ne sais pas, un message en anglais. D'abord ils n'en ont pas besoin. Peut-être qu'ils ont besoin d'anglais dans la documentation mais ils ont des (défaillances).

Le (niveau de) français, c'est sûr que ça se dégrade. Mais moi j'encourage les ingénieurs et tout, je les encourage à faire des messages. Rien que pour commencer, à chaque fois, qu'ils les rédigent tous seuls. Il y a des ingénieurs qui ne s'intéressent pas du niveau (d'anglais), ils ne cherchent pas à faire développer le () des langues, pas rien que les langues, toutes compétences. Avec un agent ou un ingénieur, quand on s'entraide dans toutes activités qui nous pousse à la maîtrise de l'anglais, c'est un plus pour l'entreprise.

En 2005 quand un américain est venu ici, j'ai vu que je le comprenais et il me comprenait. Je me suis dit que je suis bon (en anglais). Je commençais à m'apercevoir qu'il y avait une connexion. Ici c'est la plus grande difficulté quand tu ne comprends ce qu'il (l'américain) dit. C'est-à-dire c'est personnelle, pour les autres, mais quand on s'aperçoit que l'écoute (réussit), quand je vois que je comprends ce qu'il me dit, (c'est bon)

Cette année j'ai inscrit deux ingénieurs (en formation en anglais) selon le quota. Ils nous ont donné un quota de deux ingénieurs à former. J'aurais aimé mettre plus (de candidats à la formation). Pour eux, c'est indispensable. Les ingénieurs dans la maintenance ils ont besoin d'anglais comme même mais au technique ils ont besoin de l'anglais encore plus.

Officiellement, officiellement ce n'est pas l'ingénieur qui demande. Ça dépend du besoin de service. La hiérarchie ne dit pas « choisissez ce qu'ils veulent », même nos supérieurs nous disent de ne pas mettre la formation que l'ingénieur veut mais ce dont le service a besoin. Ça ils le disent clairement et on le reçoit par messagerie. C'est logique chacun dit : « mettez-moi ici », l'autre : « mettez-moi là-bas ». L'ingénieur va s'absenter deux ou trois jours par semaine, je crois deux jours. Moi aussi j'ai fait une formation au centre de perfectionnement. par rapport à l'anglais qu'on a étudié au lycée j'q me suis rendu compte que la prononciation qu'on a étudié était nulle. Mais quand j'ai étudié au centre j'ai su que l'anglais côté prononciation il y a beaucoup de lacunes. J'ai suivi la formation avec de grands profs, c'était des anciens. Les formateurs qu'on avait étaient des gens compétents et on apprenait avec eux avec plaisir.

Ingénieur mécanique département technique service inspection section équipement statique TI8, il y a aussi section machine tournante, électricité et instrumentation. Il y a quatre sessions.

L'anglais on l'utilise quand il y a des étrangers qui sont ici chez nous. A part ça on n'a pas d'usage d'anglais. On a des manuels, des codes la majorité en anglais, c'est rare où tu les trouve en français. L'usage quotidien c'est en français. On fait la traduction tous seul, chacun se débrouille et c'est tout.

Les étrangers, parmi eux, il y a ceux qui connaissent le français. Mais l'anglais, nous en majorité nos contacts se font en français. En 2014, on a eu la visite des représentants de société A., c'est une société française qui était associée avec des macédoniens, ces derniers parlaient en anglais, ce qui fait, obligatoirement qu'on discutait avec eux en anglais, en site ou ici (dans les bureaux).

La communication, côté technique, côté technique, il n'y a pas- il n'y a pas de problème c'est-à-dire le message passe le message passe côté technique parce que les mots techniques du- même lui (le partenaire étranger) quand il trouve qu'on a la technicité la technicité, il y a le courant, il passe normalement. La langue (anglaise) générale (littéraire) est le problème.

Les e-mails, c'est rare (de les utiliser) mais parfois ici au service on les utilise. Par exemple, on m'a envoyé un mail en anglais, j'étais obligé de répondre en anglais. Il y a internet il y a tout. La solution

maintenant est vaste. Il y a le logiciel de traduction l'anglais le français, beaucoup de choses. On a une base en anglais, je peux rédiger mon message en anglais mais pas bien comme il faut.

J'aimerais bien suivre une formation en anglais, c'est un plus pour moi et pour la société. En tant que personne, l'apprentissage de l'anglais est bien pour utiliser l'anglais. Quand un étranger nous visite j'aimerais bien ne pas avoir besoin d'un interprète pour communiquer, ne pas avoir de difficulté pour faire passer le message. Depuis 2006 on n'a pas fait de formation en anglais. On a fait une formation de master, ingénieur spécialisé à l'iap de (lieu), ce qui fait au début il nous ont fait trois mois en anglais c'était bénéfique et après on a fait la spécialité.

Il me faut améliorer la conversation. L'écrit ce n'est pas un problème. Tout le monde peut écrire, mais la conversation est la plus importante. L'anglais est 'number one' au monde même dans le domaine de l'industrie, l'information en majorité est en anglais, si tu vas juste à la bibliothèque, la majorité de la documentation est en anglais. Si tu cherches une information il faut passer par l'anglais puis tu lui fais une traduction. Tu n'as pas d'autre choix. Ce qui fait obligatoirement en industrie, surtout en pétrochimie, il faut l'anglais.

La formation se fait selon les besoins et la disponibilité des formateurs, et côté () pour nous c'est insuffisant, c'est insuffisant. Pour nous c'est insuffisant. La planification est importante. On aimerait bien que tout le staff ici ait une formation en anglais.

Ingénieur technique, service instrumentation TI9

L'anglais c'est une langue très utile dans le domaine technique parce que la documentation est en anglais. Cette usine a été construite par une société Américaine, B..., ce qui fait toute la documentation technique c'est en anglais. Ça fait pour- pour- un ingénieur qui connaît l'anglais facilite sa tâche énormément, sans demander l'assistance à l'autre ou voir ailleurs perdre du temps à traduire. Il peut travailler directement avec la source, anglais il peut traiter l'information.

L'origine de l'information, si elle est en anglais, la traduction n'est pas bien- bien à cent pour cent correcte le transfert de l'information ou le contenu de la documentation n'est pas à cent pour cent traduit en français, ça fait, il faut toujours que l'information- la documentation soit bien enrichie quand elle est en anglais, on la comprend plus, on la comprend mieux surtout technique, côté technique elle (la documentation anglaise) est la base.

Pour la communication, Côté communication aussi c'est très utile surtout ici on travaille avec les étrangers surtout les projets réalisés au niveau du complexe c'est des sociétés étrangères, heureusement dernièrement on reçoit des représentants des sociétés qui sont des algériens, mais malgré ça la communication avec la maison mère qui est en anglais sera mieux parce que même la documentation du projet se fait en anglais. Pour les projets, le projet quand il est en cours de réalisation, c'est à travers des réunions, des correspondances, des faxes, des messages- e-mails, mais quand c'est côté demande d'information de la part d'une société, par exemple, dans le domaine de pièce (à fournir) et tout, par messages, par messages (e-mails). Même quand des sociétés viennent ici pour demander de faire des présentations ici pour leur sociétés et tout, des fois ils préfèrent leur langue- la langue anglaise, eux ils disent que ça sera en anglais-français mais ils préfèrent l'anglais. C'est une langue internationale.

Recevoir des e-mails- je suis ici au technique que depuis trois ans, avant j'étais en département maintenance, ça veut dire que je ne suis pas encore arrivée au stade de prendre des projets.

Lors (de difficulté) de l'usage d'anglais, j'utilise les documents de traduction, les dictionnaires électroniques ou bien je demande l'assistance des collègues. On a ici les collègues ils maîtrisent bien (l'anglais), l'écrit, l'oral.

La maîtrise de l'anglais à son importance, même maintenant les postes- pour postuler, ils demandent la maîtrise d'anglais, ils demandent la maîtrise d'anglais comme condition pour faire une mutation ou accéder à un poste plus gradé, c'est une condition. C'est un moyen de communication. Il faut trouver n'importe quel moyen, l'essentiel c'est que le travail soit fini. Quand on dit d'un ingénieur qu'il est compétent, c'est qu'il connaît l'anglais parce que ça fait partie de son domaine de travail, tant que l'anglais fait partie de mon domaine (de travail), ça fait qu'il faut que je vais vers cette langue, je l'apprenne, et je travaille avec, obligée, parce qu'il ne faut pas que le cours de travail soit interrompu. Il faut toujours que l'ingénieur accomplisse l'objectif. Il a un objectif à atteindre quel que soit les difficultés. Il faut atteindre son objectif. Je ne vais pas dire au chef de service : « moi je n'ai pas un bon anglais, vous ne m'avez pas inscrit à une formation en anglais, donc je ne travaillerai pas ». On a choisi de travailler en (cette) entreprise (international), il faut être à la hauteur. Je n'ai pas le temps à la

maison pour apprendre l'anglais, si je veux apprendre quelque chose ça sera dans le domaine de mon travail. Si je veux maîtriser mon travail, j'apprendrai pour combler le manque que j'ai en instrumentation. L'anglais je l'apprendrai en lisant un manuel en instrumentation, c'est ça. Mais des fois ce n'est pas le cas surtout quand on est fatigué. Quand on est fatigué on cherche toujours quelque chose de facile, qui aide, le français. C'est rare où je me casse la tête avec (des manuels) en anglais, mais malgré ça je la lit. Mais pour dire qu'on a le temps, à la maison pour regarder des films en anglais, des fois on ne le fait pas. Il faut mettre (l'apprentissage d'anglais) parmi les tâches prioritaires, quotidienne à programmer de la sorte. L'anglais ne peut pas nous bloquer en travail, parce que qui dit ingénieur c'est qu'il est arrivé à un certain niveau, il a terminé ses études, (la non-maîtrise de) l'anglais ne va pas trop le perturber (dans l'accomplissement de ses tâches). Il est capable sans faire une formation en anglais, il peut apprendre (l'anglais) tout seul.

L'acquis de l'information est à travers l'anglais. C'est le cas pour nous côté technique, on ne le lit pas bien, on ne le parle pas bien mais on le comprend. La priorité numéro un c'est de le comprendre malgré que je le lit comme je lis le français mais je le comprends comme quelqu'un qui parle l'anglais. C'est notre cas au (département) technique. Ça fait, il faut qu'on aboutisse à l'acquisition de l'information, et c'est ça le but. Le but n'est pas de communiquer et tout, c'est le côté paperasse c'est tout, surtout technique. Technique c'est- Le français technique, l'anglais technique c'est des phrases simples, courtes, qui n'ont pas un point-virgule. Il y a une phrase, point, à la ligne, continue. C'est-à-dire il n'y a pas quelque chose de lourd comme on dit au (département) technique. L'objectif c'est que le message soit clair, que la demande soit claire, que la préoccupation soit claire point, à la ligne. Il suffit que l'on ne fasse pas des erreurs d'orthographe, c'est un peu- parce qu'on est des cadres, si on fait des erreurs c'est (inacceptable). c'est ça. Il faut bien rédiger et la rédaction a ses propres règles. Ceux qui ont l'expérience, ils rédigent de la même manière, la même expression, qui ne nous fatigue pas en la lisant. Et on la comprend. Il y a des textes dont la lecture nous fatigue, nous donne des maux de têtes, on ne peut pas connaître tout son contenu. Mais le (langage) technique, on le lit, on le comprend sans être fatigué, sans réfléchir à son contenu, sans avoir d'arrière-pensées, c'est bien précis. Il (l'anglais technique) ne nous laisse pas de gaps pour essayer de deviner leur contenu. C'est ça.

La formation est un plus. Mais quand on sort fatigués du travail pour aller faire une formation, venir ici (au travail) pour essayer de l'appliquer ou refaire ce qu'on a fait, on a pas de temps. L'anglais, j'aimerais bien faire une formation, mais je préfère une formation en continu. La formation qu'on a faite à l'IAP était bonne. Maintenant je peux lire en anglais avant je ne pouvais pas. Je n'étais pas tentée de lire quelque chose en anglais. Mais maintenant je lis, j'écoute l'anglais. J'ai une certaine volonté de le faire, c'est un plus. Une volonté d'ouvrir (un manuel/ un document), de lire, d'écouter, de l'accepter comme une langue (de travail).

Maintenance (craft) Ingénieur en électronique / instrumentiste/ 8 ans d'expérience MI3

J'occupe le poste de chargé de la section sncc c'est tout ce qui est sous-système des contrôles et commandes. Actuellement, j'assure l'intérim parce que le chef de service est en congé.

La période de formation d'ingénieur spécialisé en instrumentation, on l'a fait en quatre mois accélérés. C'est-à-dire, j'ai oublié l'arabe, je vous assure que j'ai oublié l'arabe. Mais quand je suis arrivé ici, quand il n'y a pas de pratique au fil du temps, au fil du temps...il y a des manuels en anglais, mais l'anglais technique, ce n'est pas comme la pratique, le parler, c'est le plus important (pour pratiquer l'anglais. Mais les manuels ici, si je vous les montre, c'est en anglais. Mais c'est clair, quand on lit un manuel en anglais c'est clair. Mais le problème c'est la communication, c'est ça notre problème, il n'y a pas communication, avec qui parler.

La communication avec les partenaires étrangers sont généralement en français, quand ils sont français. J'ai assisté à une réunion où c'était en français. Une fois on a assisté avec un partenaire à une réunion en anglais, mais il venait de l'Inde, même leur anglais, même si tu le comprends, ce n'est pas comme celui d'un américain

A l'époque de la formation accélérée, je suis arrivé à un point où je comprenais les informations au BBC. Mais au fil du temps, c'est parti, je vous assure que c'est parti. Des fois je regrette cette période. Pourtant l'anglais c'est- Je demande à ma fille : « dis a, b,c (l'alphabet en anglais), apprends, apprends (l'anglais). Je suis plus à l'aise avec l'anglais que le français. Même notre chef de service est bon en anglais. C'est lui qui contacte les spécialistes. Ses messages et ses écrits sont excellents, nous, c'est à travers son billet qu'on apprend. Même au technique il y a des éléments qui sont bons en anglais. Mais

ici (au département maintenance) on a un problème de formation. On reçoit le plan annuel et le choix de formation. Tout le monde choisit la formation en anglais. Les ingénieurs, je parle des ingénieurs. Tout le monde choisit la formation en anglais. Ça fait trois ans qu'on n'a rien eu. Je m'inscrirai une autre fois. ils ne choisissaient que le (département) technique. Pour faire une formation à l'extérieur de l'entreprise, on n'a pas le temps. Pour apprendre sur internet, moi je faisais des efforts sur internet. J'apprenais avec l'anglais facile, puis tu abandonnes parce qu'il n'y a pas de temps. Il faut qu'un prof nous enseigne, nous donne des cours de listening, à boumerdes, le 'listening' était au début difficile, mais on s'est habitué. Toute la semaine de huit heures à quatre heures. Pendant quatre mois. L'exigence de recrutement était de passer par deux ans de formation à l'institut de..., deux ans, la première partie c'était la langue anglaise, quatre mois en anglais, parce que le reste de la formation s'est fait en anglais.

Recruté à l'étranger MI4

Les équipements ont leurs pièces en anglais. Il faut connaître ces mots techniques. Les mots techniques surtout dans la pièce, sont en anglais même si on parle en français. On s'est habitué à ces pièces-là en anglais. Dès le début ils ont trouvé les termes de l'équipement en anglais. Si on sort de la région et on se dirige vers n'importe quel pays de golf, tout est en anglais. Moi-même j'étais là-bas, je suis resté un an et demi. Ce sont les mots techniques, j'ai réussi le test grâce au côté technique, parce qu'on me posait des questions sur les équipements, mon domaine. Celui qui a raté le test a bien pu ne pas comprendre la question. L'ingénieur connaissait la réponse et pouvais répondre mais l'examineur ne lui a pas bien passé le message. Moi quand je suis parti là-bas, je ne vous mens pas je ne connais pas bien l'anglais, mais dès qu'il m'a donné un permis qui contient un équipement, ce n'est pas difficile.

J'ai travaillé avec des Hindu, des Pakistanais. Tout était en anglais. J'ai appris (l'anglais). avec eux, j'ai appris (l'anglais). Leur accent était facile, celui des américains était un peu difficile. C'est-à-dire avec les américains je ne comprenais rien, je ne comprenais rien. Le spécialiste, quand il arrive, ne cherche pas à vérifier si on a compris ou non. Il s'intéresse à l'équipement sur lequel il est venu travailler. Moi, je l'accompagnais, je lui montrais l'équipement, et ce dont il avait besoin. Il communiquait avec moi parce que j'étais le 'job-leader' de cet équipement. Il était le spécialiste, mais moi j'étais le job leader. Je devais tout connaître sur la machine. Je trouvais des difficultés pour communiquer avec lui mais concernant la pièce, on discutait normalement. Un équipement comme le compresseur, les pompes, compresseur centrifuge, compresseur à piston, ceux-là on les connaît, ce n'est pas quelque chose de- quand on a l'expérience, c'est bon, eux (les employeurs étrangers) demandent l'expérience, parce que elle nous permet d'être embauchés.

Nous on possède dans notre pays beaucoup de compagnies d'hydrocarbures que d'autres pays, tel que l'Egypte, la Malaisie. La lybie en a mais pas autant que nous. L'arabie saoudite en possède. C'est pour ça qu'il demande la main d'œuvre. Mais le pakistan, l' indonésie n'en a pas, ils travaillent là-bas. Mais les algériens sont meilleurs que les autres c'est pour ça que le recruteur n'insiste pas trop sur la langue, il demande si on connaît l'équipement ou pas.

Pour l'employeur, celui qui maîtrise son métier mais ne maîtrise pas l'anglais est mieux que celui qui maîtrise l'anglais mais ne maîtrise pas son métier. L'employeur choisit celui qui maîtrise son métier, parce que celui qui ne possède pas un bon anglais peut apprendre. Il suffit juste d'apprendre comment communiquer avec les étrangers. Et bien communiquer est une question de temps. Ils nous ont fait des formations là-bas. Ils nous ont fait de bonnes formations. L'employeur va dépenser un peu d'argent pour nous former. Pas tellement d'argent, il va apporter un formateur spécialisé, un professeur qui vient enseigner pendant deux ou trois jours (par semaine), mais il gagne en ingénieurs. Un seul prof qui va enseigner dix ou quinze ingénieurs.

Il y a beaucoup d'ingénieurs qui partent d'ici pour travailler à l'étranger.. Ils procurent toutes les conditions favorables de travail, tout ce dont on a besoin pour vue qu'on travaille : les outils, l'habitat, les soins médicaux, le transport. Tout est pris en charge par l'entreprise. Nous, ils nous disent : « juste travaillez ! toute autre chose dont vous avez besoin vous sera procuré ». Moi ça ne m'a pas plu parce que je préfère rester travailler ici.

Si seulement on nous donnent une formation en anglais sur place (en entreprise), ce serait bien. S'ils font une formation interne, rien qu'une fois par semaine, ce serait mieux. On se formera bien. En plus du savoir-faire professionnel, une telle formation, ainsi que celle en informatique. Parce nous somme un peu faibles dans ces domaines-là. Mais côté savoir-faire professionnel et main d'oeuvre, on est

bons. En anglais, les algériens sont faibles, ils sont connus pour leur niveau médiocre. Et pour celui qui va travailler aux firmes étrangères, et qui est déjà bien formé en anglais, ne craindra rien, Et pour celui est déjà formé en anglais est mieux que d'être formé là-bas. Je vous assure. Parce qu'il est prêt. Il les aide plus. Quand un ingénieur est qualifié sur tous les plans y a des ingénieurs qui sont partis, ont vite été gradés. Parce qu'il avait déjà le savoir-faire professionnel et il a le bagage en anglais et informatique donc il accèdera rapidement à des postes supérieurs. Je connais quelques-uns de qualifiés sur tous les plans qui ont été traité comme des princes là-bas. Comme le cas des jeunes nouvellement recrutés chez nous en craft, à 22 ans- 23 ans, c'est un avantage pour eux. Contrairement à nous qui étions recrutés à 32 ans, 33 ans. Je recommande à pas mal d'ingénieurs que je connais de maîtriser l'anglais.

Même, même ici, beaucoup de documentation est en anglais, parce que la plus part des partenaires sont des américains. On connaît les équipements mais quand ils commencent à rentrer dans les détails, on ne comprend pas, si on connaît pas bien l'anglais, on ne le comprendra pas. C'est pour ça que (l'acquisition) de l'anglais est une bonne chose. Nous, on nous a laissé sans formation. Si on nous apporte un formateur ici sur place – actuellement la formation est hors complexe, mais qui ira jusqu'à là-bas. Pour vue qu'on nous donne une formation interne, rien qu'une fois par semaine. Un jour par semaine, un certain groupe d'ingénieurs va à la formation et travaillera les autres jours de semaines. Seulement, il faudra nous enseigner juste ce dont on a besoin au travail. Parce qu'ici dans la salle de documentation, il y a de la documentation en anglais, mais qui osera la lire ? à part la documentation qui est en anglais, mais pour nous aider ils fournissent la traduction (française). S'ils veulent mon avis, il vaudra mieux retirer le français (de l'usage) et mettre l'anglais (au lieu du français), je vous assure. Dans les autres pays riches en hydrocarbures, les enfants apprennent l'anglais dès la première année de scolarité. Ma fille a continué sa scolarité à partir de la deuxième année (primaire). Au début c'était difficile, (je suis resté deux ans) mais après elle a bien évolué (en anglais). Mais à son retour, ça a diminué comme il n'y a pas de pratique. Pour l'aider à pratiquer son anglais, je n'ai pas le temps. Même moi, j'ai essayé de continuer à évoluer en anglais mais je n'ai pas pu, je n'ai pas pu.

Maintenance : ingénieur en instrumentation/système numérique de contrôle de commandes.MI5

Je suis en poste depuis octobre 2010. L'anglais est important parce que la documentation ici est toute en anglais. Mais c'est-à-dire on n'a pas de pratique. En cas de difficulté avec l'anglais, on utilise le dictionnaire, ou bien une recherche dans le net. déjà le système DCS ou le fournisseur, quand il apporte un équipement, il nous fournit un équipement- parfois il nous donne un manuel en français, mais la majorité du temps les manuels ou la documentation sont en anglais. La majorité des fournisseurs nous donnent leurs documents en anglais, même les manuels sont en anglais, les manuels opératoires des équipements sont en anglais.

2 Techniciens: Inspecteur, électricité technique (two inspectors participating in the interview)TT1/TT2

On fait l'inspection des équipements électriques, tout ce qui est électricité, on lui fait une inspection, soit des machines électriques soit des machines statiques ou tournantes. On fait des inspections préventives, on suit ce tableau, chaque semaines, chacun a des équipements à inspecter. Et on fait des rapports d'inspection. En messages ou en () on travaille en français pour communication interne entre le staff. L'anglais, on l'utilise pour communiquer avec les coopérants étrangers. Quand ces coopérants étrangers parlent en anglais, on est obligé de traiter avec eux en anglais. (Parfois on reçoit la visite de partenaires qui ne parlent que l'anglais comme des américains, les coopérants viennent ici pour expliquer des programmes ou pour expliquer des installations d'équipements, donc on est obligé de leur parler en anglais. Autre chose, par exemple les documents ici sont en anglais), toute la documentation qu'on a est en anglais. (les archives, les références qu'on a sont en anglais. Parfois on recherche quelque chose par internet, on la trouve en anglais). Surtout dans le domaine technique dans le domaine technique, la documentation est en anglais. On a des difficultés pour comprendre les termes techniques parce que déjà la formation en anglais ne nous a pas été accordée. On l'a appris, comme on dit, avec le temps, entre nous. Les anciens quoi côtoyaient les américains parlaient l'anglais couramment. Mais nous, on n'a pas la chance d'utiliser l'anglais. Mais on a des collègues ici au département qui sont en contact avec les américains, donc, ils sont obligés de traiter avec eux en anglais). Nous notre poste ne nécessite pas un contact direct avec les partenaires étrangers. (On n'a pas encore eu cette chance, mais au futur, ça se pourrait. Si par exemple je m'implique dans l'établissement d'un cahier de charge, je pourrais avoir besoin de données du fournisseur. Si ce dernier

m'enverra un mail en anglais je serais obligé de lui répondre en anglais. Je trouverais automatiquement des difficultés pour formuler ce que je veux lui écrire. Avec mon niveau actuel en anglais, je ne pourrai pas lui répondre). Il faut faire un effort pour rédiger en anglais. Je me débrouillerai en recherches. Si vous me demandez de rédiger un rapport en français, je le ferai en dix minutes, mais si c'est en anglais, je mettrai toute la journée. Parce que c'est l'image de l'entreprise, l'image du département (qui est en jeu), il faut formuler un message (de qualité), sinon je lui écrirais un anglais avec un style arabe.

Les techniciens ne font pas formation. Ils ont dit que seulement les ingénieurs en ont le droit. Ici on a besoin de l'anglais technique. On n'a pas besoin de l'anglais de littérature. Il nous manque la phonétique. Il nous faut regarder les films. On doit être motivés. Si on nous fait une formation en anglais, je sais en me concernant que je rattraperai (le bon niveau que j'avais). (3rd : Moi, j'ai fait la formation dans (une école privée à l'extérieur) parce qu'on était dans une période de rénovation. C'étaient les phrases simples qu'on ne savait pas faire en communiquant avec les américains.). mais si on l'applique pas on la perd. (il faut être motivé pour l'apprendre. Moi personnellement, le jour où je serai obligé à l'utiliser je l'apprendrai.) c'est comme dans le cas du voyage à un pays étranger où on est obligé d'apprendre une langue étrangère. (3rd : la langue c'est l'école, si on l'apprend dès un jeune âge on gardera la base. Ils devraient appliquer un bon plan de gestion de carrière et investir dans la formation parce qu'on a d'excellents agents parmi notre staff. Il devrait y avoir un suivi du moment que vu que le complexe est souvent sujet de visites d'étrangers. Donc, il faut accorder la formation en anglais à tout le staff de l'entreprise). (2 : si seulement on nous permettait d'accéder à la formation en anglais. Normalement, avec un petit sondage, un petit sondage de rien du tout. Dans lequel, par exemple, on nous demande nos besoins. Si je suis impliqué dans un cahier de charges, une erreur de langue de ma part peut être fatale et entraînera toute l'entreprise. Avec des partenaires malins qui saisissent cette faille en nous disant : « c'est ce que vous avez écrit/dit ». (2 : Si je reçois un appel d'offre en anglais, qu'est-ce que je fais ? le traduire ? ça risque de changer tout le sens). (3 : je peux même faire dévier tout le complexe avec un mot (mal utilisé). L'important c'est la compréhension, si on m'apporte un document en anglais, je le comprendrai, c'est ça le plus important. Je ne chercherai pas à faire un débat ou à participer dans une conférence. Même le niveau de compréhension est relatif, il y a ceux qui ont 20, 30, 40%...

(2 : il y a des collègues qui sont partis travailler à l'étranger avec un niveau technique moyen, mais la langue les a aidés. on a un collègue qui parle l'anglais très bien. Même les étrangers ont été surpris par son niveau si bon. Avec quelqu'un comme lui, pourquoi ne pas nous programmer des séances de conversation d'anglais. Rien qu'une fois par mois en sa compagnie, ne serait-ce que pour discuter avec lui. Je préfère quelqu'un comme lui qu'un enseignant. Avec un collègue je peux me permettre de dire des bêtises en anglais mais pas avec l'enseignant. (3 : Pour qu'il nous instruisse de parler seulement en anglais. Utiliser des phrases courantes comme : je vais sortir). (Il peut nous donner un document en anglais à lire. Puis il nous guide et nous corrige. Je trouverai des difficultés en discutant avec un égyptien qui ne parle que l'arabe classique. Dans ce cas-là, il faut utiliser l'anglais avec eux, sinon s'ils usent des termes techniques arabes comme (pompe, machine, l'engin), ça se compliquera.

Les parents algériens doivent investir en leurs enfants pour leur apprendre l'anglais. Ils doivent suivre leurs enfants, c'est aussi notre cas ici en entreprise. Un ancien chef de département qui était très bon en anglais a une fois dit à un ingénieur en télécommunication qui avait du mal à traiter des documents en anglais, je me rappelle bien, il lui a dit : 'C'est l'occasion d'apprendre l'anglais ici en entreprise', il lui a dit, 'il faut faire des efforts pour apprendre l'anglais ici. on ne peut pas vous traduire toute cette salle de documentation en français

Ingénieur préparateur maintenance IM5

Je suis ingénieur en mécanique, poste préparation. Bon la préparation, je ne sais pas si vous en avez une idée. C'est tout ce qui est préparation des (), on prépare tout ce qui est question de pièce. On prépare les cahiers de charge. Ce sont les tâches de préparation. J'ai travaillé ailleurs pendant deux ans, ici en entreprise j'ai travaillé pendant cinq ans.

Concernant l'utilisation de l'anglais, Je vois que c'est une langue très indispensable en travail. Surtout que- ici, il y a beaucoup de documentation. C'est (l'anglais) un outil qui aide, même la plupart des fournisseurs travaillent en anglais. Ils sont de nationalité américaine, japonaise. Les japonais préfèrent travailler en anglais parce qu'ils trouvent le français un peu (difficile). Des fois quand ils traduisent en français, ils ne traduisent pas correctement. Par exemple, si on ouvre un manuel opératoire d'un

équipement fourni par des japonais en français, on trouve quelques défaillances. Pour quelqu'un qui maîtrise l'anglais, il vaut mieux le lire en anglais que de le lire en français. C'est-à-dire en anglais, on peut comprendre mieux que si on le lit en français. C'est parce que le manuel n'est pas fourni par des français vu que l'équipement n'est pas le leur et tout, donc, à ce moment, l'anglais entre en jeu.

Autre chose concernant l'anglais qu'on a vécu ici durant la période des révisions générales, comme on a ici beaucoup d'équipements fournis par des sociétés x and y, ce sont des fabricants américains. Quand les intervenants viennent ici, comme les superviseurs et les techniciens, la plupart d'entre eux parlent l'anglais. C'est un arrêt des équipements stratégiques, des turbocompresseurs pour une révision générale. Le contact tout est en anglais. Les américains, les anglais, même les philippins, parlent tous l'anglais. Le mieux l'ingénieur connaît l'anglais, le mieux c'est. Tant que l'information passe au superviseur ou au technicien et à l'ingénieur aussi, c'est bon. Quand l'individu maîtrise bien l'anglais, le message passe mieux. Des fois, des fois, des fois on se trouve dans des situations critiques, un problème quelconque. La discussion sur ce problème-là quand on maîtrise l'anglais sera mieux. C'est-à-dire même quand l'interlocuteur anglais explique le phénomène en parlant en anglais, si on comprend l'anglais, on va mieux comprendre ce phénomène. Même concernant leur prononciation, les américains parlent vite pas comme les anglais. Parce que les anglais sont venus ici lors du bras de chargement. Les anglais, on les comprend un peu. Mais l'anglais des américains est un peu difficile, surtout ceux du Texas et tout. Selon ce qu'ils nous ont dit, même aux États-Unis, il y a ceux qui ne comprennent pas leur accent. Le message passait, Dieu merci. Même avec le peu d'anglais qu'on avait. On comprenait. D'est-à-dire quand il y a quelque chose de technique, il n'y a pas un grand problème (de compréhension). Côté technique, le message passe. Avec le peu de vocabulaire qu'on a on fait passer le message.

Ici, ceux qui viennent, la plupart d'entre eux sont des américains. Il y a ceux de ---, ou bien ceux du... Ou ceux de ----. Ce sont ceux avec qui j'ai travaillé. Les autres je ne sais pas. Parce qu'il y peut-être des français, peut-être des Italiens, mais la plupart de ceux qui viennent parlent en anglais. Comme les partenaires de ---, avec qui on a eu du travail sur les turbogénérateurs. Cela remonte à quatre mois. Ils parlent tous anglais. Heureusement, on trouve des arabes parmi eux. Ce qui nous donne une chance de mieux comprendre : des syriens ou des égyptiens. Quel que soit l'arabe qu'ils utilisent, on peut le comprendre.

Concernant la formation, on a demandé plusieurs fois après la formation en anglais, mais il n'y a pas je ne sais pas pourquoi. Il y a d'autres structures qui en ont bénéficié. Mais nous, qui travaillons beaucoup avec l'anglais, on en a pas bénéficié. Peut-être dans le département finances, ils en ont fait mais nous non. Moi, je suis là depuis cinq ans alors que j'aurai dû bénéficier de dix formations depuis. Mais j'ai rien vu. On a parlé plusieurs fois à notre supérieur qui nous disait d'attendre. Je n'ai pas suivi de cours privés faute de temps. Et puis le congé, on prend pour se reposer pas pour-

Entre nous on travaille et communique en français, l'anglais ne figure pas dans les messages internes. On utilise l'anglais quand on fait références à certains fournisseurs. Mais on est plus attaché au français qu'à l'anglais. Si on utilise le français puis on utilise la traduction par internet, l'essentiel est que le message passe.

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L'anglais, on a notre centre de perfectionnement de l'entreprise. Donc, chaque année ils programment des groupes. On a le département DRH qui exprime le besoin de toutes les spécialités et leurs contenu

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Ingénieur mécanique niveau deux, service étude TI10

On a des dossiers à traiter juste ici. Des fois on a des suivis à faire sur chantier. Par exemple si on a fait des projets ou des modifications ici, élaboré ici aux bureaux d'études, après on va faire le suivi sur site si elle a été exécutée dans les normes et tout. Et s'il y a des contraintes dans l'exécution, on modifie ou quelque chose comme ça. Des fois on a le suivi des pannes, des problèmes. Si un problème ou un accident arrive, on va pour intervenir- pour voir pas pour intervenir directement mais on donne des directives. On voit quel est le problème, pourquoi l'incident est arrivé, c'est ça. S'il y a des révisions par exemple dans certains équipements, on va aussi faire le suivi avec les structures concernées. Parce que si la maintenance a besoin d'une information ou une solution, elle est issue par nous, l'étude. En plus de ça on établit les cahiers de charges. S'il y a des équipements à changer parce qu'ils sont anciens ou parce qu'ils sont sources de beaucoup de problèmes, des problèmes de temps-

en-temps. Dns on essaye de faire des cahiers de charges pour choisir un équipement remédiant à ces problèmes-là. C'est ça.

L'anglais, on le trouve dans la documentation, parce que des fois quand on consulte sur internet ou on consulte les documents qui accompagnent les équipements et tout, il y a des documents en anglais. Des fois les fournisseurs ne fournissent pas un document en français. Des fois ce sont des documents en anglais vu que l'usine vient des américains et tout. Donc dans ce cas aussi on utilise l'anglais. on utilise l'anglais. S'il y a une communication par exemple avec un fournisseur en anglais, on élabore un message en anglais. Moi, personnellement je n'ai pas eu l'occasion pour- je parle l'anglais, je l'utilise, je l'écris mais j'ai un problème avec, avec la pratique. Ça ne m'est pas arrivé d'assister à des réunions où l'anglais est utilisé. J'ai lu des messages qu'on a reçu en anglais, je peux les comprendre, je n'ai pas de problème là dedans. Mais mon problème est dans la pratique. Même je me suis inscrite dans une école à l'extérieur (de l'entreprise), à chaque fois on me dit vous avez atteint niveau 7 attendez jusqu'à ce qu'on constitue le- groupe. Le groupe, jusqu'à présent ça fait plus d'un an qu'il n'est pas constitué. Et quand je voulais changer d'école on m'a dit que c'est dans un mois. J'aimerais bien avoir des cours de pratique pour pouvoir parler facilement. Je suis très intéressée, très, très. L'anglais c'est international, donc on ne peut pas se limiter au français. Admettant, moi je suis actuellement sur un cahier de charge je ne peux pas savoir quel est le fournisseur à qu'on va choisir après. Parce que c'est-à-dire on ouvre les plis () il se pourrait qu'il sera Français, Anglais, Allemand. On ne peut pas savoir, lors de () le pays où est fabriqué l'équipement en question. On ne peut pas savoir en avance. Possible que ça sera un pays où on utilise l'anglais. Celui qui ne maîtrise pas l'anglais aura des difficultés, il aura des difficultés si jamais il voudra lire un document, il sera bloqué, il ne peut pas finir son travail. Admettant par exemple qu'on a un point important dans le travail qu'on veut faire et le seul document qu'on trouve est en anglais, donc quand on l'ouvre et qu'on ne peut pas le finir, le travail s'interrompt. Il s'arrête là. Celui qui a internet peut peut-être traduire, peut-être. Ou bien, il voit l'aide d'un collègue qui maîtrise. Surtout, surtout, il me semble que le point le plus important que je voudrai bien maîtriser c'est l'anglais technique. On a beaucoup besoin d'anglais technique. Je suis en poste actuel, étude, depuis deux ans et demi.

Avant j'étais dans le département maintenance. On utilisait l'anglais en maintenance, parce que, avant d'ouvrir un équipement il faut consulter un manuel pour savoir comment ouvrir, comment intervenir, qu'est-ce qu'il faut vérifier, par exemple les efforts de serrage et les autres choses durant la fermeture, qu'est-ce qu'il faut contrôler, c'est comme ça. Au moins pour voir les plans des équipements.

Je me suis inscrite pour la formation mais je n'ai pas été choisie. J'ai eu recours à la formation en extérieur. Je ne voulais pas attendre. Attendre jusqu'à ce que mon tour arrive, ce sera loin.

L'anglais c'est important le français est aussi important. On traite avec différents pays. Donc, eu, normalement, normalement, surtout l'anglais par exemple je prends l'Allemagne, si je maîtrise l'anglais, au moins je pourrai parler en anglais. Il y a des pays où- peut-être- je prends l'exemple de la Russie, je pourrai parler en anglais. Peut-être un équipement qui vient de l'Ukraine au moins ou je ne sais pas quoi, au moins je pourrais parler en anglais. Même si on ne maîtrise pas le français. Il me semble que l'anglais, c'est très important. C'est une langue internationale, c'est ça.

Service étude TI11

Je fais, je suis concerné par les plans au niveau du complexe on a besoin des informations des consultations des plans. On a souvent des urgences. Au moment des urgences, nous sommes appelés à consulter des plans. L'anglais, bon, intervient dans tous les cas. En même temps dans les data sheets des équipements, c'est la fiche technique de l'équipement. En plus de ça on travaille avec des spec. Des spécifications de tuyauterie, les spécifications de tuyauterie avec les autres disciplines. Si on prend un exemple de spécifications, ce sont des spécifications propres au complexe. Comme ici dans les spécifications version française, il y a les spécifications de bâtiment, spécifications de soudure, les normes de soudure. L'anglais ce n'est pas un problème pour moi, grâce à ma scolarité. J'étais excellent en anglais, surtout en français et fautes de grammaire et de conjugaison je ne les connais pas. Surtout en français. En anglais, il n'y a pas de problème. Il y a aussi l'usage d'anglais aussi dans les plans. On y trouve à peu près les mêmes spécifications- les mêmes détails comme ces équipements. On travaille avec tout le temps. On a des tables de consultations. Quand on a des urgences : des fuites de tuyauterie. Pour les localiser, il faut un PID (c'est piping and instrument diagram), et le PFD c'est piping flow diagram, c'est un schéma de circulation de fluidité. Les symboles de (), les symboles de mesures. Mon poste, ça se limite là. On a des formations concernant ma spécialité. Je suis sollicité tout

le temps. Jusqu'à présent, je n'ai pas pris mon congé. Pour faire une formation, depuis 2012, je n'ai pas fait de formation.

J'ai eu la visite d'une équipe de toutes nationalités, en même temps je suis obligé de répondre à des questions, ça (la communication) passe malgré que j'ai oublié l'anglais. Ce qui aide c'est les plans, en même temps on s'explique.

Ingénieur process département technique service étude et développement.TI12

Tout ce qui est préoccupation, suivi d'exploitation, élaboration de rapports, tout ce qui est lié à l'exploitation et la production de GNL. Le suivi de l'exploitation c'est élaboration de rapports, élaboration de modifications, c'est solutionner des problèmes, améliorer le rendement de production du complexe. Généralement, nous, on utilise pas l'anglais. Dans la messagerie, on n'utilise que le français. La documentation, on est amenés à consulter des documents en anglais. Quand il s'agit par exemple d'équipements. Généralement ce complexe dès l début a été conçu par des américains d'où un grande partie du matériel ont une documentation d'origine est en anglais. On les consulte. Mais c'est de l'anglais technique, des petites phrases, de petits mots. A force de travailler avec. Par exemple quelqu'un qui travaille avec, quand il entend 'valve' il sait que c'est une vane. C'est routinier pour nous et c'est la même chose pour- par exemple 'shut down' équivaut à déclenchement. Ce sont des mots qui viennent souvent dans notre travail. A l'échelle internationale quand il y a par exemple des projets, lors de la réalisation des projets ou lors de, ce qu'on appelle, l'élaboration du cahier de charge pour la fourniture d'équipements, que ce soit de petits ou de grand équipement. Les fournisseurs sont étrangers. Ils utilisent l'anglais. On est amenés à discuter avec eux ou faire des petits briefings avec eux en anglais. Mais ça reste toujours dans le domaine technique. On n'utilise pas beaucoup de mots. Généralement, on (s'impose sur le/sort pas du) contexte. Par exemple on a besoin de tel équipement, on définit le besoin en terme par exemple de puissance, les normes à appliquer. Généralement on utilise ces termes techniques-là. Généralement on peut assimiler facilement. Avec le travail on les assimile. Il y a des gens qui sont bon (en anglais). Si on a besoin d'assistance, quand la discussion devient délicate ou qui nécessite un peu de détail on fait appel à eux pour nous booster dans notre travail.

Dans notre travail, dans le domaine du pétrole et gaz, il est intéressant d'apprendre l'anglais. C'est un outil très intéressant pour nous faciliter le travail, pour la lecture de documents. Ça nous fait gagner du temps. Actuellement, on fait ce qu'on appelle l'anglais, 'training' du centre de perfectionnement. Deux fois par semaine pendant une période de deux mois- trois mois, mais l'anglais pour moi, pour la pratiquer, c'est tous les jours. Le fait de () si l'individu ne fait pas d'efforts pour lire ou autre chose, on ne peut pas évoluer, surtout en anglais. L'anglais- la langue pour moi c'est la pratique, pratiquer c'est apprendre. Si on ne la pratique pas, ça reste quelques temps. Le temps de faire de petites tournées au centre de formation, ça ne va pas- l'essentiel, on peut acquérir quelques mots, ou quelque chose comme ça. Généralement, si l'individu ne l'utilise pas tous les jours, il ne va pas trop évoluer (dans cette langue). Mais dans notre domaine, il est intéressant d'apprendre l'anglais. Dans cette industrie, généralement c'est les anglosaxons ou les américains qui dominent ce créneau-là. Ça veut dire toute la documentation ou tout le savoir-faire, généralement à 80 ou à 90% il est en anglais. Malgré que le partenaire soit français, il parle anglais. Par exemple les sociétés qui travaillent avec notre entreprise, je vous l'ai dit, à 90%, elles viennent- ils parlent en anglais : les chinois, les- tous les- pourquoi parce que c'est un domaine qui a été boosté initialement par les américains. Ils ont besoin de parler en anglais, de consulter tout ce qui est en anglais. Les américains ont beaucoup évolué dans ce domaine. La documentation de ce domaine est en anglais. Les gens sont forcés d'apprendre l'anglais au moins pour lire, pour consulter pour pour acquérir l'information. L'information est en anglais, tu vas apprendre l'anglais pour l'acquérir sinon tu vas rester en retard. Parce que malgré qu'on travaille en français, mais l'idéal est que quand tu maîtrise l'anglais, tu peux consulter des documents en anglais et apprendre vite., pour être toujours à jour avec la technologie.

La langue française en Algérie, elle est dominante. Maintenant, nous, on suit cette dominance. Mais si par exemple dès le départ, l'entreprise avait opté pour l'anglais comme langue de communication (interne), peut-être que ça aurait été mieux. Mais actuellement, nous, on utilise le français dans notre communication (interne) par messagerie, les rapports et tout. Je ne sais pas si ça aurait été bien (d'utiliser l'anglais) mais ça nécessite beaucoup d'efforts- beaucoup d'efforts pour qu'on arrive à faire des rapports en anglais, effectuer toutes nos communications en anglais, il faut vraiment que l'on fasse des efforts.

Département technique service DCS.TI13

Nous, c'est les administrateurs DCS. On est deux. On s'occupe de- on s'occupe plus de ce qui est matériel. C'est-à-dire on a la salle de contrôle. Qui contient des ordinateurs, qui contiennent des serveurs. Nous, on s'occupe plus de gérer la continuité du service. Eux c'est plus concernant le contrôle de ce qui se passe sur site. Nous on contrôle les machines qu'ils utilisent pour justement visualiser ou bien-

L'anglais on ne l'utilise pas vraiment vu qu'on est en face d'une machine à part peut-être la documentation sur la machine, la documentation sur les logiciels qu'on utilise dans les machines. Généralement la documentation est en anglais. D'ailleurs les plus récentes sont en anglais. Avec le temps peut-être ils font des traductions. On ne les récupère qu'après. Généralement elles sont un peu en retard mais les plus récentes sont en anglais. Personnellement, depuis que je suis en entreprise, depuis cinq ans, j'ai fait plusieurs formations en anglais. C'est l'entreprise qui nous a payé des formations au centre de perfectionnement. Même mon collègue a fait des formations. Mais sinon c'est plus l'anglais professionnel, technique (dont on a besoin), vous voyez ? Ce n'est pas vraiment pointé, précis mais ça va. Ça nous a un peu enrichis, un petit peu. Peut-être qu'on l'utilisera peut-être dans le future.

C'est plus le chef de service qui fait ce genre d'échanges (internationaux via e-mails ou réunions). Nous, on fait des réunions avec lui, on parle de ces planifications, ces modifications qu'on va faire mais c'est lui le plus qui interagit avec- c'est lui qui interagit plus avec les étrangers.

Nous on espère que la formation en anglais soit plus présente plus fréquente pas de temps en temps. Que ce soit par exemple des formations d'anglais plus ou moins poussées, vous voyez, c'est-à-dire pas- pas sur des trucs élémentaire. Des formations qui suivent d'autres formations. Puis d'abord on ne peut pas dire qu'on a un très bon niveau d'anglais s'il n'y a pas un suivi continu. C'est comme toutes les langues. C'est-à-dire si on ne la pratique pas régulièrement, on ne peut pas s'améliorer.

Vu que nos documentations sont dans la plupart en anglais, il y a- il y a- c'est-à-dire on sent ce besoin d'apprendre l'anglais tout le temps. C'est ça. Nous, quand on essaye de lire les documents, on essaye à chaque fois de faire la traduction, plus ou moins littérale- mot-à-mot parce que des fois il y a des expressions, ces fameux 'idioms', il faut connaître bien sûr l'expression direct sinon on a des difficultés c'est vrai parfois quand on lit, des fois tu comprends que le mot-à-mot ne va pas suffire, donc il y a ce problèmes c'est vrai.

Ingénieur process département technique TI14

Nous on suit l'exploitation, tout ce qui est installation, on voit les problèmes liés à l'installation. On a des rapports à établir. Il y a aussi les problèmes comme je vous l'ai dit en général nous au technique on fait le suivis de l'exploitation, on voit si on est dans les normes ou bien quelles déviations par rapport à la norme.

L'anglais on l'utilise mais ce n'est pas- c'est l'anglais technique. Ce n'est pas l'anglais purement comme on dit- mais c'est technique, c'est des mots. En plus il y a l'internet, il y a le logiciel de translation par internet. On peut, mais l'anglais purement qu'on parle ce n'est pas- ce n'est pas de notre tronçon.

On a fait des formations au centre, on a fait niveau un, beginner, on a fait tous les niveaux rien que pour s'initier. Mais je n'ai pas terminé tous ms niveaux. C'est pas que je n'ai pas voulu, mais c'est la programmation, avec la charge de travail, en même temps aussi selon les groupes.

La formation de base n'était pas l'anglais, j'ai fait l'espagnole. L'espagnole parce que c'était la mode, dans les années 84, c'était la période où l'espagnole a commencé à apparaître. C'était une nouveauté. Ça nous paraissait quelque chose de- on ne savait pas qu'on allait arriver à cette situation, c'était une nouveauté. Donc ma formation de base était en espagnole. Une fois je suis entré dans la vie professionnel, l'anglais est devenu un handicap, pourquoi, parce que, ici, le français, c'est la langue officielle parlée et écrite. C'est le français. Mais j'ai vu que l'anglais vient en deuxième position. Ici c'est tout en français, les manuels opératoires, les consignes, les cross-projets qu'on fait ici c'est en français. Mais des fois, on a besoin d'anglais, surtout quand on a des cahiers de charges, on est obligé de communiquer en anglais. A l'écrit, il n'y a pas de problème mais au parler, on trouve un peu des difficultés. C'est-à-dire on essaye de traduire- Si on veut des clarifications avec les soumissionnaires ou bien quelque chose de la sorte. Pour écrire on ne trouve pas- par mail on ne trouve pas de problème

mais- ce n'est pas, comme on dit, un anglais, mais le parler c'est un peu difficile. A l'écrit on a le temps, mais au parler, non. C'est le téléphone. Quand je dis le parler c'est le téléphone. Même si on fait une réunion en anglais, il y a toujours une personne pour pouvoir nous (expliquer). On exige le français parce que notre entreprise est algérienne c'est-à-dire le français est la langue officielle pour communiquer. C'est difficile de trouver une personne qui maîtrise les deux. En même temps la langue anglaise et le côté travail, exploitation et tout. C'est difficile de trouver une personne. Même si trouve une personne qualifié dans les deux, elle ne va pas restée (travailler) ici. C'est une impossibilité que quelqu'un maîtrise son procédé en même temps il maîtrise la langue. Si vraiment tu trouve une personne qui maîtrise les deux, c'est une denrée rare.

Même ce qu'on fait au centre de perfectionnement. Une semaine par un mois, c'est peu. Une journée par semaine. C'est-à-dire vous vous branchez avec l'anglais après, vient la rupture. Donc le temps qu'on s'améliore un peu puis on rechute. C'est une méthode qui ne- on ne peut pas apprendre l'anglais comme ça. Comme on dit, il faut se jeter dans l'eau pour apprendre à nager. Si l'on a une chance, il vaut mieux aller en Angleterre. Mais (apprendre) comme ça par- Ce n'est pas efficace. Nos attentes de la formation c'est de pouvoir améliorer son anglais. Que ce soit le parler ou bien l'écrit. Je préfère une formation en continue. Une semaine, que l'anglais au lieu d'avoir que quatre jours par mois. C'est mon avis. C'est mon avis.

Ingénieur en instrumentation, service instrumentation, département technique TI15

Notre travail c'est quoi ? c'est suivre les problèmes et les déclenchements. On prépare notre rapport. On fait les investigations pour préparer les rapports. Selon le déclenchement. Le déclenchement c'est le côté process. Je vous donne un exemple. Par exemple, nous on a une chaîne. La liquéfaction c'est plusieurs sections. Chaque section a ses machines, a ses instruments. Je vous donne un exemple du compresseur propane. Un déclenchement survient. Soit c'est un défaut, soit c'est un déclenchement réel. Par exemple la température augmente réellement. Quand elle augmente à un certain seuil. Parce que chaque () on a un seuil d'axe et un seuil de danger. Si c'est un danger qui a réellement déclenché la machine, par exemple le propane, quand il se déclenche, le seuil s'arrête. Donc quand on reçoit le message, dans le DCS on suit, où est le problème ou le paramètre qui est à l'origine du déclenchement. Il y a toute une logique à suivre, à lire. Par exemple, on trouve que c'est la pression. Si la pression est réelle, moi, côté instrumentation avec le process, on suit les paramètres, et on découvre que la pression a effectivement augmenté. Nous, selon ces investigations, on prépare un rapport. Si par exemple, il y a une défaillance dans le transmetteur. La température de refoulement est normale, mais il y a décalibrage. Parce que les instruments, quand on les calibre avec le transmetteur, avec le temps, ils ne donnent pas de bonne valeurs. Alors on fait notre rapport. Il n'y a pas que ça, il y a les vibrations. Parfois la machine a des vibrations. Les étrangers viennent quand il y a un projet, un projet dont on lui prépare un cahier de charge. Puis on envoie aux soumissionnaires aux fournisseurs. Ça dépend, s'il est algérien ou étranger. Donc il vient pour faire- ce n'est pas une modification, mais c'est un projet.

En technique, le fournisseur nous propose un autre modèle. La documentation qu'ils nous envoient arrive en anglais. Le staff de la maintenance ne veut pas prendre la décision quant à accepter la pièce ou non. Ils envoient au staff du TE, service étude pour que ces derniers étudient ça et ça et dire si on peut l'accepter ou non. Maintenant, quand ils nous envoient toute la documentation (relatif au nouvel équipement) en anglais. Moi je ne maîtrise pas l'anglais. Comment faire ? je trouve des difficultés. Donc je dois prendre le document, le traduire, le comprendre pour donner une décision ou un avis. Ça prend du temps. On fait des efforts, je vous assure qu'on fait des efforts pour- parce que c'est une responsabilité. Imagine que je leur dis facilement OK. Après quand ils apportent l'équipement et le place, il ne convient pas. Imagine ? C'est une responsabilité. Donc si je comprenais très bien l'anglais, je ne trouverais pas ces difficultés-là. Même je crains de prendre de telles décisions. Donc si je comprenais bien l'anglais, je ne craindrais rien. Je serais sûr de moi. Même, je suis toujours- je demande toujours l'avis des autres, je vais chez les autres pour m'aider à faire la traduction. Ça c'est un exemple. Ça c'est côté pièce de rechange. En plus, il y a les cahiers de charges. Parfois, on nous apporte des cahiers de charges. Cette fois, j'ai été un cahier de charge. Ce n'est pas un cahier de charge mais c'est une demande de d'offre pour installer- pour faire le (barème). La documentation est en anglais. Même le partenaire nous envoie en anglais. Donc ici, on est obligé de lire, tout, d'accord. Même demain, on reçoit un étranger dans le cadre du cahier de charge que j'ai préparé en français et que j'ai publié. Puis après, demain, viennent les soumissionnaires. Soit des français, soit des algériens,

soit des anglais. Les anglais, comment faire avec eux. Parfois ils demandent des visites. Ils viennent ici sur place pour voir- donc moi, je vais trouver des difficultés. Je sollicite toujours l'aide de quelqu'un. Même eux, c'est vrai, ces étrangers apportent avec eux des (représentants) algériens. Malgré ça, si tu maîtrise l'anglais c'est mieux. Moi, à chaque fois qu'ils nous font le plan de formation, je demande l'anglais. Je suis là au technique depuis quatre ans. Ni anglais ni rien du tout. Jusqu'à maintenant. Je suis allée chez le chef de service et je lui ai dit que j'ai un problème avec l'anglais. Je lui ai dit plusieurs fois. Je lui ai dit qu'il devrait m'inscrire en formation en anglais. Il y a ici des gens qui ont niveau 3 en anglais ; ils maîtrisent l'anglais très bien ; et ils font actuellement une formation en anglais. Moi qui ne maîtrise pas bien l'anglais- je ne sais pas comment sont ces critères de sélection. Comment ce DRH élabore ces critères ? je ne sais pas. Et pourtant, d'après ce que les autres m'ont raconté, ils passent un test. Comment ils ont passé le test. Juger que ceux-là sont aptes pour la formation. On attend, à chaque fois, on s'inscrit. Jusqu'à maintenant, on n'a rien reçu. Vous comprenez ? Mais c'est un problème. Je pense que la majorité des ingénieurs vous ont dit la même chose. Je pense qu'il y a des ingénieurs qui maîtrisent l'anglais ; ils ont un certain niveau, mais ils demandent la formation en anglais. Imagine ceux qui n'en ont pas. C'est (la maîtrise d'anglais) un acquis, c'est un acquis.

Pour faire face à ces difficultés, en me concernant, je fais des efforts. A chaque fois je lis l'anglais à chaque fois- mais malgré ça, je n'arrive pas. Je me lance, je lis, j'apprends, puis je lâche prise. Je lis puis je relâche. Mais l'essentiel c'est que je fais des efforts pour accomplir mes tâches dans l'attente du nouveau du DRH. Normalement, c'est le staff du DRH qui devront voir comment faire pourquoi, parce que notre promo, quand on était recruté en 2010- octobre 2010, avant de rentrer en entreprise, on a fait une formation à l'institut pétrolier pendant deux ans. La période de deux ans s'est réduite à un an. Mais normalement, durant les deux ans de formation qui a précédé notre promo, l'enseignement d'anglais se fait pendant un an, six mois de formation en anglais en continue pendant la première année. Quand c'est arrivé à notre tour, ils ont cessé la formation en anglais. Donc, on nous a vraiment ratés les six mois d'anglais. Parce que ceux (qui ont fait la formation) avant nous en ont beaucoup appris. Imaginez six mois durant laquelle on apprend l'anglais en continue. L'anglais écrit et parlé. Et on la révise chez nous puisqu'on n'a rien à faire. Ça nous aurait au moins donné une base. Moi, l'anglais, pour écrire, je fais des erreurs vraiment graves. La communication (orale) est plus importante que l'écrit. Parce que quand on communique- on parle avec, on commence à bien écrire, ce n'est pas très difficile. Mais à présent, je ne maîtrise ni l'oral, ni l'écrit, donc eu je ne sais pas. Peut-être avec le temps, on commencera à maîtriser et avec le- c'est que je suis encore nouvelle au technique. Je n'ai même pas quatre ans. Quelques mots, je les comprends. Une phrase simple, je la comprends, mais imagine que quelqu'un me parle en anglais sans arrêt, je ne comprendrai pas. je ne pense pas que je vais comprendre.

2 Ingénieurs techniques, Service étude TI 16-17

On est chargé d'élaborer les dossiers techniques, de faire le suivi par exemple les investissements. Actuellement on fait de l'investissement et l'exploitation. On suit les problèmes qui surgissent au niveau des trains et on essaye de répondre à des préoccupations d'ordre technique bien sûr. Et concernant les investissements, qui est question de nouveaux équipements ; on élabore des cahiers des charges. On fait le suivi- On fait le suivi des projets, on a été formé pour, bon, la plupart des ingénieurs. Même pour le suivi des projets, on a eu une petite formation. Et il y a plusieurs projets EPC, c'est-à-dire étude, procurement et construction. C'est-à-dire on donne le projet à une société d'engineering, c'est des sous-traitants, et pour l'étude la conception, la réalisation et l'installation. C'est ça le type de projet. Bon, c'est en général. Je ne peux pas détailler le-

Dans ce service chacun sa spécialité, il y a métallurgie, mécanique, instrumentation, électricité, génie civil actuellement et il y a des fins industrielles et le process. Mais le gros, le gros c'est mécanique et le process. Voilà, en gros ce qu'on fait.

Si je tire n'importe quel dossier, n'importe quel dossier, une data sheet. C'est la spécification technique, la spécification technique est en anglais. C'est-à-dire on doit- c'est-à-dire d'abord, un ingénieur, quand il vient ici, il se retrouve contraint à se familiariser avec les termes techniques anglais. Tous les ingénieurs ont, dans leur PC, un dictionnaire anglais dans le domaine technique. Il y a des gens, pour votre information, il y a des gens qui ont fait l'allemand, dans leur cursus. Et après ils se retrouvent devant l'anglais. Il y a ceux qui ont fait l'espagnol. Pour consulter les documents techniques on est obligé de passer par l'anglais. Sinon, l'outil de travail, notre langue c'est le français.

C'est-à-dire nos- nos systèmes d'exploitation. On a un système d'action, de maintenance et tout, c'est en français. Communication externe, (quand on reçoit les étrangers, chaque semaines, on reçoit 3 ou 4 personnes, je ne sais pas, on est obligé de parler en anglais. Mais on parle le minimum, je ne vous dirai pas que-). Ce qui est, on arrive à faire passer le message. Techniquement, je pense que tous les ingénieurs maîtrisent leur domaine dans l'anglais. Les réunions de travail sont en français. Des fois il y a un participant qui est un peu bon (en anglais) comme le jour du propane, les compresseurs où il y avait les américains. Heureusement qu'il y avait (monsieur). Ce (monsieur) était le chef de département, il maîtrisait l'anglais. il a fait trois ans en Angleterre.

(Concernant la formation, on a demandé. déjà On a demandé. Lui, il fait la formation mais moi pas encore). J'ai un peu progressé dans la formation, je suis arrivé à niveau deux, c'est intermédiaire. Qu'on nous baigne dans un milieu où la langue, elle est essentiellement l'anglais c'est le meilleur moyen. On va pour une formation d'une journée par semaine, déjà nos circuits intégrés sont en français. Jusqu'à présent, on réfléchit en français et on essaye de traduire. C'est toute une philosophie à adopter pour apprendre l'anglais. Il faut pouvoir parler tout le temps l'anglais et être baigné en- (baigné à la solution. Il faut que- ce système est en français, il faut le rendre en anglais, et en même temps, il faut améliorer le personnel. Ce n'est pas faisable de mettre le travail en français et nous pousser vers l'anglais, nos têtes vont être chamboulées. J'ai eu la visite d'un partenaire étranger du Liban, dans le cadre de clarifications technique pour le cahier de charges. Ça a pris une journée. On a une visite sur site, ensuite on complète ça avec une réunion au bureau où on leur donne les documents et ceux d'ordre financier assistent avec nous. Parce que les finances vont de pair avec – selon le qu'on établit, l'étendu des travaux à faire doit être évalué à partir de ça.

Ils apportent des professeurs d'université avec un très bon niveau pour former des gens qui n'ont rien à voir avec l'anglais. (des gens qui ne sont pas dans le domaine, parce qu'en majorité, le staff technique est le plus- concerné par la formation). Généralement presque tout le staff maîtrise le français. (je suis là depuis dix ans ou plus, je n'ai jamais fait de formation en anglais). L'anglais c'est une chose d'important. Il n'y a que les anglophones qui ne s'intéressent pas à d'autres langues. Pas que les américains, tous ceux qui viennent parlent en anglais. Dans certains dossier on est obligé de faire la () en () chez le constructeur. Pas plus tard que cette année je suis parti en Italie, s'il n'y avait pas l'anglais, parce que l'italien, bonjour, et ça s'arrête là. Mais l'anglais m'a tiré d'affaire. C'est l'anglais qui a fait le-

Electronicien, contrôle des procédés TI18, formé : ingénieur en IAP pour faire l'instrumentation gazière et pétrolière, quand j'ai fini, j'ai été affecté à mon poste, j'ai commencé dans la maintenance, et après avoir acquis une expérience au sein de l'entreprise et en externe, je suis venu au département technique où j'ai été affecté au control DCS. On gère tout le parc des automates de sécurité et de procédé du complexe. On jette un coup d'œil sur notre système, on supervise via notre système s'il y a des anomalies et on intervient en collaboration avec le staff de maintenance. Sans ça, on a une situation journalière de tout le complexe pour voir s'il y a des anomalies. On travaille en groupe, nous le process, la mécanique, l'inspection, l'électricité. Ça dépend de la nature et le type du problème détecté ou l'anomalie citée dans le rapport journalier. Ça c'est la deuxième tâche. Des fois il y a des trucs imprévus : déclenchement, panne et cetera. On intervient, on sort l'historique des cas, des systèmes et sous-systèmes. on suit les modifications. Des fois on reçoit des modifications. C'est-à-dire il y a une communication interne. On suit cette modification jusqu'à la réalisation à 100%. On supervise les cahiers des charges jusqu'à la réalisation des travaux. Des fois on fait appel à nous : des machines qui se bloquent, des recherches sur le système, sur les anomalies, concernant toujours l'instrumentation. Par exemple, une vanne ne régule pas bien, une vanne se bloque, une carte qui se grille, et cetera. En plus de cela, on fait du développement. Développement des vues DCS. Il y a des vues qu'on ajoute il y a des trucs qu'on nous demande au service process, des tableaux types. On nous dit qu'il faudra mieux que cette vue soit d'une certaine façon. On fait des études et des développements. Ça c'est la tâche majeure et principale de notre service.

L'anglais, elle est présente. Dans tout ça, l'anglais est toujours présent, toujours. Je vais venir sur cette petite parenthèse. Des fois on fait les encadrements des ingénieurs. Nous on est des co-encadreurs. On leur explique un réel problème qu'on n'a pas encore résolu ou qu'on est en train de résoudre via cahier des charges. On les implique avec nous pour qu'ils travaillent. Par exemple, j'ai travaillé sur six ou sept PEF en collaboration avec l'université de...

L'anglais dans ma tâche. L'anglais on l'utilise énormément. Alors, nous, on va toujours vers le français. Par exemple, concernant la documentation, quand on a un problème et on cherche la documentation liée (à ce problème). On fait des recherches via internet ou via notre bibliothèque ici. On trouve des documents qui sont écrits en français et des documents qui sont en anglais. Vous connaissez l'algérien va directement vers le français. Sans ça, si on trouve l'anglais, on travaille avec. Comme dans notre cas, tous les manuels de notre système sont écrits en anglais, d'accord ? Des fois, on trouve des difficultés, on utilise internet traduction. Des fois la traduction n'est pas juste, elle n'est pas toujours vraie. On essaye de voir ce que c'est. Et chacun a son propre niveau (d'anglais). Comme moi, je n'ai pas un bon, bon niveau en anglais. Ça va, je me débrouille et tout, mais je n'arrive pas à écrire un bon rapport en anglais. Je n'arrive pas à comprendre très vite l'anglais technique. Voilà. Mais je pourrai améliorer mon niveau facilement. Un autre point très, très fort concernant les documents anglais par rapport aux documents français. Alors, ça je l'ai déduit. Les anglais ont une façon de travailler qui est très facile et nous fait gagner beaucoup de temps. C'est-à-dire, quand on cherche quelque chose dans les documents, ils vous envoient directement vers lui sans trop tarder sans trop chercher. C'est-à-dire pour aller droit au but, si on tombe sur un document par exemple, je donne un exemple, sur un document de mille pages, on nous dit directement d'aller à telle page et de prendre ce qu'on veut comme information, après, quand on aura le temps, on lira le reste du document. Voilà. Je vous donne un exemple du système qui est écrit en français avec des références vers un autre document en anglais, où il y a la solution au problème.

L'anglais, on l'utilise des fois aussi quand on élabore les cahiers de charges. Quand on élabore les cahiers de charges, il y a une partie d'information et de documentation. C'est-à-dire, l'entrepreneur, la personne qui viendra prendre le marché pour travailler sur le service qui a été demandé, soit une étude, soit une réalisation, soit les deux jumelés. Vers la fin du travail, on nous donne une documentation. Généralement des fois- Nous on exige et on aimerait bien que la documentation soit en français pour nous faciliter la tâche. Eux d'une autre part, la documentation chez eux est en anglais. Des fois ils font la traduction, d'accord ? Des fois, il y a des documents qu'ils nous envoient pour faire les, les, comment dirai-je, les études techniques et commerciales, pour faire la grille, qui est premier, qui est deuxième, lequel parmi eux a une meilleure offre techniquement et commercialement, des fois ils nous envoient les offres en anglais. Même s'ils nous envoient des documents en français, l'anglais y est toujours présent. On trouve toujours un petit passage, cinq ou six pages en anglais. Dans les documents délivrés par les soumissionnaires qui proposent leurs offres. C'est vrai, ils les délivrent en français, mais des fois on trouve l'anglais. Ne serai-ce qu'une fiche caractéristique d'un équipement, d'un organe ou une pièce scannée et envoyée en anglais.

Bon, notre entreprise nous a fait une formation en anglais. C'est par niveau. Par exemple moi, j'en ai fait une. Malheureusement, on n'a pas continué. On a fait le premier niveau, mais on n'est pas passé au deuxième. On nous a donné deux polycopés différents, un pour- pour communication et le deuxième c'était des exercices. Il y avait de petites tables rondes, c'était bien. J'aimerais bien qu'il y ait une continuité. L'individu, quand il applique, applique et applique, il commence à comprendre, il commence à construire un petit dictionnaire dans sa tête et tout. A l'institut pétrolier on a appris l'anglais classique pas technique. **Dans ce domaine-là il y a une lacune dans l'entreprise.**

La langue, ça peut être une barrière comme elle peut être une arme pour se défendre. Dans la bourse d'emploi, on mentionne de préférence l'anglais- la maîtrise d'anglais. Ce sont des points à gagner. On ne trouve pas les chemins faciles pour prendre la chose, pour prendre ce savoir dont on a besoin. Le chemin, qui est-ce qui le trace, ou bien la personne qui le fait- c'est comme quand on est égaré, dès qu'on nous remet dans la bonne voie, on (se redresse). En plus, comme je vous ai dit, la routine : si on dit chaque jour un mot en anglais, on apprendra. Quand on a besoin d'anglais, on apprendra. J'ai effectué des communications avec des partenaires étrangers. Des fois au téléphone, des fois on est bloqué, des fois nos collègues se moquent de nous. Mais ça marche, il y a ici des collègues qui ont un bon niveau. Moi, je parle de mon propre niveau, de ma propre expérience, je ne peux pas évaluer les autres. J'assiste lors de réunions, quand il y a des étrangers. Il y a des fois des séminaires. Par exemple, j'ai assisté en 2010- 2011 à Alger, j'ai assisté à un séminaire qui était en anglais. Il y avait des étrangers, c'est eux qui ont fait ce symposium-là. Il y avait des algériens qui ont fait des communications, mais pas moi, je n'y arrive pas. Mais l'anglais est très, très important parce que tous les documents sources sont en anglais, puis les autres sont des traductions.

Ingénieur en électricité, service étude, département technique TI19

On fait des projets d'investissement. On est impliqué dans les modifications. Des équipements sur site qui ne sont pas à remplacer, seront modifiés. Et cette modification nécessite une étude. Cette étude va être préparée par un ingénieur du service étude. La modification ne demande pas des soumissionnaires à l'étranger. Nous- le département maintenance réalise la modification.

C'est le cahier de charge qui est publié et les soumissionnaires arrivent de l'étranger. Le cahier de charge, c'est une chose et la modification est une autre chose. On a le cahier de charge, les modifications, et on a même les interventions, des problèmes. On a un déclenchement, on a un problème, ici aussi, c'est l'ingénieur étude qui donne les recommandations, ce qu'on doit et ce qu'on ne doit pas faire.

Celui qui est capable de communiquer avec eux en anglais, il communique et celui qui n'est pas capable de communiquer en anglais, qu'est-ce qu'il fait, il demande un intermédiaire entre eux. Moi je prépare mon cahier de charge. Mon cahier de charge, je le prépare. Ce cahier de charge va attirer les soumissionnaires. Il va être publié au BAOSEM

Par exemple avec un japonais, on demande toujours interprétation, on demande que quelqu'un ici interprète. Au cas où quelqu'un ne connaît pas l'anglais, il demande un interprète il fait un écrit pour demander qu'il doit être accompagné de lui. Ça dépend d l'ingénieur. Ici il y a des ingénieurs qui savent communiquer en anglais. Il y a des ingénieurs qui sont moins bon et je suis l'un d'eux. On rend service les uns aux autres, on s'entraide mais je ne demandrais pas à mon collègue de venir m'aider. Peut-être qu'il sera occupé mais s'il est libre, je lui dirai de venir avec moi m'aider dans la communication en anglais avec les étrangers.

Moi, devant une documentation en anglais, je peux la lire et la comprendre, mais j'ai un problème de communication. Pour parler en anglais, je ne sais pas parler. (Un problème qu') en orale. En écrit, un peu. Mais pour écrire un petit paragraphe (en anglais), je mets une heure. Des fois je demande à mes collègues de m'aider. Des fois je demande à mes collègues de m'aider pour rédiger un bon message pour répondre au soumissionnaire. En documentation, il n'y a pas de problème. Il y a de la documentation en anglais, je la maîtrise bien, je la comprends normalement. Mais pour écrire, je voudrais écrire un paragraphe ou communiquer. C'est ce que je ne sais pas faire.

La documentation en anglais, je n'ai pas un problème avec, parce que, à chaque fois je la lis, à chaque fois je la lis, je m'y suis habitué. Quand je la lis, je la comprends. les mots techniques- les mots techniques, on les comprend rapidement. Mais si je lis un journal anglais, je ne le comprendrai pas.

Ça c'est mon cas, mais si vous allez vers un autre ingénieur. Monsieur, celui-là est un génie d'anglais. Il est unique. Toujours quand il y a une grande présentation à faire, quand les grands patrons viennent, c'est toujours lui qui fait les présentations au nom du complexe.

On a une fois fait une formation en anglais. Mais la formation (en anglais), quand on la fait une fois, on l'oublie vite. Il faut à chaque fois la refaire. Mais on ne l'a jamais refaite. On ne l'a jamais refaite. Depuis 2006, on ne la plus refaite. On aimerait bien faire une formation pendant trois mois, s'arrêter pendant trois mois et reprendre pendant les autres trois mois. Il faut qu'elle soit faite en continue. Non pas la faire une fois et s'arrêter. C'est ce qui n'est pas bien, surtout l'anglais.

Appendix V:

Email Corpus

Appendix V: Email Corpus

Email Chain 1 (12 external emails -in English)

De : Abd.....er<ab.....er@dz.....com>
Envoyé : mercredi 4 juin 2014 16:56
À : GL1.....RI
Cc : luc.....si; parapetti; BEL....DA
Objet : Re: TR: TR: TR: TR: TR: Demande d'assistance

Bonjour

Avant tout je tiens à m'excuser pour l'immense retard qu'a pris cette demande d'assistance, que rien ne saurais justifier.

Aussi afin de mieux comprendre votre besoin et pour vous remettre le CD Rom du logiciel contenant toute les désignations, et toutes les références des pièces de rechange des instruments y compris les analyseurs que vous avais sur site, je vous prie de bien vouloir nous accorder un entretien dans vos bureaux à votre convenance lors de la semaine allons du au

sera pressant:
Abd.....ER
V.....6

Restant à votre disposition pour tout complément d'information, meilleur salutations.

From: <mb.....i@a.....dz>
To: R.....Parapetti/.....,
Cc: Abd.....er/D.....B@....IT01, <mbel.....da@a.....dz>
Date: 04/06/2014 14:50
Subject: TR: TR: TR: TR: TR: Demande d'assistance

Dear Sir,

we are waiting for your response, thank you for your collaboration,

thank you to confirm the good reception of this mail.

Best regards.

De : roberto.parapetti@it.abb.com [<mailto:roberto.parapetti@it.abb.com>]
Envoyé : jeudi 20 mars 2014 11:14
À : GL1Z/T/TE/BOUKRI
Cc : abdelkader.laker@dz.abb.com; GL1Z/T/TE/Melle BELHADJ BEKHEDDA
Objet : Re: TR: TR: TR: TR: TR: Demande d'assistance

Dear Sir

I check with Mr Laker and come back to you.

Best regards

From: <mboukri@avl.sonatrach.dz>
To: <roberto.parapetti@it.abb.com>,
Cc: <abdelkader.laker@dz.abb.com>, <mbelhadjbekhedda@avl.sonatrach.dz>
Date: 20/03/2014 09:05
Subject: TR: TR: TR: TR: Demande d'assistance

Dear, Mr Parapetti

we inform you that we did not receive any response to our preoccupation.

thank you to confirm the good reception of this mail.

Best regards.

De : GL.....TE/Me... DDA
Envoyé : jeudi 28 novembre 2013 11:15
À : 'ab.....er@dz.....com'
Cc : GL.....T/TE
Objet : TR: TR: TR: TR: Demande d'assistance

Bonjour Mr. L.....R

Suite à l'orientation de MR PARAPETTI dans le message ci-dessous, nous vous demandons de bien vouloir nous répondre sur notre préoccupation,

et nous restons à votre disposition pour tous compléments d'information .

Meilleurs Salutations.

*M.BELH.....DA
Ingénieur instrumentation
GL.....TE*

De : parapetti@i.....b.com [<mailto:.....parapetti@.....com>]
Envoyé : jeudi 3 octobre 2013 13:48
À : GL.....IM
Cc : GL....TE; gi.....pi@.....com; lu.....risi@.....com;
GL1....BEL.....; abd.....@dz.....com
Objet : Re: TR: TR: TR: TR: RELANCE :Demande d'assistance

Dear Mr B.....e

All the information has been sent to our colleagues in Algiers, Mr Laker.

He will contact you to submit our proposal.

Best regards
R..... Parapetti

From: <rb.....e@.....dz>
To: <r.....parapetti@.....>,
Cc: <lu.....isi@i.....com>, <gi.....pi@.....com>, <mbel.....a@.....dz>,
<abe...i@a.....dz>
Date: 03/10/2013 14:44
Subject: TR: TR: TR: TR: RELANCE :Demande d'assistance

Dear, Mr Parapetti

We are waiting for your reply.

Best regards.

R.B.....
Chef de service S..... et M.....
TEL : 22.....2

De : GL.....IM
Envoyé : dimanche 9 juin 2013 09:35
À : parapetti@i.....com
Cc : lu.....isi@.....com; gi.....ppi@.....com; GL1Z/T/TE/M...e BEL.....BE.....DDA;
GL.....E
Objet : TR: TR: TR: TR: Demande d'assistance

Dear, Mr Parapetti

Thank you for the help.

We need your help also to identify spare part of our N....X_C..._O2 analyzers.

The analyzers were furnished by I.H.I during boiler project (N° 6.....3) (year), the manufacturer is A.... K.K (country).

Here attached all information we have.

Best regards.

De : GL....BEL.....DA
Envoyé : mardi 4 juin 2013 13:26

À : GL.....IM

Objet : TR: TR: TR: TR: Demande d'assistance

Veuillez trouver ci-joint les photos des différents parties du système analyseur NOX-CO-O2 installé au niveau des chaudières IHI.

Le fichier ci-joint donne les spécifications du système d'analyse AO2000 et les différents composants du système d'échantillonnage du gaz.

De : parapetti@....com [<mailto:.....parapetti@.....com>]

Envoyé : lundi 15 avril 2013 11:05

À : GL1Z/T/SIM

Cc : GL1Z/T/TE/Melle BELHADJ BEKHEDDA; l.....risi@.....com; gi.....ppi@i.....com

Objet : Re: TR: TR: TR: TR: Demande d'assistance

Dear Sir

Here attached the revised offer including spare parts as per your document and some other recommended parts.

Please read the offered list and if you have any question do not hesitate to contact us.

Best regards
Roberto Parapetti

From: <rb.....e@a.....dz>
To: <.....parapetti@.....com>
Cc: <mbe.....da@a.....dz>, <gi.....ppi@.....com>
Date: 26/03/2013 15:28
Subject: TR: TR: TR: TR: Demande d'assistance

Dear Mr Parapetti

Thank you for your reply, but the offer contain only 3 spares.

Please find here by the list of articles for which we need the part number.

Tanks.

De : GL.....DDA

Envoyé : lundi 18 mars 2013 09:26

À : GL.....IM

Objet : TR: TR: TR: TR: Demande d'assistance

Veuillez trouver ci-joint la liste des pièces de rechange qu'on désire être complétée par le fournisseur « ABB » en donnant la référence des pièces.

De : parapetti@.....com [mailto:.....parapetti@i.....com]

Envoyé : mercredi 13 mars 2013 13:12

À : GL...../T/S....

Cc : GL../T/..... BEL....DDA; gi.....ppi@.....com

Objet : Re: TR: TR: Demande d'assistance

Dear Sir

Here attached the offer for the spares.

Best regards

R.....o Parapetti

From: <r.....e@a.....dz>

To: <ro.....parapetti@.....com>

Cc: <c.....si.....si@.....com>, <mb.....dda@a.....dz>

Date: 06/03/2013 14:17

Subject: TR: TR: Demande d'assistance

Dear, Sir

Please find here by two pictures of the name plate attached to the analyzer and sensor cable.

Best regards

De : G..../..../..../.... BELH.....DA

Envoyé : dimanche 3 mars 2013 10:11

À : G.....IM

Objet : TR: TR: Demande d'assistance

Veuillez trouver ci-joint la photos de l' étiquettes d'identification collée à l'extérieur du boitier électronique (IMG 0686.JPG) et celle qui est attachée sur le câble (IMG0688.IPG) du analyseur O2 de la D..... .

Les informations inscrites sur l'étiquette collée à l'extérieure du boitier électronique du analyseur O2 de la D.....7 sont :

SMA_11211NS

SMART ANALYSER 90

66.....M1

12..../2.....ac ,5.../.....Hz,3.....W

S/N 2

AT 2002 EB

Les informations inscrites sur l'étiquette attachée sur le câble :

6638420D1-66 CABLE ASS'Y CALIBRATED FOR USE WITH SMART ANALYSER 90 S/N
07W012042

De : ro.....etti@it.abb.com [<mailto:.....etti@i.....com>]

Envoyé : mercredi 27 février 2013 17:58

À : GL.....IM

Cc : abdel.....@dz.....com; cla.....si@.....com; GL1Z/T/TE/Melle BEL.....DA

Objet : Re: TR: Demande d'assistance

Dear Sir

Unfortunately we are not able to understand what was delivered originally.

Please let us have the serial number of the unit. that is not the number you provided us.

Best regards

R.....to Parapetti

From: r.....he@a.....dz
To: r.....to.parapetti@.....com
Cc: c.....si.....si@fr.abb.com, abd.....@.....com,
mbelh.....@.....dz
Date: 10/02/2013 11:08
Subject: TR: Demande d'assistance

Dear, Mr P....petti

As explained to Mr. Si....i we need your help to identify spare part of our O2 analyzers.

The analyzers were furnished by I.H.I during boiler project ((year)), the manufacturer is A....K.K (country).

- Project N° 6.....3
- Cable reference 6....4...0D..-6....
- S/N : 0.....W0....2 et 07W.....042

Information from manual (not confirmed on site) :

- Smoke O2 Analyzer : Type SMA 11211NS Ba... S....t Analyzer 90

- Analyzer reference PT N° 6.....0-

Best regards.

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EMAIL CHAIN 2 (4 emails)

De: Ken Y....s [ken.....@.....com]
Envoyé: mercredi 12 septembre 2012 13:50
À: GL...../K.....A
Cc: G...../T/TE/M.....A; GL...../TE; G...../T
Objet: Re: UPS failure - Tag 064-V-UPS-5A

I would agree that the system control board is probably faulty. The only bench testing that would be thorough enough would be one done by the boards manufacturer. Our parts specialist, T....a Br.....n, could arrange for the service if you should decide to do it.

The most common parts that fail on the Base Drive card are the power transistor and associated diodes, as well as some higher wattage resistors. The resistors would be visibly overheated if they were bad.

Ken

On Thu, Aug 30, 2012 at 10:37 AM, <mk....a@a.....dz> wrote:

Dear Mr. Y.....os,

We have a new problem with one our CYBEREX UPS. Could you please give us assistance. Here are its model and S/N :

- Model : 3T-40/1BF1M-5
- Serial Number : 12147-3A

The problem began with frequent "SSW FREQUENCY OUT OF SPEC" alarms. Now, the inverter stops frequently, and the SSW switches on the alternate source. Each time, the inverter was normally restarted, but it stops after some hours.

A maintenance operation has been carried out in on order to :

- inspect the state of the control card and the transistor drivers PCBs
- check all connectors connections

and no problem or defect has been detected.

Now we have a new problem: after restarting the inverter, we found that the F103 fuse (500Amps) has blown.

Could you please give us your diagnostic and your recommendations ?

Best Regards

M. M.....d K.....
Instrumentation & Control engineer
Technical Department
G.....Z Plant - QS
B.P., ALGERIA
e-mail : mk.....la@a.....dz
Tel. : [\(+213\)](tel:+213) Office Number : 5....4 / 5....3
Fax : [\(+213\)](tel:+213)

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<http://disclaimers.tnb.com/disclaimer/email/>

De: Ken Yaniglos [ken.yaniglos@tnb.com]
Envoyé: jeudi 30 août 2012 15:57
À: GL.../T/T.../K....LA
Cc: GL.../T/T.../M....A; GL.....E; GL..../T
Objet: Re: UPS failure - Tag 064-V-UPS-5A

I would advise that the fuse be replaced, the transistors checked with a meter to verify that none are shorted, and that the System Control board (p/n 90-41-121471) be replaced.

Ken

On Thu, Aug 30, 2012 at 10:37 AM, <m.....a@a.....dz> wrote:
Dear Mr. Y.....s,

We have a new problem with one our CYBEREX UPS. Could you please give us assistance.
Here are its model and S/N :

- Model : 3T-40/1BF1M-5
- Serial Number : 12147-3A

The problem began with frequent "SSW FREQUENCY OUT OF SPEC" alarms. Now, the inverter stops frequently, and the SSW switches on the alternate source. Each time, the inverter was normally restarted, but it stops after some hours.

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B.P., ALGERIA
e-mail : mk.....la@a.....dz
Tel. : [\(+213\)](tel:+213) Office Number : 5....4 / 5....3
Fax : [\(+213\)](tel:+213)

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----(email chain 3: 2 external emails in total)

From director to manufacturer manager

Hello Mr. -----,

It's been quite awhile since we've spoken. I hope you are well.

I'm writing to confirm that I've submitted draft contracts for----- . These contracts include the latest comments from the Committee and also the latest pricing, based on ----- Standard Rates, Terms and Conditions which are used for the repair work. I am offering these documents as drafts rather than signed contracts, based on past history in which your company always has comments on these important documents. It will be much quicker to collect your comments one time, then make the final changes and return the contracts signed by us.

In accordance with direction from your company, these repairs are scheduled to begin in the ---(date) ----- timeframe, contingent on all contracts being signed and all of the necessary parts and safety equipment being on site.

Please be assured that our company fully understands your operating conditions for these plants and is committed to provide any support you may require for these facilities. I originally offered these contracts in ---(date). After many discussions, I submitted signed contracts in early ----(date)----- . After X months the signed contracts were not accepted by the Committee and in ----(date)----- they sent back a series of changes to be included in new versions of the contract. Additionally, I offered to do the repairs based on old --- (year)--- pricing, as an example of our strong working relationship, provided the work was completed by --- (date)---- . Based on the timing of the rejected contracts and a new target date for the repairs of ----- (months/year)---- -, I am required to use the current --- (year)--- repair rates in the contracts. Also, a significant quantity of parts and equipment which are required for the job and were purchased by your company, are not yet on site.

Mr. ---X---, again I want to reaffirm our commitment to support your company's ongoing operations for all of your facilities. We have the experience and capability to do this work better than anyone else. As you suggested, I look forward to discussions to be able to assist in your efforts to replace the older/damaged exchangers. If there is any information available now, even on a preliminary basis, I'd welcome the opportunity to review and begin the process for provisioning of the new equipment.

If you have any questions, please do not hesitate to contract me directly at ----(phone number)----- . Perhaps we can speak in person at the Conference.

Best Regards,

From Engineer to director

il vaut transférer le dernier message de M. -----.

Dear Mr.---X---,

In the light of what is happening lately about our equipment's repair works and the time spent to prepare and sign the contract, I would like to make you aware about the critical situation we are facing in our facility.

Now we have ----equipment---- out of service because of their ----damage----. We planned to repair at least 2 of them before the end of this year, unfortunately we are wasting a lot of time just to sign the ----equipment- --- repair contract.

Our top management don't feel confident about this situation specially when the plant is 50% available, and we are daily expedited to get the repairs done and the facility started up.

In order to avoid wasting similar time for the next repairs, I expect to receive both repairs contracts signed before the end of this week.

Our relationship dates since more than --- years, I really would like to keep it as good and successful as possible, specially, as you may know, we also plan to get ---number--- new equipment and we would like to keep the same manufacturer.

I would like to get the business going better between our companies.

Best regards.

The Manager

Internal email From Director to Engineer

Me préparer un message pour Mr. -----.

- Avec son adresse E-Mail.

From top manager to Director

Il faudrait également que vous preniez contact en tant que Directeur du complexe, avec M. -----.

Email chain 4 (4 emails)

De :

Envoyé : 2010

À :

Cc : m.....@.....;

Objet :

Bonjour,

Après consultation et étude des documents envoyés, nous vous recommandons de nous fournir les articles suivants :

- 1- One (01) complete 5K-6C Flame Spray Machine For Shop uses with accessory parts;
- 2- One (01) Complete 16E-P Flame Spray Machine for Site uses with accessory parts
Accessory parts:
 - **Hoses package :**
 - a- Supply to Flowmeter : Air Hoses (ref : HA) , Oxygen Hoses(ref : 7H) and Fuel (propane) Hoses (ref :9H)

b- Flowmeter to 16E Gun : Air Hoses (ref : 7H) , Oxygen Hoses(ref : 7HEX) and Fuel (propane) Hoses (ref :7HEX)

- **One (01) Extension module 3XT-2**
- **One (01) 14EWGM Wire Grip Mechanism**

Salutations.

.....
De : R..... V.....

Envoyé : mercredi 17 novembre 2010 16:39

À :

Cc : m.....y@; 'Tom d'

Objet : FW: S..... M..... Literature

Please find attached the technical specifications on the S.....r-M..... requested and Al... quoted a complete 5...E Flame Spray Machine with accessory parts. requested that Al...investigate if A.... could provide a Model 10E instead of the 5KE model. Upon consulting S... M... they advised that the model 1...E is an old unit and the current model is the 1...E.

The big difference in these units is the model 5..E is designed to be a fixed mounted spray gun unit and the model 1....E is a hand held unit and is more mobile than the 5...E unit.

Also, please advise what material you will be spraying with this spray gun.

Please review these data sheets and advise Al... which unit that you require.

Regards,

R.... V.....n

From: S....r M.....o

Sent: Tuesday, November 16, 2010 3:48 PM

To: r....va....an@.....

Subject: S....r M..... Literature

It was a pleasure to speak with you today. attached is some literature that will help you understand the processes we were discussing.

I am working with my colleagues to quote the equipment you have inquired about.

Regards,

Sc....t L.....se

De :

Envoyé : juillet 2008

À : M....k Ch....y

Cc : R.....V.....an@

Objet : SH709

Bonjour,

Suite à votre message ci-dessous relatif à l'appel d'offres cité en objet, Nous vous informons que nous n'avons reçu aucune offre technique révisée à ce jour.

Veuillez nous la transmettre dans le plus bref délai.

Salutations distinguées.

De : M....k Ch....y

Envoyé : vendredi 18 juillet 2008 18:19

À :

Cc : Ronald.Vannostran@

Objet : SH709

Please be advised that we will have all pricing and specs. for At...s C...o parts (SH709) by Tuesday July 22.

Regards.

Ron Vannostran

Al... S...ly, Inc.

Appendix VI:

Meeting Transcript

Appendix VI: Meeting Transcript

MU: here (0.2) I think have err-
=we have err- (0.5)
NA: sent you
MU: send you err-
MOLT: pic[tures]
NA: [pictu]res
MU: pictures yes
(pause)
MOLT. AS.: so the motor's in the up side↑ or in the bottom↑ side↓?=
= the main (drive)?-
MU: yeah
NA: it's the (0.2)discharge =
=and the err-
MOLT. AS.:the reach out of the =
=framers (0.4)on the top or =
=in the bottom?
RA: no we have err (.)=
=discharge and err- =
= [suction euuh](0.4)valves
MU:sec[ti]on discharge]
MOLT. AS.: yes↑ (.) yes↑
MU: yeah
MOLT: we-
RA: we have said in the bottom=
=is [the::-] (0.2)
MU: [here]here discharge-
RA: discharge
MU: ok ? suction (2.0) discharge
RA: discharge
MOLT. AS.: eh you indicate the=
=north cylinder at the left and= =the south cylinder at the right= =(0.5) what is
the main drive at= =the top of[the-↑?]
MU: [yeah]
MOLT.AS: they're not in the bottom
MOLT: they are not ()
MOLT.AS: ok
MU: just-just to- to have an idea
MOLT: yeah yeah yeah
(00:56)
MU: ok? (5.0)eu:::h (1.5) the inspection in this- with this = =err ((*showing the scheme with his finger*))= =we have take off the-
=the[valves déch]arge
discharge
ICO:[visual ins-]visual inspection
MU: yeah eu:h le jeu?(.)Clearance?
RA: Clearance yes↓
MU: *Ch'hel deux dixième ?*
How much two tenth ?
MU: *Deux dixième somme*
two tenth
((MU writing on the white board))
RA: Two tenth
MU: ok *((writing on the board))* and here(0.2)on a: à peu près (.)=
We have nearly
=un virgule cinq millimetres yek?
One point five millimetres, haven't we?
(02:10)
MU : heh? yeah]
ICO: when there is loading it= =stopped er-

MU: yeah
 ICO: it stopped er(.)work for= machine
 MOLT: euuh (.) ok:-
 RA: it doesn't work:: er (0.4)all=
 =the time, [of course]
 MOLT: [no no no] but (.)= there is one thing (0.5) er =
 =there is a methan () all= the time
 ((some lines omitted (recorder stopped for one minute when the researcher moved to another place)))
 FO: we check the motor and we- =
 =we open the valve
 MU: we check:-
 MOLT: open the valve?
 FO : it takes few- few- =
 =few seconds
 MOLT: few seconds?
 FO: few seconds yes↓
 MOLT: o::k
 ICO: but: e::h on () soixante=
 We () seventy
 =quinze pour cent sixty-
 five per cent
 FO : *maghādich ndirouha* ICO
 We are not going to do it, ICO
 MU : seventy five per cent [yeah]
 FO : *Maghādich ndi[rouha]*
 we are not going to do it
 ICO: l-lā but:(0.8)we- s- anytime=
 No
 =c'est tout
 that's all
 FO: huh
 MU: *on va passer à soixante quinze*=
 We will move to seventy five percent
 =*puis à cent pour cent*
 then to one hundred per cent
 FO: *wāh*
 Yes
 ICO: *bessah hadi::* [c'est-]c'est un=
 But this is
 =*choix-c'est un choix deproduction*
 a production choice
 MU : [ok ?]
 MU : *wāh wāh wāh*
 Yes yes yes
 (02 :54)
 ICO: *c'est pas un choix ta* =
 =s-signalé par le conseil de()=
 It's not a choice announced by the ()=c'est un choix
 it's a choice-
 FO: *hnā kigoulṇā dēk l'waqt l-li*= we said the time it takes us
 =*yrohelna trohlṇa une partie* =
 to lose a part
 = *w lokhra ma trohch goulṇā balek*= and keep a part We explained this
 =*le fait tkūn exploitée à soixante*
 by the fact that it was exploited to seventy
 =*quinze aya goulṇā cent cinquante* five till one hundred
 =*hta l'cent bēch tkūn équilibrée*
 to be balanced
 ((pause))

MU:((gazing at MOLT)) in your report= = report- inspection report (.) = =you have speak about: parameters= =process and:: ↑ (0.4)and second?= =er:: (.)in your report↑
MOLT: yes↑
MU: you have speak about↑
MOLT: o::k yeah, yeah, yeah
MU parame- yes parameters process=

=and [eu::-]
ICO: [it's not] it's not eu: ok= =for::
parameters euh process?
MOLT: eu:: you're running-= =sometimes you're running()
MI: la () d'aspiration
The aspiration ()
MU: d'aspiration? bessah it's the=
Aspiration? but
=sam:e parameter for the north =and er south er- if- if er- if= =the cause it's a parameter= =normally we have a damage from=
=the two parts
((MOLT show disagreement with his head movement))
Mu: Practically not necessarily= =but eu:h (.) eu::h (.) usure?
lesion?
(0.2)
= (/paIɾən/↑)? (.) (/paIɾən/↑)?
FO : ↓damage ↓damage
MU: damage in liner(.)in= =liner(3.5)and: e::h(2.0)
= eh les se- les segments?
segments?
FO : r[ings]
RA : [ring]s
(04:08)
MU: rings?
MOLT: yes
(04:10)
MU: when we look here↑(2.5)= =((drawing on the board)) like this↑(.)
MOLT: ^yes like [this^]
MU: [frotte]ment?
friction?
FO: e::r contac- [contact(.)friction- friction =
= between:[err-](.) piston=
=and err-(.)^(segments)^
MU: [yeah]

MOLT: [yes↑]
MU: and we have a clean:- (0.4)=
= a clean prod/y/ct
MOLT: uh-huh
MU: we have an LNG prod/y/ct
MOLT: yeah
MU: it's not: err(0.4)it's:: very clean
MOLT: we have a product that is= =clean but(.) therefore we=
=want to er- to:: inspect=
=also the::- the: troubles(0.4)=
= to take out the inspection= =troub- troubles cause we're =trying to see if- if there is= =anything from the (), the =process ()because
=if you wait eu:: (0.4) if you =stop the compressor, you m:right =get a little bit () some =revising but it's only sure =
=()anything
MU: Yeah yeah
MOLT: but but those are questions= =they ask us when we come back so-
MU: *rah ʕla les conduite*
He is talking about the installations
FO: *ʕandna filtre? ʕandna filtre?*
Do we have a filter ? do we have a filter ?

ICO: heh?
 What?
 FO: *filtre*
 Filter
 ICO: *wāh bes-sah c'est des legers*=
 Yes but they are light
 =it's er hi- er hipo:-
 MU: *hna il parle des défauts*=
 He is talking about the defects
 =concernant les conduites= concerning the installations, perhaps être
 = [peut être il ya]
 there is
 FO: [les conduites wah]
 Installation yes
 =de la corrosion au niveau des
 corrosion in
 =conduites (.)but we have
 the installations
 = aluminium and err *inox* eu:h
 stainless steel
 (05:23)
 =stee-
 RA : steelness
 FO : stai-ssel
 RA : stainless steel
 FO: stainless steel
 ((pause))
 MU: and you don't worry the= =installation, the:: the main- the =*mainten/ā/ce*
c'est-à-dire la=
 I mean
 =*révision*↑(.)*on soupçonne pas le*=
 The overhauling. We don't suspect the
 =*montage*↑ *eh?*
 assembling
 RA: The assembling
 MOLT: There's- every time we said= =we have a problem of-
 FO: And mister what about the-= =the weight of the piston
 MOLT: the weight of the piston?
 FO: uhm (2.5) we try dis- to discuss all the- all the conception all the choice
 MOLT: a::h normally, we e:: decided to-
 FO: excuse me because this damage is eu:: repetitive
 MOLT: yes also before 2006
 FO: we ha- we always have this problem (.) this time-
 MOLT: oh yes, from the beginning
 FO: in both contracts A and B
 MOLT: but also (0.2) before 2006
 FO: yeah
 MU: *quatre* mois yeh? (2.5)
 Four months isn't it?
 ICO : *à peut près six mois*
 Nearly six months
 FO : four five months five months
 (pause)
 MOLT: running time
 FO: yeah
 ((pause))
 ICO: not:: e::h (2.8)four months
 MU: less than
 ICO: less
 FO: upon
 ICO: *ça a démarré en janvier*
 It has started on January
 MU: en *Janvier à peu près*

(06:56)

Around January

RA: wah

yes((pause))

FO: wāh Mister MI tfad-dal

Yes Mister MI go ahead

MI: j- j- j'sais pas si o- on =arrive à:- (2.0)=

I don't know whether I can

= <° kīsem-mūh? ° >

What's his name?

RA: °mēſlēbalich°

I don't know

FO: ↑MOLT ↑ MOLT

IKA: Mister MOLT

FO: Mister MOLT

MI: please eu:h to- to = (0.4)it's/nécessaire/to protect

necessary

=the- the[liner?]with(canasplid) =(propane)/(proper)mister Milokh?

MOLT: [uh-hum]

MOLT: ↓yes

MI: in your errr (.)experience?

MOLT: >yes↓ yes↓ yes↓< (.)what we usually do(0.2)e::h (2.5)=

=last time I was here somebody =asked me about err- mechanical =protection for the
[()]

MI: [to stop to] stop the =motor

MOLT: what we propose to you is to =use our standard probe

MI: yes

MOLT: it goes to the P.C.S

MI: ()?

MOLT: it goes to the P.C.S and =when it reaches a certain fail- =failure

=we can say () stops

RA: <stop the compressor>

MI: because e::h (1.5)perhaps the =last time people are'nt in the =(.) site

MOLT: yes maybe it's in the-

MI: and (0.2) damaged-

MOLT: may be it's in the night or =in the weekend or-

MI: it's necessaire to XXX keep =for protect [the liner]

RA: [the stanch]

MOLT: we've already taken your =proposal to do that two years ago =but to have this
(0.4)I don't =know

RA: hhh heh hah

MOLT : ()hhh heh hah

MI : Mes-Monsieur IKA↑er- (.)les

Mister X, because big compressors =choses ont évolué(.)parce que:

things have now evolved (.)

=de grands compresseurs qui =protègent les-c::- cy-les

which protect the- the cy- the cylinders

=cylindres les cylindres avant

before cylinders were (.)

=(0.2)c'était rapporté.C'est une

arranged again (.) it is one

=Pièce () l'objet pour cylindre part () of the cylinder

=qui fait partie du corps donc

that pertains of the whole, so, damage

=tout un corps c'est grave et

caused the whole assembly will be serious e::h l'expérience que nous avons

and according to our experience

de la documentation qrina chwia w

plus our documentation

MI : gaſ tous les compresseurs= =(.)les grands compresseurs

all compressors (.) big compressors actually

= actuellement qui n'ont pas de =chemises rapportées(0.4)là(.ils =sont menu d'un
(proxyméthode))

which are not added folders (0.4) in this case (.) they are equipped with
 = (.) *une protection*(0.2) *donc ça s'use*
 a (proxymethod) (.) a protection (0.2) which therefore gets used (.)
 = (.) *à une certaine valeur il-il faut que tout déclenche*
 to some extent everything must be done
 = *pour protéger le cylindre*(0.2)
 to protect the cylinder
 FO : pro- protect °the cylinder°
 MI: *à mon avis il faut faire ça avant*(.) *hādelkhatra j'maṣa*=
 In my opinion we must prevent it (.) this time (0.5) the staff
 = *rāhum laḡū ṣla d-dégat*(.) *la prochaine fois, tesra fel-līl*
 has avoided the mess. If this happens during the night
 = (0.2) [*ça ne sera plus récupérable*]
 (0.2) nothing can be done
 FO: [but eu::rh- but eu::rh-] MI↑ n- n- now we are =discussing about the
 [cause(.)]
 MU: [smahli]
 =the potential cause because now-
 (09:15)
 MU : *la (commission) va faire son*
 The commission is going to
 =*inspection il va nous-nous donner*
 investigate over
 =*la cause*(.) *c'est-à-dire nous*
 the causes I mean
 =*on en fait signe on doit protéger*
 We have to keep them abreast we must
 =La machine
 protect the machine
 FO : *smahli madabina nebqo*=
 Sorry, we should stick
 =*c'est-à-dire fel*:
 MI : *wāh, wāh, wāh*
 Yes yes yes
 FO: *ṣlēch rayhin n:-*
 to the I mean why should we-?
 MU : /pardō/ ya- ya- it's a-a very =important point y- y- it's not =acceptable for
 us(0.6) two months =(0.2) with a general e::h =revision it's not acceptable
 MOLT: °yes it's too short°
 MU: yeah (0.6) here we hav::e =(0.2) we can say we can say a new =compressor
 MOLT: uhuh
 MU: a new one
 MU: with eighty or ninety percent =stanch pieces
 MOLT: uh-huh
 MU: so it's not acceptable for us
 MI: pleas::e you can speak about =the mat-material (0.4) of the ring?
 =It's peut-être P.T.F.E
 MOLT : at the moment we are =investigating it, yes
 MI:I think it's a proble:m
 MOLT: no, no problem
 Kayen on prend les indications et par indication elle est éloignée
 MOLT : what we did err- our =service suppliers said that this =material was good
 (1.2) when =we're here (0.6) we have to use =other materials than those of =other
 suppliers
 =Donc peut être qu'il va pas- la =recette qui la prend en charge
 MI : there is a ma- e:r better material
 RA: for rings
 MOLT: for you that's- this- =we are already investigating them =we have orders
 with other service =suppliers they have what we want =the temperatures the (flow)
 =What would you put in? they'll =send us their material and we put =in that
 material and we're =investigating at the moment those =different materials against
 the =material you have now in the =compressor and see if we() =different systems

but may be(.) =we maybe change the material but =it's certainly the possibility we
=are looking for

FO: very good

MI: you have speaking about the =temperature sec-suction there is =a big e::h
(1.2)difference

MOLT: temperature yes

MI: yes (.)I think e::h (0.8) the =material isn'te:r(3.0)kingoul-lek

=isn't[good fo]r temperature variation

FO: [adequa]te

MOLT: if you have let's say you're =running an average temperature minus =hundred
minus hundred ten degrees =Celsius but sometimes you see() = go up

MI : ((talking to RA)) *c'est peut être*

It is perhahps

=la variation de température qui

temperature variation which

=cause un choc thermique au niveau

causes a thermal choc in-

=de- de-

ICO : *bes-sah le deux, [les deux]*

But both of them

MI : il faut voir la [matière] qui

We have to find the material that

=peut résister à cette variation

Can resist to such variation

=de température

of temperature

MOLT : maybe maybe it a thermal =choc

MI: choc thermique yes

MOLT:Yes

MI:Perhaps

MOLT: we see- but we see quick in the material That- that's not no:rml for us.

MI: we can er;; what is the =material P.T.F.E

MOLT: yes P.T.F.E

MI: P.T.F.E

MOLT: yes↓

MI:P.T.F.E the temperature you ha- =you have:: maximum temperature? =minimum
temperature?

MOLT: yes

MI: temperature work, you have?

(12:16)

MOLT: yes

MI: we- we speak about the- the =material

MOLT: material yes

MI: I think it's a problem. Now we =have d'autres- we have other =materials,
vintage↑

MOLT: I'd like- we have to =investigate if you have high =temperature or quick
changes in =in suction temperature then we have also to =make sure that other
materials =(0.2) which we may be propose are =also- are adequate to- to deal =with
the temperature changes =(1.5) may be we can do something =about the big changes in
=(suction)/(structure) temperature

MI: er- er- RA nta w jmafa il faut

RA , you and your group should

=pas se focaliser ghir fel =process

not focus only on the precess

=(1.2) le process on- on- c'est

The process also includes

=les parametres qu'on va voir(.)

parameters that we will see

=en même temps il faut essayer de

at the same time you have to

=voir err-

see-

RA : le monta:ge tani

The assembling also
MI : *le montage, la partie*
The assembling, the materials
=*matériaux puisque ces matériaux*
Since these materials
=*ne sont pas adaptés à la*
are not adapted to
=*variation de température (5.0) il* temperature variation
=*faut voir ça.*
You have to check that
RA : °*kēyen* ()°
There is ()
MI : *ça devient compliqué w il*
It gets complicated
=*faut voir point par point, le*
And we should check it in details
=*proce:ss, monta:ge, les matériaux*
process, assembling, materials
MOLT : I don't think montage is a =problem
MI: ((*pointing to RA*)) the people has =experience
MOLT: but- for us it's a given =material or the temperatures we =also know that's-
tha's- it's not =the compressor which has big =problems because they have one =kind
of err- () in the system =so when the () are coming =there are a lot of ()
present =then the (ware) is more in few to =500% bigger than the normal =(.)that is
also one thing we =would like to see.
MI: *il parle de()qu'on peut*
He talks about () that we
les ()
can ()
MU : pardon (.) il y a un point
Sorry, there is one essential point
=essentièl (.) est ce qu'on a le (.) do we possess the T.C.S
=rapport d'intervention de T.C.S ?
intervention report
RA : *ʕandna wāh*
We possess it
MU : *ʕandna ?*
Do we ?
MU:*détaillé avec les jeux et tout?*
detailed,with clearances,so on?
RA :*oui*
yes
MU : et il est établi par T.C.S?
And it is made by T.C.S?
RA : établi par monsieur xxx
Done by mr. xxx
MU : il est établi par monsieur
Done by MR. XXXX ?
Xxx ?
RA :par monsieur xxx oui
By mr. Xxx Yes
MU : d'accord
alright
RA : xxx er-
MU : sinon- sinon- normalement il
Otherwise- normally he
=a une copie
has a copy
RA : heh ?
MU: normalement il a:- do you
Normally he has-

=have a copy of err- report of mr. xxx?
 ((MOLT nods head to say yes))
 RA: yes yes yes même ana *ʕandi*
 ICO: keyen ghir- ghir l'azote c'est
 There is only azoth
 MU: l-lā c'est propre, c'est clean
 No, it's clean
 (14:35)
 ICO :Ghir des légers
 Just pure gases
 MU: so (1.5) we er-(0.4)on passe
 We move
 au planning?
 to the planning?
 RA : planning yes!
 MU : yeah (0.8) we have two days
 RA: two- two days
 MU: and we planify our:: (0.4)
 MOLT: yes we will work >we have =to do it ourselves<
 MU: we'll work hhh heh hah
 MOLT: hhh heh hah
 MU : speak e::h↑(2.5)
 MOLT: ↑o::kay (1.2) we want to =have er- inspection of ()to =see what- what happens
 MU: ok↑
 MOLT: want to have a look at the =floats, look at the- at the- at =the:: (temperature), inspection =(trouble)/(cover) of the dental =motor, inspection trouble/(cover)
 FO: inspection of the site
 MI :*inspection sur site*
 Site inspection
 Five minutes
 MU : test the valves? test? Or just er:: °see°
 Test of valves
 MU: a:h (.)we test
 RA: *ʕandna probleme taʕ gamellin*
We have a problem of container
 MU : *on a pas de gamellin*
We do not have a container
 RA : wāh on pas de gamellin
 MU: visual↑(0.4)visual inspection?
 MI: vous ne pouvez pas ramener un
 RA : XXX ykoun *ʕandhoum*
 MI : *chkoun ?*
 RA : xxx (2.0) *taʕraf men winta =w' hua rah ʕandhoum↑* hhh heh hah
 MU: so and after err- this mor-=this morning) afternoon
 =MOLT: afternoon we'll start so I don't think it is going take =much time (0.2)
 it's:-
 MU: yeah
 MOLT: alright then we would like to see where(1.5)thi: =
 = side stream is ↑comin' ↓from
 ((pause))
 MU: ((leaning forwards)) see what?
 Ra: the ethi:- e::r
 MI: to check eu:rh (.) **le** side stream=
 The
 =*la rig- la rig- la bretelle-*
 The side-
 =*la bretelle d'aspiration*
 MU : a:h the side stream
 =d'accord (.) en ()
 a:h I see (.) in ()
 RA : *vérification de la combine* To check the inhaling

=d'aspiration
mechanism
MI: l-lā- l-lā- kēyen la combine =
No, no, there is the aspiration mechanism =d'aspiration w kēyen la
and there is the
=↑bretelle ↓d'aspiration ghādi- side stream
e:r- ils vont l'inspecter
they are going to inspect it
MOLT: maybe it's in the (P.I.D) maybe it's ()
MU: inspection du site on va::
site inspection
=inspecter tout l'environnement
of all the environment
=Inspection du site on va- on va:-
site inspection, we'll inspect
=ndirou l'inspection du site et
the site and
=tout l'environnement ya pas de
all the surrounding, no
=problème (0.5) on va passer sur
Problem we'll move to
site (.) you can see if it's good the site
MI: pleas::e, you hav::e:: the drawings (all given)?
MOLT: for what?
MI: for the valves (0.8)
MU: *ʕandna* les clapiers, les clapiers *ʕandna ʕandna wah* (.) les dessins *ntaʕhum*
We possess the drawings of the valves
MOLT: it's in the book
Si vous avez une documentation?
If you have a documentation?
wah ʕlabali wah
Yes i know yes
IKA : *on a une documentation*
We have a documentation
Parce que hua il parle des jeux
Because he talks about clearances
bəch au moins nwejdulah le plan
at least we prepare the plan
lema ʕtawhalich

RA: and you want to ask some people? Who?
MU: I- I- I- my idea for this =afternoon (0.4) meeting- meeting- =we'll take a
meeting about- we =discuss the- (2.0) the report =inspection of- from mister err-
=cause we have some points to ask =it him about err-
MOLT: o :k yeah yeah yeah
IKA: on va sur site d'abord err-
Lla mech-chi derouek. La matinée la matinée ghadi ndirou l'inspection ça va pas
prendre de temps
IKA : ça prendra pas de temps
MU : l-lā ça prendra de temps
RA : Hna rah fermé l'kisem-muh=
MU : wah
RA= (2.5) the compressor is closed
= is [closed]
MI: is [closed]
MU: wah on va déposer on va préparer-
RA : cover
MU : wah
RA : are closed
MI : ((*talking te RA*)) °tu as compris il faut lancer l'action mèn darouek°
FO : in parallel, in parallel, we will discuss the °inspection report°
MI: ok, RA?

MU: on va discuter et le rapport d'intervention et le rapport de-
FO : direh tem- direh tem
Write it there write it there ((on the board))
RA: we protect the cylinder about corrosion and dust
MOLT: but we can do it tomorrow
((pause))
RA: but the valves are on the (sho)- on the (sho)-
MU: on the (sho)?
RA: on the container
MU: on a deux jours, on a deux jours? Lyum w ghdwa ?
RA : and for tomorrow ?
MOLT : for us it's :: important to understand where are the fluctuations in
(suction)/(structure) temperature because there is one thing it comes from the site
here or may come from loading er- gas (.) so, therefore I have to:- gather
information about the side stream.
MI: MU, pour demain () vérifie ga les parametres d'aspiration, pour demain
MU : tu vérifie, on va tout lui remettre comme on a fait la dernière fois (.) je-
je- vais faire des copies depuis le démarrage du compresseur à ce jour. ga les
copies des paramètres de- kisé-mouh et on va les lui remettre.il peut il peut voir
ça après les heures de ()
FO : de toutes façons, les recommandations ndirouhoum had les deux journées. We are
waiting your recommendations during these two days.
MOLT : uh-huh
FO: in order to continue to open the compressor or to stop it, ok?
Because now we have only this compressor, we have any compressor and err- (0.2) we
have to do quickly in order=
= [to have your recommendation]
MOLT:[but do we have err-] rider rings and piston rings? Do we have that?
FO: les pieces sandna ?
RA : huh ? we have- we have- rings, no liner, and valves ((making movement with head to
show doubt))(5.0)
And (gasket), the cover, no

MU: pardon, il y a un autre point(.)c'est le rapport d'inspection=
There is one point (.) which is the inspection report
((Chair noise))
=euh(.)j'pense pas m'exprimer en Anglais,pourquoi?parce que=
I do not intend to say it in English, why? because
=c'est important pour nous(.)parce qu'il y a deux points(0.2)=
It is important for us because there are two points (0.2)
=le premier point c'est- c'est les quatres mois qui sont pas normal pour- pour =
the first one is- is the period of four months which is not
= un compresseur pour une révision
normal for a general overhauling of the compressor (.)
=générale (.) et le deuxième point
and the second point is the inspection report
(0.4)c'est le rapport d'inspection=
e:h we speak about the inspection report (0.2)
((MU now looking at the Dutch group))
=I think we have - we can say th- =that we have erh normal(1.0)
= report (0.6) li- level one
=and we have level two (0.2) and =we have expert/i:/se of =
=eu::h- we need the >expert/i:/se< report
MOLT: yes of course (.) that's why we are (0.4) here
MU: yeah, yeah, yeah because if we see and make inspection it's damaged we change
it's damaged (.) we don't need this e::r. we need an expertise report and to- the-
the- now- now we say with my colleague mister FO the cause the if it is possible,
real cause
MOLT: now we're going to first have a look when we can do at the compressor if err-
a short notice but for the long term we have the analysis of xxx
MI: ok, smahli, RA on te libère wella ()

MU: la journée d'aujourd'hui c'est ↑ l'inspection(.) c'est le ↑ =
 Today's activities will include ↑ inspection(.)
 =rassemblement(.) L'échange [d'information et tout]
 ↑ gathering (.) and some training
 FO: [I think errh MU↑](.)
 =I think we'll er (.) take a meeting in final of the[day]- =
 MU: [yeah]
 FO :=end of[the day] and we- we try to planify the afternoon
 MU: [yeah]
 =(.) OK? according to inspection(.) to:: (0.5) OK?
 ((shifts his visual orientation to MOLT))
 MU: so at errr-
 FO: ((gazing at MU)) attend the/réyniō/ °w neprogramūha°
 meeting and we programme it
 MU: at fifty
 FO : fifteen
 MU: at fifteen we:: make a report- err a meeting and er- =
 = (.) we discuss about (.) today
 MOLT: we've to go to the compressor now
 MU: yeah
 MOLT: yeah
 MU: donc eu::h on va travailler, on va faire une visite sur site et à quinze
 heures netlaqo ndirou reunion pour plannifier les actions voulues
 RA : ok
 MOLT : maybe maybe one thing (2.0) err there is one thing that has trouble with the
 (relief fells)
 MI: les clapiers de niveaux
 MOLT : relief fells
 MU: relief? Pardon qu'est ce qu'il dit?
 MI : beghi ychouf les clapiers de niveau tae el bac
 MU : ah les P.D.S.V
 MI : wah les P.D.S.V
 Mu : e ::h in site or in drawing?
 MOLT: no no, we don't need in site
 CHA: on the top of the tank?
 MOLT. ASS.: it was mentioned that the (relief fells) at the (structure/suction)
 side were opening
 MU: uh-huh
 MOLT. ASS.: at pubbled condition
 MOLT: so maybe what we could do, if somebody can give us isometric drawings of this
 form for make study. Because we think it is:: (0.8) due to the pulsation ()
 we're going to change a new system
 With the new one to the old one, from our levels and there was no study, no
 translation on the new system. So may be we can do that for you but people have a
 look for it to see if they could find a protection
 (6.0)
 MU: bon hua il veut inspecter la totalité(.) soit naïtouh une copie je sais pas
 wella. donc actuellement il peut rien voir parce que le compresseur n'est pas
 opérationel(0.4) il veut voir le comportement nta° P.D.S.V.
 MI : P.D.S.V ne fonctionne pas à cinquante pour cent-
 Ico: les comp-(3.0) compensateurs?
 =(.) Kīsəm-mūhum b' l'anglais

(25:13)

What is the- the English word (.) for compensators?

(2.0)

Mus: < ↑ compensateur ? >

<Compensator?>

Ico: ((gazing at the researcher/ camera)) ° compensateur ° hh(.) ad- e:::h
 compensator

Fo: compensator ↑ hay-ya ↓ mālek (0.4) compensator (.) compensator

Let's simply call it compensator

Ra: Heh hah hehh

ICO: l-la c'est-à-dire au lieu des ballons, il faut placer un compensateurs pour atténuer les vibrations tae compresseur (.) bech ma yenhallouch P.D.S.V
HadouK est-ce que c'est possible ?

MI :c'est pas le même err-

RA : wah spécialité

MI : le ballon c'est beaucoup plus parce qu'il parle de température d'aspiration. C'est pour ça qu'il parle du ballon(.) le compresseur c'est pour les vibrations (.) à cinquante pour cent, rah ygoul-lek la conduite elle bouge.

ICO : MI, rah yahdar ɣla le P.D.S.V (.) dakhalhoum fech-chek houma l-li rahum y :::-

MI : on y pose la question jmaɣa↑

FO : hna, khellih y vérifie les paramètres process ntaɣo. hna lukken smaɣ luk-ken ɣandna une instabilité (3.0) min kēyen une instabilité ntaɣ le débit d'écoulement mumkin gēl bel-li rah y ki-chghul discontinuité fi l'aspiration le débit rah ...zaɣma kēyna quantité t'ji mbɣad rah y... kēyn coupure.

MI : c'est pour ça que je pose la question

FO : hna il peut pas vérifier.

Hada c'est un point à vérifier, fi-ɣandna normalement CHA, ɣandna le tracé ntaɣ le débit de refoulement,

CHA :le tracé ?

FO :le débit de refoulement,

CHA :ɣandna

FO : madameh constant maɣnetha.

CHA : constant

FO :oui, constant ɣandek des ballons anti-pulsateurs fi l' aspiration. Ma rahch ɣandek une pulsation wella haja tji mel parc

MI :Un un un débit zéro les mollusques jamais ?

CHA : un débit ?

MI : un débit zéro

CHA :ouah

MI : jamais les () ()

CHA : l-la, c'est-à-dire

MI : il peut pas y avoir un accident min ykoun un débit zéro, jamais ?

CHA : non

MU: Here we speak about our compressor, we have a discharge in compressor, in bottom, north one and south one

But your question I don't

MOLT: Here, here compressor, here, above above

MU: No, we haven't, we haven't in suction book

Afternoon

28:02

MOLT: about 25% of the-

RA: of the liner

MOLT: of the liner

RA:damaged

MOLT: also you see watched out edges at the (felth) parts at the end of the liner where the- the piston is coming (.) er-so if you put in a new piston another liner rings it () a methan of ours/hours and finish all over here

RA: a new piston?

MOLT: I don't think a new piston er- but a new liner

RA: a new liner?

MOLT: maybe, but it will take a long time so maybe there's the possibility to see what () to machine the liner better from the inside, to take some materials.

RA ((explaining the case to FO)): chouf rah e::r

MI: to machine- to machine the liner

RA: chouf sbah glaɣ le couvert ntaɣ le piston w ch chef- chef à peu près 25% men la chemise usurée

FO : uhum

(29 :05)

RA : donc gal-lek si c'est possible de changer une nouvelle chemise

MOLT : to see if-

MI : bessah il faut être clair mšah (.) est-ce qu'il veut usiner well ?

RA : to machine or to replace the liner ?

MOLT: oh well (2.0) if you machine you take- you take out a litte material and we don't know how deep it will be [and]

F0: the clea[ranc]e

MOLT: yeah (.) may be you come up with machining up to rejection er- er- (diented) but it will allow you to- to run with the machine for some time (0.5) and in the meantime you can order a new liner because it takes at least at least three months (0.4) for the other articles have a **difficult** running so-

MI: perhaps more than three months

MOLT: yeah, yeah

RA: we want to know where is the **problem** (.) if we change or machine the liner

MOLT: I told you this morning we cannot give you a promise at the moment (.) we have to take a big prognostics

(3.00)

RA: if it is repeated?

MOLT: **so one thing you could- you could do to machine the liner anyway to check later is to take out the piston, to measure the weight of the piston**

F0: uhuh

MOLT:with the () and without the (), so a longer piston (2.0)so we know erh- for calculations (.) for- for er- diameters of the rider rings and thickness, the weight of the piston is important

RA: hum

MOLT: so if we can make sure that the piston has the correct weight, I can check with- with err- the calculations I have made at that time if there is not something wrong (0.4) because also there was the question whether is the weight of the piston correct

F0: hum

MOLT; and I tried before I came here to find if we have the same records that will measure the piston weight ourselves in the fact that other tools are used but I know that there are calculations for a specific percent that should fit the weight of the piston. **I think there is one thing that we can do easily to make sure it is correct or not**

RA:hum

MOLT: if we have a piston that is too heavy, then, we know for sure what to do to change the material

F0: you can check this point with XXX, with your department, with your engineering department

MOLT: ok

MOLT: **I think you can do the measuring here- measuring the weight**

F0U: to take off the piston and-?

MOLT: to take off the piston

ICO: but how long it (.) they take?

=two months? To take (out)piston?

MOLT.AS.: **you have to machine the liner anyway, so you have to take out the piston rods to machine the liner**

MOLT:if you want-

RA: on peut usiner fi 'xxxx'

F0: l-la ghir, rafraichissement mwelef beddelneh ghir manuellement(0.2) kima d-dirah manuellement kima ddirah lakhor, c'est c'est- ya pas de difference, parce que c'est juste des bavures hadouk bech t'éliminouhoum

NA : hua chret ghir fi l'inspection

F0 : hua gallek por le mo-moment, hed les recommandations fi- fi- finales maghadich ndirouhum dork

NA : wah wah wah

F0 : dork ydir une analyse ila akhirih

F0 : zed le point le plu::s- we worry the weight of the- now it's probably the cause

MOLT. AS.: it's not probable, but then we know for sure if it's correct or not(.) it's the main topic where we think there's the problem

F0: it's one of::- it's one of:: (.) we have lot of causes (.) now we are doing the search, yeah

NA: it is necessary to check

ICO: but they take the time- they take the time? This operation, take the time?
(33:20)FO: taʕech l'opération ?
 ICO: pour verifier le- to check it is cause for heavy, it take the time?
 FO: l-la teglaʕ le piston w touzen
 NA : les segments kisé-mouhom ?
 ICO :rings
 RA: rings
 NA: heh?
 MI: rings, rings
 NA: w ça résiste à la temperature?
 MI :hdarna sbah hdarna (.) lorsqu'il ya variation de température, c'est les matériaux ntaʕ ()
 MOLT : we have a centrifuger running out, so we can do:: a lot of efforts to machine the liner (.) it can run for a while (.) and it is on the rejection limit(2.0) there will be a waste of time and money of course in doing that
 FO:yeah
 RA: but if we machine the liner, how about clearance?
 FO: [clearance]
 MOLT: [yeah]
 RA:so we must to-
 RA: normally we have the minimum and the maximum, we try to machine and to be- we try eh
 MOLT: it's in the instruction book for the liner
 ICO: there is no problem one piston with er-small er-
 MI: ils ont des tolérances, ils ont des tolérances, la tolérance maximale yekhedmou fiha
 FO: This operation we'll do it paillatif, pailliatie operation, because we try both xxxx and xxx to work together in order to solve the problem
 Fo : est-ce que la tige ?
 RA : the cross, what about the cross ?
 FO: mechi cross la tige RA
 MOLT : we saw some white material, so may be there is something but ()piston will come, you can usually check it and see if there is something in
FO: we have also the quality of the material of the[rings]
 RA: [rings]
 MOLT: it's made in [P.T.F.E]
 MI: [P.T.F.E]
 Fo: and now we have to analyse the correspondence between this qual- quality and the temperature of the environment of the process
 MOLT: yeah, perhaps theP.T.F.E. in other temperature process it's- it's OK WE-
NA: this point is our question
 MOLT: yeah
 MOLT.ASS: yeah we have cheked the one P.T.F.E virgin mediated one
 FO: yeah
 MOLT. ASS: the behaviour they are asking about the behaviour of P.T.F.E in this condition
 MI: problem temperature perhaps it is the material
 MOLT.ASS: and other one
 MI: each one yes.
 NA: you can ask xxxx for this question and ask xxx why-
 MOLT: ok, what I said this morning we already ordered different materials from other suppliers, we do not make piston rings and rider rings ourselves (.) we buy them
 RA: yeah
 FO: yeah
 MOLT: so there are lot of suppliers that are delivering and we said to the lot of suppliers these are the conditions, the operations, what would you choose?
 RA: yes, yes
 MOLT: and we got a piece of material, a sample, and now we sent it away for testing to see if there is any difference between- difference found-
 RA: ok
FO: just between: brackets(.)>this problem-we have this=
 = problem< in eu:h- in mechanical seal-(0.2) mechanical=
 =seal of the methane compressor
MOLT: uh- huh
FO: and the mechanical seal is financed by X also(0.5)=
 =and last years(.)last years(.)we have a repetitive problem=
 =in this mechanical seal(.)and we have checked the quality=
 =of the rotary ring-(0.5)statuary ring which is in carbon(.

=and we have **constate** that the(.)quality is not like the:=-
 =(0.2)like five or six years **old**
MOLT: yeah (.) uhm
FO: there is a ch- change
MOLT: uh huh
FO: it's- it's not e::h (0.4) it's ↑like- like glass (0.3)=
 =like glass (.) quickly it's broken
(38:45)MOLT: ok (.) yeah yeah
FO: we have **constate** that in the mechanical seal
MOLT: ok
FO: ↑perhaps [the sa]me situation
MOLT: [no but] =
 =this is in progress now with different err (0.2)=
 =alternative materials
FO: yeah
MOLT: we are still investigating(.) this at the moment=
 =(.)I'm (2.5) sure err(0.4) we'll touch it yes
RA: and the how about the process?
MOLT: we are- we're
RA: the process?
MOLT: we're yeah we're looking at the side-stream that's created of nothing biggest
 problem (.) that's a small side stream of natural gas here when both compressors are
 not working, the gas come to the tanks and er gets enough (boil of) it
 ICO it's not all the time eh?
MOLT: no, no sometimes
NA: dans l'ensemble eh-
MOLT: ASS: it's a small part, it's a small part but it's not all the time
NA: ok (.) but the process. We haven't any problem?
MOLT: at the moment no, at the moment no (.) we've made a quick look
NA: you see the recorder of::: err?
MOLT: yeah, but the record is not working correctly at the moment(.) so only
 ordering err
NA: eh before before incident
MOLT: yeah, yeah
NA: you see what have-
MOLT: no all gone away because the records are kept one month (.) after that the
 memory is full (.) the memory card and the record
NA: in this month (.) in this m[onth]
MOLT: [yes?]
NA: you see the behaviour of the compressor?
MOLT: no (.) only the record
 ((chair noise))((cough)) (3.0)
MI: ↑please eu:h-
RA: °chārākbēghi tgoul-leh ?°
 ° What do you want to tell him? °
MI: ↑please(0.4)for the material about the piston(.)it()?
MOLT: I think e::h (0.5) it' s not
MI: why not al- no aluminium? (.) because he bigger
RA: °stainless steel°
MOLT: yeah it's bigger
MI: I think no::rma::ly erh Xxx(.) he make eu:h piston erhh aluminium
MOLT: I:: don't know exactly what it is but it-(0.2) that's=
 =all in the book what err (.) what the material is
RA: this is a special materia:l (.)this special materia:l
MOLT: special material, [yes]
NA: what your opinion about the heavy of the er-(0.2)
MOLT: ASS: you have to respect the loader distance
MI: une qui se trouve actuellement ()
MOLT: I think that these are diameters (.) it's quite critical that these are
 machined correctly from the inside(.) to get- to get the right way that's why I
 said calculations have remained-
MI: uhm
MOLT: in the past that said ok we have to machine it very good because it has to be
 in the right wayi if not the piston can be not heavy, too heavy or I started to
 look for degrees to measure the weight of the piston before in the machine but I
 can't find any records at xxx (.) so I think it's wise now to have the machine over
 just to measure the weight of the piston here and I then compare it with the
 calculations I have made to see if it's correct because if it has been machined

correctly, no body has checked it(.) and then you can feel what you want(0.2) but the problem is that the piston is not

RA:perhaps

MOLT:or not

RA: perhaps

MOLT: or not

NA: what's what's your programme for tomorrow

MOLT: yeah, it's it's depending on you (.) you want to have the () or not?

RA: do you have?

MOLT:you want to have a look at it

NA: no err we fellow you your programme

MOLT: o::k e:h alright for us we'll use some dat still some data (42:29)before 2006 to find out what happened in the machine, do you have structure certain problems, when, how many times it was

NA: ye ye t-t -Inspection

MOLT : ok ,e:rh (.) there's still a problem (.) with the:::-

= eu:h with:: e::rh eu:h- ((spelling)) ee es vI- ee es vI =

= card on the tanks(0.2)

RA: yes?

MOLT: so we need the isometric drawings =

= and the ((spelling)) pI aI dI of e:::h-

RA: sandna? ESV? sandna? ESV?

Do we possess the ESV card?

NA: ↑ l'isométri:e (0.2) [la]- la conduite=

The isometrics the behaviour

MOLT : [yes]

NA:=l'isométri:e↑mhm ch::-ch 'sais pas↑'(0.5)we think that↑

Isometrics I don't know↑ we think so↑

MOLT Ass.: if possible (.) from the start (0.5) before =

= thi: modified system and after the 'modified system'

ICO: l'historique?

A historical account?

NA: uhm-(0.8)la conduite av-avant l'installation=

Umm-(0.8) The behaviour before- before setting up

=<c'est-à-dire> avant et après::s(.) ntēš:-

<it means> before and after (.) of:-

RA: 'Wel-lah māni šāref'

'I really don't know'

NA: bon(.)hnā nhawsū ſla la conduite isométrique ntaš()

Right (.) we will look for the isometric behaviour of ()

mel-l'aspiration lēl-bāc

from aspiration to tank

MI: htā l' bāc wāh (0.5) ((turning to MOLT))

Till the tank yes

RA: and for the:(.)mechanical guide↑(.)=

= we remove[the:: piston?]

FO: [we take out the] piston?

MOLT: yeah we take out the piston

RA: tomorrow?

MOLT: tomorrow yes

RA: OK

MOLT: and then we can have a physical check of the fusible and the crosset

RA: uhm and the (ships)

MOLT. ASS: on the piston also

MOLT:on the piston also,so that will be the main things

RA: I think it will take half a day

MOLT: yeah may be

RA: half a day or all the day

MOLT: hum

RA: we must crank, (ching), and err

MOLT: yeah yeah yeah

FO: engine

MOLT: but we have a good goup, good group

NA: and tomorrow at twelve o'clock you fix if you stay after Wednesday

RA: ehm I think I think

NA: balek ils vont Jeudi

RA: you cannot finish tomorrow
 MOLT: no, if it's not possible it's not possible
 It's of course no problem
 NA nwejdouleh l'escorte tae Jeudi?
 NA: ok
 MOLT: no but tomorrow afternoon it's () if we would finish or not
 RA: yes
 ICO: bessah it's 48 heures avant
 MOLT : ok, it's the planning of the time, it isn't prolongation
 NA: () jusqu'a Mercredi lla hsab le programme nta houn bessah ana Jeudi
 manakhdemch fih, yroho, ça sert à quoi ygod Jeudi
 MOLT: we just wait and see what happens tomorrow
 NA: ok, ok
 RA: on sait jamais chayasra ghadwa
 Who knows what happens tomorrow
 NA: ehm, if you add a comment
 MOLT: we are- may be here on some points on the company to check some points of the
 contract or see if anybody else has an idea, we' ll come back to it later or may be
 in the future
 RA: OK
 NA:OK thank you

Appendix VII:

Meeting Transcription Conventions

APPENDIX VII: Transcription Conventions

This study has used the following transcription conventions, as outlined in Hutchby and Woofit (1998). Transliteration of multilingual speech as well as its translation to English have followed the models of Mondada (2004).

[	A left bracket indicates the point of overlap onset.
]	A right bracket indicates the point at which an overlap terminates.
=	Equal signs indicate no break or gap.
(0.0)	Numbers in parentheses indicate elapsed time by tenth of seconds.
(.)	A dot in parentheses indicates a micropause.
<u>Word</u>	Underlining some sounds in a word indicates some form of stress, through pitch and/or amplitude. A short underline indicates lighter stress than does a long underscore.
ye::s	Colons indicate prolongation of the immediately prior sound. The longer the colon row, the longer the prolongation.
↓↑	Arrows indicate shifts into a low or high pitch.
?	A question mark indicates rising intonation.
°word°	Degree signs bracketing a sound, word, phrase, etc. indicate especially soft sounds relative to the surrounding talk.
.hhh	A dot-prefixed row of h's indicates an audible inbreath.
hhh	The row of h's without a dot indicate an audible outbreath.
(())	Double parentheses contain the transcriber's comments.
-	Dash indicates cut off in speech
,	
> <	A comma indicates low-rising intonation, suggesting continuation.
< >	Inward-facing indents embed talk that is faster than the surrounding speech.
(word)	Outward-facing indents embed talk that is slower than the surrounding speech.
	Parenthesised words indicate dubious hearing, uncertain transcriptions.
prod/y/ct	The phonetic sound indicated between two slashes shows the speaker's singular pronunciation
(word)/(word)	Two parenthesised words separated by a slash indicate the transcriber's suggesting two alternative hearings to one utterance.
()	Empty brackets indicate the presence of an unclear utterance.
hhh heh hah	Indicate laughter.
<i>ghadi-on va</i>	Italics indicate talk in French or Arabic.
we are going to	Second line in Times New Roman gives translation of the preceding line

Appendix VIII:
One of the Company's Official Websites in English

Appendix VIII: One of the Company's Official Websites in English



Baosem
Edition & Publicité



Baosem La **Meilleure** place
pour être **VU**
Publicité sur le Baosem



French

General

Home

Services

Subscription
Specifications
Advertising

The company

About us
Location
Contact us

Baosem

Looking for business opportunities in Algeria ?

Baosem.com is the most timely and comprehensive source of algerian Tenders, advertising and Upcoming Projects Information of energy and minning sector.

Twice a week, Baosem publishes national and international tenders of energy and minning sector. The value and scope of these contracts cover all areas and companies sizes.

As well as, subscribers have the opportunity to access to the most recent and relevant tenders that would be beneficial to their business.

Changing of telephone number

BAOSEM informs you of the commissioning of new telephone lines.



La **Meilleure**
place
pour être **VU**

http://www.sonatrach.com/PDF/Bourse_Emploi_ActiviteTRC_220713.pdf

Appendix IX:

Job Offer

Appendix IX: Job Offer

	ACTIVITE TRANSPORT PAR CANALISATION DIRECTION RESSOURCES HUMAINES BOURSE DE L'EMPLOI	Annonce PNS TRC/ N°27/13 Prorogé
ACTIVITE TRANSPORT PAR CANALISATION Recherche pour sa Direction Réparation Canalisations Division Maintenance		<u>MISSIONS ESSENTIELLES DU POSTE :</u>
Chef de Service MOG / Sous-Traitance		• Assurer la gestion de l'activité du service moyens généraux ; • Assurer la gestion et la supervision des activités liées à l'intendance, l'hôtellerie et l'entretien général des installations et des bases de vie; • Assurer le suivi et la gestion des biens mobiliers et immobiliers de la Direction; • Veiller à la prise en charge de l'activité relations extérieures, • Suivre les prestations de services et de fournitures ; • Elaborer les budgets, bilans et rapports de son service.
<u>EXIGENCES DU POSTE :</u>		
• Diplôme universitaire (Bac+4 ou plus), • Expérience minimum de cinq (05) ans dans la filière, • Connaissance des procédures et aspects liés à la passation de marchés et à l'élaboration des contrats de prestation; • Bonne connaissance de la réglementation et des procédures liées au domaine, • Maîtrise de l'outil informatique et de la langue anglaise.		
<u>PARTICULARITES DU POSTE :</u>		
• Aptitudes au management, • Sens développé de l'organisation, de la communication et des relations humaines, • Esprit d'analyse et de synthèse, et Sens de rigueur ; • Régime de Travail : NSR		
Lieu de travail : Arzew.		<u>Echelle : 23</u>

	ACTIVITE TRANSPORT PAR CANALISATION DIRECTION RESSOURCES HUMAINES BOURSE DE L'EMPLOI	Annonce PNS TRC/ N°26/13 Prorogé
ACTIVITE TRANSPORT PAR CANALISATION Recherche pour sa Direction Régionale RTE / Division Exploitation		<u>MISSIONS DU POSTE :</u>
Chef de Service VEH TRP/ MANUT DTM		• Assurer la gestion, la maintenance et l'entretien préventif du parc Auto et Engins ; • Elaborer les prévisions budgétaires, en matière de Maintenance et de transport ; • Etablir les besoins au Service Approvisionnement, en pièces de rechange nécessaires à la mise en état du parc roulant; • Elaborer les cahiers des charge et les dossiers d'appels d'offres, notamment, concernant la pièce de rechange et/ou prestations de service; • Veiller à la bonne exécution des contrats de prestation et vérifier les factures, • Assurer le suivi des assurances, contrôle technique et déclarations des sinistres relatives au parc Auto et Engins ; • Elaborer les dossiers de réforme conformément à la réglementation en vigueur, • Elabore les rapports, budgets et bilans de son service.
<u>EXIGENCES DU POSTE :</u>		
• Diplôme universitaire (Bac+4 ou plus), • Expérience minimum de cinq (05) ans dans la filière, • Connaissance des procédures et aspects liés à la passation de marchés et à l'élaboration des contrats de prestation notamment liés au transport ; • Bonne connaissance de la réglementation et des procédures liées au domaine, • Connaissances générales en Mécanique et Electricité Auto • Maîtrise de l'outil informatique et de la langue anglaise.		
<u>PARTICULARITES DU POSTE :</u>		
• Sens développé de l'organisation, de la communication et des relations humaines, • Esprit d'analyse et de synthèse, et Sens de rigueur ; • Disponibilité permanente, • Régime de Travail : NSR		
Lieu de travail : Skikda.		<u>Echelle : 23</u>

Appendix X:

Call for Tender

Appendix X: Call for Tender

La Société Sonatrach, Division LQS et Complexe GL1Z, BP 96 BETHIOUA, ORAN ALGERIE, lance un avis d'Appel d'Offres à la concurrence national et international ouvert pour :

" LA FOURNITURE, L'INSTALLATION ET LA MISE EN SERVICE D'UN NOUVEAU SYSTÈME DE VIDÉOSURVEILLANCE EN CIRCUIT FERMÉ " CCTV " POUR LE COMPLEXE "

Le Dossier d'Appel d'Offres peut être retiré à l'adresse suivante :

**SONATRACH/ACTIVITÉ AVAL
COMPLEXE GL1Z BP-96 BETHIOUA.
CELLULE PASSATION DES MARCHÉS (SPM)**

et au plus tard **60 jours** à compter de la date de publication avant **16.00 heures**, par tout candidat intéressé, contre paiement d'un montant non remboursable **cinq mille (5000 DA) dinars algériens** pour les soumissionnaires de droit algérien et de **cinquante (50\$) Dollars Américains** pour les soumissionnaires de droit étranger. Le paiement sera effectué par virement au compte bancaire du complexe, ouvert auprès de la banque extérieure d'Algérie Agence N° 14, rue Fertas Mohamed (Oran).

Le mode de soumission en **une seule étape** s'applique au présent Appel d'Offres.

Au titre du présent appel d'offres, les **offres techniques**, sans aucune indication de prix et les **offres financières** doivent être remises simultanément dans deux plis séparés contenus dans un même pli, à l'adresse suivante :

**"SONATRACH/ACTIVITÉ AVAL
COMPLEXE
CELLULE PASSATION DES MARCHÉS (SPM) "**

au plus tard **60 jours** à compter de la date de publication avant **16.00 heures**.

The Sonatrach Company, Downstream Activity, LQS Division and Complexe GL1Z BP-96 BETHIOUA, ORAN ALGERIA launches a national and international open invitation to tender for :

"SUPPLY, INSTALLATION AND STARTUP OF A NEW SYSTEM OF CLOSED CIRCUIT TELEVISION SURVEILLANCE SYSTEM " CCTV " FOR THE GL1Z PLANT "

The Tender Documents can be withdrawn at the GL1Z COMPLEX address, BP 96 BETHIOUA, ORAN ALGERIE. And at the latest **60 days** of the parution on BAOSEM at **16.00H** by any interested candidate, against payment of a nonrefundable amount of **five thousand Algerian Dinars (5000DA)** for national tenderers and **fifty Euros (50 €)** for foreign tenderers. The payment must be operated through bank transfer to the **GL1Z Complex bank account N°00200070700410047525, Banque Extérieure d'Algérie (BEA), Agence Marsa N°14, Rue Fertas Mohamed, Oran (Oran).**

The present tender will be carried out through a **one-stage** process.

Bidders must submit simultaneously the **technical offer**, with no price indication, and the **financial offer** in two separate folds (envelopes) included in one common fold (envelope) at the following address :

COMPLEXE GL1Z BP 96 BETHIOUA, ORAN, ALGERIE,

at the latest **60 days** of the parution on BAOSEM at **16.00H**

Appendix XI:
**Technical Documentation (English and French
Translation)**

Appendix XI: Technical Documentation (English and French Translation)

(Source: Parametric Hygrometers. (1983). User's Manual: Moisture analysis

(Parametrics LTD. SHANON AIRPORT, Shanon, Ireland)

1.4. PROBE SPECIFICATIONS	
1.4.1 Moisture Sensor Probe Specifications	
Type	Aluminum Oxide Moisture Sensor Element
Dimensions	See Figure 1-4
Material Construction	See Appendix
Input Voltage	1 volt
Impedance Range	2 megs to 50 K ohms @ 77 Hz (depends on vapor pressure of water)
Calibration	Each sensor is individually factory calibrated against known moisture concentrations.
Dew Point Range	+60°C to -110°C (+140°F to -170°F)
Accuracy	±2°C in range of +60°C to -65°C ±3°C in range of -66°C to -110°C
Repeatability	±0.5°C in range of +60°C to -65°C ±1.0°C in range of -66°C to -110°C
Operating Temperature	-110°C to +70°C *
Storage Temperature	Maximum of +70°C
Operating Pressure	Depends on fitting M1 or A1 5 microns Hg to 7.5 psig M2 or A2 5 microns of Hg to 5000 psig
Flow Rate	Gases.....From Static to 5000 cm/sec linear velocity @ 1 atm. (See conversion chart Table 1-1) Liquids.....From Static to 5 cm/sec @ density of 1 gm/cc (See conversion chart Table 1-2)
Response Time	Less than 5 seconds for a 63% step change in moisture content in either wet up or dry down cycle.
Consult factory for specifications of other moisture sensor probes available for special applications.	

1.4. SPECIFICATIONS DES ELEMENTS SENSIBLES	
1.4.1. Capteur d'humidité	
Type : A oxyde d'aluminium	
Dimensions : Voir fig 1-4	
Matériaux de construction : Voir Appendice	
Tension d'entrée : 1 V	
Gamme d'impédance : 2 mégohms à 50 kilohms à 77 Hz (selon la pression de vapeur de l'eau)	
Étalonnage : Chaque capteur est étalonné individuellement à l'usine par référence à des concentrations d'humidité connues.	
Étendue de mesure du point de rosée : +60 °C à -110 °C	
Précision : ± 2 °C dans l'intervalle +60 °C à -65 °C ± 3 °C dans l'intervalle -66 °C à -110 °C	
Répetabilité : ± 0,5 °C dans l'intervalle +60 °C à -65 °C ± 1 °C dans l'intervalle -66 °C à -110 °C	
Température d'utilisation : -110 °C à +70 °C	
Température de stockage : maximum +70 °C	
Pression d'utilisation : Dépend du raccord : M1 ou A1 : 5 microns Hg à 75 psig M2 ou A2 : 5 microns Hg à 5 000 psig	
Vitesse d'utilisation :	
Gaz : De l'état statique à une vitesse linéaire de 5 000 cm/s à 1 atm (voir tableau de conversion 1-1)	
Liquides : De l'état statique à une vitesse de 5 cm/s à une masse volumique de 1 g/cm ³ (voir tableau de conversion 1-2)	
Temps de réponse : Moins de 5 s pour un échelon de variation de 63 % de la valeur en eau en cycle d'humidification ou de séchage.	
Consulter l'usine pour les spécifications d'autres capteurs d'humidité qui sont disponibles pour des applications spéciales.	
1.4.2. Capteur de température	
Type : Réseau de thermistances non-linéaire	
Température d'utilisation maxi : 70 °C	

Précision : $\pm 0.5^{\circ}\text{C}$, globale

Constante de temps maxi : 1 s dans de l'huile bien agitée, 10 s dans de l'air calme pour un échelon de variation de 63 % en température croissante ou décroissante

1.4.3. Capteur de pression

Type : Pression effective, transmission de courant sur 2 fils

Dimensions : Voir figures 7-3 et 7-4

Etendue de mesure : Disponible avec des étendues de 0-5 psig à 0-5000 psig

Surcharge : 2 fois la pression nominale sans détérioration du capteur

5 fois la pression nominale sans destruction du capteur

Matériaux de construction :

Parties exposées à l'humidité : acier inoxydable 316L : étendues ≤ 50 p

acier inoxydable 15-5PH : étendues ≥ 100 p

Sortie des signaux : 4 à 20 mA dans une résistance de boucle de 0 à 500 ohms maxi

Tension d'excitation : ± 24 V c.c., nominale

Précision : $\pm 1\%$ de P.E. par rapport à droite d'ajustement optimal

Domaine de température opératoire : -15°C à $+70^{\circ}\text{C}$

Domaine de température compensée : -10°C à $+55^{\circ}\text{C}$

1.4.4. Câbles

Les sondes d'humidité fabriquées par Parametries pour utilisation avec l'hygromètre System I doivent être reliées à l'appareil par un câble blindé spécial à 4 conducteurs (voir figures 1-6 et 1-7). Si pour un motif quelconque les connecteurs sont retirés du câble, il est impératif que la continuité initiale du blindage soit retrouvée après repose des connecteurs. Un câble incorrect sera la cause d'erreurs graves dans l'appareil. Avec le câble correct, les sondes peuvent être installées à des distances éloignées (jusqu'à 1 000 pieds), avec une erreur d'indication restant inférieure à 1 %. Si des erreurs de 2 % peuvent être tolérées, le câble de liaison entre chaque sonde et l'hygromètre pourra atteindre 4 000 pieds.

Les mesures de protection normales contre les agressions de l'environnement doivent être prises en ce qui concerne les câbles (protection contre les détériorations physiques et contre les températures supérieures à 65°C ou inférieures à -50°C).

1.4.2 Temperature Sensor Specifications

Type Non-linear thermistor network

Maximum Operating Temperature 170°C

Accuracy $\pm 0.5^{\circ}\text{C}$ overall

Time Constant, Maximum 1 second in well stirred oil, 10 seconds in still air for a 63% step change in increasing or decreasing temperature

1.4.3 Pressure Probe Specifications

Type PSIG, two wire current transmitting

Dimensions See Figures 7-3 and 7-4

Range Available in ranges from 0-5 psig to 0-5,000 psig

Overload 2 times rated pressure without damage 5 times rated pressure without bursting

Materials of Construction

Wetted Parts.....316L Stainless steel, ranges 50 psig and under 15-5PH Stainless steel, ranges 100 psig and over

Signal Output....4 to 20 mA into 0 to 500 ohms maximum loop resistance

Excitation Voltage +24V DC nominal

Accuracy Within $\pm 1\%$ FS of best fit straight line

Operating Temperature Range -150°C to $+70^{\circ}\text{C}$

Compensated Temperature Range -100°C to $+55^{\circ}\text{C}$

1.4.4 Cables

The moisture sensor probes manufactured by Panametrics for use with the System I Hygrometer must be wired to the instrument with a special four wire shielded cable. (Refer to Figures 1-6 to 1-7). Should connectors be removed from the cable, for any reason, it is imperative that when connectors are reinstalled the original continuity of shielding be maintained. An incorrect cable will cause serious instrument errors. With the correct cable, sensor probes may be located remotely at distances up to 1000 feet with less than 1% error in meter reading. If up to 2% error can be tolerated, 4000 feet of cable can be placed between each sensor and the hygrometer.

Normal environmental precautions must be taken with cables to protect them from physical abuse and temperatures above 65°C or below -50°C.

Standard cables, with connectors attached, may be ordered from Panametrics in any length up to 4000 feet.

1.4.5 Aluminum Oxide Moisture Probes

The standard sensor consists of an aluminum strip which is anodized by a special process to provide a porous oxide layer. A very thin coating of metal is evaporated over this structure. The aluminum base and the metal layer form the two electrodes of what is essentially an aluminum oxide capacitor.

Water vapor is rapidly transported through the metal layer and equilibrates on the pore walls in a manner functionally related to the vapor pressure of water in the atmosphere surrounding the sensor.

The number of water molecules absorbed on the oxide structure determines the conductivity of the pore wall. Each value of pore wall resistance provides a distinct value of electrical impedance which in turn is a direct measure of water vapor pressure.

The standard calibration of the sensor probe allows measurement of water vapor from Dew/Frost Points of -110°C to +20°C. This range represents a change in moisture from .001 ppmv to about 23,080 ppmv, over six orders of magnitude difference. Special calibrations are available to +60°C Dew/Frost Point (200,000 ppmv).

The sensor will provide an extremely fast response. A 53% change in reading will on the average be achieved within 5 seconds to a step function increase or decrease in water vapor concentration. This speed of response should be more than adequate to follow almost all use conditions since true step function changes in moisture levels are rare. Even with abrupt changes, the level of flow, wall construction

Des câbles standard équipés de leurs connecteurs peuvent être commandés à Panametrics dans n'importe quelle longueur jusqu'à 4 000 pieds.

1.4.5. Sondes d'humidité à oxyde d'aluminium

La sonde standard est constituée d'une feuille d'aluminium qui est anodisée par un procédé spécial pour offrir une couche d'oxyde poreuse. Un très fin revêtement métallique est déposé par évaporation sur cette structure. La base d'aluminium et la couche de métal forment les deux électrodes de ce qui est essentiellement un condensateur à oxyde d'aluminium.

La vapeur d'eau est rapidement transportée à travers la couche métallique et se met à l'équilibre sur les parois des pores selon une relation fonctionnelle avec la pression de vapeur de l'eau dans l'atmosphère ambiante du capteur.

Le nombre de molécules d'eau adsorbées sur la structure d'oxyde détermine la conductivité de la paroi des pores. Chaque valeur de la résistance de paroi de pore fournit une valeur distincte d'impédance électrique qui forme elle-même une mesure directe de la pression de vapeur de l'eau.

L'étalonnage standard du capteur permet des mesures de vapeur d'eau à partir de points de rosée/givre de -110 °C à +20 °C. Cette étendue représente une variation d'humidité de 0,001 ppm volume à environ 23,080 ppm volume, soit une différence de plus de six ordres de grandeur. Il existe des capteurs spécialement étalonnés pour des points de rosée/givre de -60 °C (200 000 ppm volume).

Le capteur a une réponse extrêmement rapide. Une variation de 53 % sur l'indication sera en moyenne obtenue dans un délai de 5 s après une fonction d'augmentation ou de diminution de la concentration de vapeur d'eau. Cette rapidité de réponse est normalement plus que suffisante pour suivre pratiquement toutes les conditions d'utilisation puisque de véritables variations à fonction d'échelon sont rares dans l'humidité. Même avec des variations abruptes, la vitesse d'écoulement, les matériaux de construction des parois, etc. tendent à modifier ces conditions en raison de la température d'adsorption de 10 °C au-dessus de la température de rosée/givre à 70 °C. La condensation d'humidité dans le capteur doit être évitée car elle entraînera une erreur dans l'indication. Si cela se produit, le capteur doit être séché dans un courant d'air chaud.

1.4.6. Capteur de température

Un réseau de thermistances non linéaire fournit des données de température lorsque nécessaire. Il est intégré d'origine au capteur d'humidité. L'étendue de mesure de ce réseau va de 70 °C à -30 °C. Le signal de mesure de la température est utilisé dans le calcul de divers paramètres tels que ppm volume et RH, selon la programmation qui a été faite du System I. L'étendue de mesure du réseau est introduite dans l'appareil par programmation.

1.4.7. Transmetteurs de pression

Le system I est fourni complet avec l'électronique permettant l'utilisation de transmetteurs de pression à sortie 4-20 mA sur 2 fils. Le signal de mesure de la pression est utilisé dans le calcul de divers paramètres tels que ppm volume, selon la programmation du System I. L'étendue de mesure du transmetteur de pression est introduite dans le programme du calculateur par l'utilisateur.

1.4.8. Montures du capteur d'humidité

Le capteur peut être fourni avec une suture haute pression. Voir fig 1-4. Les lectures peuvent être faites immédiatement après installation du capteur dans un réceptacle de dimensions appropriées et son raccordement par câble à l'appareil System I.

1.4.9. Sécurité de protection

L'hygromètre System I N'EST PAS A SECURITE INTRINSEQUE. La sécurité intrinsèque peut être obtenue uniquement par l'emploi de barrières Zener externes. Ne pas utiliser le capteur ou le câble en zone dangereuse sans avoir installé des barrières Zener externes. Sont recommandées pour l'utilisation les barrières Panametrics ZBS, ZBT et ZBP sous un boîtier de bus ZBS. Les barrières Zener mentionnées ci-dessus ont reçu les homologations FM (Etats-Unis), AENOR (Canada), PTB (Allemagne fédérale) et BASEFA (Grande-Bretagne) pour toutes les zones dangereuses.

materials, etc., tend to modify these conditions because of adsorption temperature from 100°C above the Dew/Frost Temperature to +700°C. Moisture condensation in the sensor should be avoided as it will cause an error in reading. The sensor may be dried with a warm air flow if such a condition occurs.

1.4.6 Temperature Sensor

A Non-linear Thermistor network provides for temperature data when required, and is supplied as part of moisture sensor assembly. The range of the thermistor is 700°C to -300°C. The temperature input is used in the calculation of various parameters such as ppmv and RH, depending upon the programming of the System I. The range of the thermistor is entered into the instrument as part of the user program sequence.

1.4.7 Pressure Transmitters

The System I comes complete with circuitry for use with 4 to 20 mA two wire pressure transmitters. The pressure input is used in the calculation of various parameters such as ppmv depending on the exact programming of the System I. The range of the pressure transmitter is entered into the program of the computer as part of the user program sequence.

1.4.8 Moisture Sensor Mounts

The sensor is available with a high pressure mount. See Figure 1-4 for configuration. Readings may be made immediately once the sensor is installed in the receptacle of appropriate dimensions and connected by cable to System I.

1.4.9 Protection Safety

The System I is NOT INTRINSICALLY SAFE. Intrinsic safety can only be obtained through the use of external zener barriers. Do not use the probe or cable in any hazardous area without using external zener barriers. Recommended for use is the Panametrics ZBS, ZBT, and ZBP zener barrier assemblies housed in a ZBB zener barrier bus housing. The zener barriers mentioned above are certified by FM, CSA, PTB, and BASEEPA for use in all hazardous areas.

SPECIFICATIONS

1.0 INTRODUCTION

1.1 Scope

The scope of this document is to review the factors considered during development of an integrated Fire Detection and Alarm System (FDAS), Gas Detection and Alarm System (GDAS), Emergency Shutdown (ESD) System and Distributed Control System (DCS), during the renovation project at the Sonatrach GLL-2 LNG facility at Arzew, Algeria. Significant design factors also reviewed are the choice of detector type, and the siting/ layout of individual detectors.

Reference is made to numerous source documents. These are all listed in Section 2.0 of this Philosophy.

1.2 The Renovation Project

The GLL-2 LNG complex is to be renovated, and the contractual installed capacity (CIC) increased, in a major exercise which will be undertaken in part by the Owner and in part by Bechtel. The renovation project will be used as an opportunity to increase the general safety level of the installations wherever practical, economic and without major revision to existing plant design or layout. For further details of the overall project requirements, see Basic Design Specification Document 20784-A-001.

1.3 Existing Detection and Alarm Systems

GLL-2 was constructed in 1976 with a Fire Detection Alarm System and a Gas Detection Alarm System. These are two separate, non integrated systems. There are five separate site control rooms, each of which has fire alarm panels and separate gas alarm panels for detectors in the site area under its control. There is no single fire alarm panel or single gas alarm panel for the whole site. The "old" systems described above are still in place, but are largely inoperative.

Both systems have been replaced by "new" systems, but like the old systems they are not integrated with each other. They still report separately to separate panels in the fire control rooms, although the new fire alarms are relayed to a combined site fire alarm panel in an unattended room in the fire station. The new systems are more extensive than the old systems, but they still fail to cover all areas which would be expected to be covered at a modern site.

The new GDAS does not function acceptably as reported by I-CARE, the vendor. The new FDAS does not function acceptably for a variety of reasons detailed in Site Visit Reports 20784-Y-003, 20784-Y-004 and the Vendor's Site Visit Report.

1.4 Existing ESD System

For the purpose of this project the ESD system has been defined as an automatically operating system (with manual operation facility) which when activated by a non process emergency condition, will shut down a section or all of a site. (see Document 20784-Y-002, ESD Philosophy). Typical non process emergency conditions are confirmed detection of fire, confirmed detection of gas leak or activation of a manual initiator.

1.0 INTRODUCTION

1.1 Etendue

L'étendue du présent document concerne l'examen des facteurs pris en considération au cours du développement d'un système intégré de détection d'incendie et d'alarme (FDAS), de détection de gaz et d'alarme (GDAS), d'arrêt d'urgence (ESD) et de contrôle reparti (DCS) au cours de la réalisation du projet de rénovation du Complexe G11.Z de Sonatrach à Arzew, Algérie. Parmi d'autres facteurs examinés il y a lieu de mentionner le choix du type de détection et l'emplacement/disposition des détecteurs individuels.

Il est fait référence à de nombreux documents dont la liste figure dans la section 2.0 du présent document.

1.2 Le projet de rénovation

Le Complexe de G11.Z sera rénové et la capacité contractuelle installée (CIC) augmentée dans le cadre d'un projet majeur qui sera réalisé en partie par le Client et en partie par Bechtel. Le projet de rénovation sera mis à profit pour augmenter le niveau de sécurité général des installations lorsque cela s'avère pratique et économique, sans entraîner une révision majeure de la conception/implantation de l'usine existante. Pour de plus amples détails sur les exigences globales du projet, il convient de se reporter au document sur la Spécification Conceptuelle de Base 20784-A-001.

1.3 Systèmes de détection et d'alarme existants

Le G11.Z a été construit en 1976 et équipé d'un système de détection d'incendie et d'alarme (FDAS) et de gaz et d'alarme (GDAS) qui sont deux systèmes séparés non-intégrés. Il y a cinq salles de contrôle séparées au site chacune comportant des panneaux-séparés pour les détecteurs installés dans la zone sous son contrôle. Il n'y a pas de panneau d'alarme incendie ou d'alarme de gaz unique pour l'ensemble du site. Les "anciens" systèmes mentionnés ci-dessus, bien que toujours en place, sont en majorité hors service.

Les deux systèmes ont été remplacés par des systèmes "neufs" qui, comme les anciens systèmes, ne sont pas intégrés l'un avec l'autre. Leurs réponses sont transmises individuellement à des panneaux séparés dans les salles de contrôle des systèmes de détection incendie bien que les alarmes incendie neuves soient transmises à un panneau d'alarme incendie combiné installé dans une salle non surveillée au poste d'incendie. Toutefois, même les systèmes neufs, bien que plus étendus que les anciens systèmes, ne couvrent pas toutes les zones qu'on estimerait devoir être couvertes sur un site moderne.

Le nouveau système de détection de gaz et d'alarme (GDAS) fonctionne de manière acceptable dans la zone limitée couverte. Le nouveau système de détection d'incendie et d'alarme (FDAS) ne fonctionne pas de manière acceptable et ceci pour plusieurs raisons qui sont détaillées dans les rapports de visite au site 20784-Y-003, 20784-Y-004 et dans le rapport de visite au site du fournisseur.

A process shutdown (PSD) produces essentially similar effects, but in response to a predetermined process upset condition.

For further description of these separate functions, see Shutdown System Philosophy Document 20784-Y-002 which relates to interfacing the ESD systems (but not PSD) systems to the FDAS and GDAS.

Existing ESD systems are limited to the following:

- o Closure of main feed valve
 - o Shutdown of main compressors (i.e. compressor stops operating, but valves remain open).
- These are initiated manually from hand switches in the control rooms.

A significant feature of the ESD system (and the existing PSD system) is that valves which are designated to operate in emergency are not of fire safe design. This contravenes currently accepted API and BS safety design standards.

1.5 Existing Distributed Control System

There is no DCS in the Arzew complex at present.

1.6 Changes to Detectors Planned During the Renovation Project

In accordance with the general project philosophy, the FDAS and GDAS will be subjected to the following work, which will increase the overall safety of the complex:

- o Renovation of both existing alarm systems to make them functional (as originally designed)
- o Enhancement of the existing systems by:
 - Extending them to various new plant areas under construction
 - Extending them in existing plant areas which currently lack needed detection
 - Enhancement by changing the type of fire detector in some cases to ones designed to make the FDAS more reliable
 - Providing low temperature detection
 - Addition of a different type of gas detector
 - Improving annunciation systems in area control rooms, the fire station and the new central control room.

- o Interfacing the FDAS and the GDAS with an enhanced ESD system

1.7 Changes to the ESD System During the Renovation Project

The existing ESD systems will, in conjunction with improvements to existing PSD systems, be considerably enhanced. The main features are the addition of approximately 140 new (fire safe) sectioning valves, numerous new instruments, and replacement of the existing control panels with solid state logic control systems. This logic system shall also house the fire and gas detection logic. The integrated logic system shall be served by separate cabinets in each Process Train located in the Process Control

rooms, in the LNG Terminal Control Room and in the Central Control Room and they shall be linked together by a serial data link. In addition, a depressurizing/blowdown system will be installed.

For further details refer to:

- o 20784-Y-002 Shutdown Philosophy
- o 20784-B-003 Blowdown and Relief Philosophy
- o 20784-J-022 Emergency Shutdown Systems.

1.8 Changes to Distributed Control System During the Renovation Project

One of the significant enhancements to be engineered during the project is the installation of a DCS. Complete details of the DCS proposed are given in Document No.20784-J-009 - DCS Specification.

In summary the DCS will include control equipment located in each of the existing five plant control rooms, plus control equipment in a new central control building. All the equipment will be connected by data hi-ways. The DCS will interface with various intelligent devices, including the ESD and Fire and Gas integrated system.

1.9 Control Rooms and Fire Station

The site was designed to operate in five geographic areas, each with its own control room. Only emergency signals were relayed from each control room to the fire station. This system has a major safety communication problem i.e., the lack of a single central point where all alarms, both process and emergency are available in one location.

For this reason, a new central control room is to be built. Signals to and from the FDAS, GDAS, ESD system and DCS will all be relayed to this new building.
(Delete).

2.0 REFERENCE DOCUMENTS

2.1 Companion Documents

This philosophy shall be read in conjunction with the following documents:

20784-U-002	Guidelines for Plant Instrumentation Systems
Deleted.	
20784-Y-002	ESD Philosophy
20784-020-RP-Y-003	Site Visit Report and Recommendations Covering Renovation of the FDAS and GDAS
20784-020-RP-Y-004	Site Visit Report and Recommendations Covering Enhancement of the FDAS and GDAS
(Unnumbered document)	Site Visit Report and Recommendations by Detector Electronics (Vendor of Fire Detectors - New FDAS)

1.4 Système d'arrêt d'urgence (ESD) existant

Pour les besoins de ce projet le système ESD a été défini comme un système à fonctionnement automatique (avec une possibilité de commande manuelle) qui, lorsqu'il est activé par une condition d'urgence hors procédé, arrêtera une section du site ou le site entier (voir document 20784-Y-002, Philosophie du système d'arrêt d'urgence). Parmi les conditions d'urgence typiques hors procédé on peut mentionner une détection d'incendie confirmée, une détection de fuite de gaz confirmée ou l'activation d'un déclencheur manuel.

Un arrêt de procédé (PSD) produit essentiellement les mêmes effets mais en réponse à une condition de procédé perturbée prédéterminée.

Pour une description plus détaillée de ces fonctions séparées, voir le document 20784-Y-002 sur la philosophie du système d'arrêt d'urgence.

Cette philosophie se rapporte à l'interface entre les systèmes ESD (à l'exception des arrêts de procédé) et les systèmes FDAS et GDAS.

Les systèmes ESD existants sont limités aux opérations suivantes:

- Fermeture de la vanne d'alimentation principale
- Arrêt des principaux compresseurs (c.à-d. le compresseur est arrêté mais les vannes restent ouvertes).

Ces opérations sont déclenchées manuellement au moyen de boutons manuels dans les salles de contrôle.

Une caractéristique importante du système ESD (et du système d'arrêt de procédé existant) à mentionner est que les vannes qui sont censées fonctionner dans une situation d'urgence, ne sont pas d'une conception à l'épreuve du feu ce qui n'est pas conforme aux normes conceptuelles API et BS courantes en matière de sécurité.

1.5 Système de contrôle réparti (DCS) existant

Il n'y a actuellement aucun système DCS au Complexe d'Arzew.

1.6 Modification des détecteurs prévue au cours du projet de rénovation

Conformément à la philosophie générale du projet, les systèmes FDAS et GDAS feront l'objet des travaux suivants qui augmenteront le niveau de sécurité du Complexe:

- Rénovation des deux systèmes d'alarme existants pour les remettre en état (conforme à la conception d'origine).
- Amélioration des systèmes existants comme suit:
 - Appliquer ces systèmes à diverses zones nouvelles en cours de construction au Complexe
 - Appliquer ces systèmes aux secteurs existants du Complexe qui sont actuellement dépourvus de moyens de détection.

- Améliorer ces systèmes en remplaçant dans certains cas le type de détecteurs d'incendie par des modèles destinés à rendre le système FDAS plus fiable.
- Installer en plus un type de détection de gaz différent.

- Interface des systèmes FDAS/GDAS avec le système ESD amélioré.

R2

Supprimé

1.7 Modification du système d'arrêt d'urgence (ESD) prévue au cours du projet de rénovation

Les systèmes ESD existants, conjointement avec les améliorations aux systèmes PSD existants, feront l'objet d'importants travaux d'amélioration, dont les principales caractéristiques sont l'installation supplémentaire d'environ 140 vannes de sectionnement (à l'épreuve du feu), de nombreux instruments neufs et l'amélioration des dispositifs et panneaux de contrôle. En plus, un système de dépressurisation/purge sera installé.

Pour de plus amples informations se reporter aux documents suivants:

- 20784-Y-002 Philosophie d'arrêt
- 20784-B-003 Philosophie de purge et de détente

1.8 Modification au système de contrôle réparti au cours du projet de rénovation

Une des améliorations importantes prévues au cours du projet sera l'installation d'un système DCS. Toutes les données détaillées sur le système DCS proposé figurent dans le document 20784-J-009, spécification du DCS.

En résumé le système DCS comportera des équipements de contrôle installés dans chacune des cinq salles de contrôle existantes du Complexe ainsi que des équipements de contrôle dans un nouveau bâtiment de contrôle. Tous les équipements seront reliés par des bus de transmission de données. Le DCS aura une interface avec différents dispositifs intelligents mais non avec les systèmes FDAS, GDAS ou ESD à ce stade.

1.9 Salles de contrôle et poste d'incendie

Le fonctionnement du site a été conçu sur cinq zones géographiques chacune ayant sa propre salle de contrôle. Seuls des signaux d'alarme sont transmis de chaque salle de contrôle au poste d'incendie. Ce système pose un problème de sécurité majeur au niveau des communications qui est dû à l'absence d'un point central unique où toutes les alarmes à la fois de procédé et d'urgence sont regroupées. (Supprimé).

R2

Pour cette raison une nouvelle salle de contrôle centrale sera construite. Tous les signaux des systèmes FDAS, GDAS, ESD et DCS seront relayés à ce nouveau bâtiment. (Supprimé).

R2

R3	Drawings 30-020-400 to 415	Fire Detector and Gas Detector Layout Drawings
	20784-8-003	Blowdown and Relief Philosophy
	2.2 Background Reference Documents	
	20784-A-001	Basic Design Specification
	Phase I Audit Report No.1 Rev.1	Safety
	DOT 40.CFR.193	Department of Transportation (USA) - Safety Code for LNG Facilities
	3.0 DETECTOR LAYOUT PHILOSOPHY	
	3.1 Design Considerations	
	There are no recognised industry standards or codes which provide rules for laying out Fire Detectors or Gas Detectors. The reasons are probably due to the rapid development of different detector types and due to the wide range of uses to which detectors are put. In general, detectors are usually sited by knowledgeable specialists taking into account:	
	- o The type/characteristics of the detectors involved - o The type of equipment or space being monitored - o The characteristics of the fire or gas leak expected (including prevailing wind direction) - o The purpose for which the alarm signal will be used.	
	Each of these factors is discussed below (Sections 3.2 to 3.5 inclusive). Occasionally the reverse of this procedure is used. In this reverse procedure, detectors are sited throughout a complete site on a 3 dimensional grid with a set distance between each detector. Detectors are then deleted from the grid if the designer is positive that the risk of fire or gas leak is absent. This method has the advantage that it will be more likely to respond to low probability leaks, but it requires many more detectors and is therefore more costly. Therefore, this second (and relatively unusual) layout principle was not adopted for the GLI.2 enhancement.	
	3.2 Type and Characteristics of Detectors	
	There are several different types of detector, each with strengths and each with weaknesses. These are discussed extensively in numerous papers, design guides and in manufacturer's literature.	
	For the renovation project, the "first choice" is to provide detectors identical to those already in use at GLI.2, where such detectors are appropriate for the risk involved at that specific location.	

R3	The "next best" choice of detector is one as similar as possible to existing detectors but of an enhanced type selected to overcome a specific problem with an existing detector. This will maximise the re-use of existing controllers. In some cases a completely different type of gas detector (beam type) is proposed. In this case one single detector will supervise a large area, allowing deletion of numerous detectors of the existing (point detection) type. This will provide a more economical solution. In most cases, ultra-violet (UV) detectors will be replaced with ultra-violet/infra-red (UV/IR) detectors to reduce the incidence of false alarms. In such cases the IR component of the compound head will simply operate an electronic gate allowing the UV signal to pass through only when an IR source is also present.	

	3.3 The Equipment Type Being Monitored	
	All equipment handling flammable inventory can leak. However, experience shows that leaks are more common on some items than on others. General experience indicates that it is usually uneconomic to monitor for every conceivable leak, for example, at every flange on a pipeline. However, it is usually prudent to monitor pipelines with a beam detector where one unit can simultaneously supervise numerous potential leak points. It is normal to avoid siting gas detectors close to outlets of atmospheric relief valves where leakage is safe and is foreseen during the design process. It is normal to concentrate detectors around process equipment which is the most likely to generate "maintenance" type leaks (e.g. valves, gas pressure regulators, pumps, etc.). On large items the detectors are sited to supervise those parts of the equipment where leaks are most likely to occur (e.g. the tube oil systems).	
	3.4 Fire or Leak Characteristics	
	Having determined that an item of equipment, or part of it, creates a hazard of sufficient severity to justify detection, the designer must then assess the characteristics of the fire or leak foreseen. This involves consideration of: - o The type of failure causing the leak - o The quantity and physical conditions of the inventory which will leak - o The environment into which the leak will be released - o The characteristics of the ensuing fire or leak. Consideration of these factors results in a hazard analysis table (included in Report 020-RP-Y-004) which identifies the characteristics of the hazard being reviewed. Typical hazard characteristics are as follows: - o Pool fire (smoky) - o Pool fire (non smoky) - o Jet fire (non flickering)	

2.0 DOCUMENTS DE REFERENCE

2.1 Documents complémentaires

La présente philosophie doit être lue dans le contexte des documents suivants:

- 20784-U-002 Directives pour les systèmes d'instrumentation du Complexe
- 20784-Y-001 Philosophie de la prévention des pertes
- 20784-Y-002 Philosophie de l'arrêt d'urgence
- 20784-020-RP-Y-003 Rapport de visite au site et recommandations concernant la rénovation des systèmes FDAS et GDAS
- 20784-020-RP-Y-004 Rapport de visite au site et recommandations concernant l'amélioration des systèmes FDAS et GDAS

(Document non numéroté)

Rapport de visite au site et recommandations de Detector Electronics (fournisseur des détecteurs d'incendie - nouveau système FDAS)

Plans 30-020-400 à 407

Plans de disposition des détecteurs d'incendie et des détecteurs de gaz.

20784-B-003

Philosophie des systèmes de purge et de détente.

2.2 Documents de référence de base

20784-A-001 Spécification d'étude de base.

Rapport d'audit, phase I
No.1, rév. 1

Sécurité

DOT 40.CFR.193

Ministère des Transports (USA) -
Code de sécurité pour installations de
GNL.

3.0 PHILOSOPHIE DE LA DISPOSITION DES DETECTEURS

3.1 Considérations conceptuelles

Il n'y a pas de normes ni de codes industriels reconnus régissant la disposition des détecteurs d'incendie et de gaz. La raison est probablement due au développement technologique rapide des différents types de détecteur et au fait que les détecteurs sont destinés à des utilisations très diverses. En général, l'emplacement des détecteurs est normalement déterminé par des spécialistes sur la base des éléments suivants:

- Type/caractéristiques des détecteurs à utiliser
- Type d'équipement ou de lieu à surveiller
- Caractéristiques de l'incendie ou de la fuite de gaz à prévoir (y compris la direction du vent prédominant)
- Objectif pour lequel le signal d'alarme sera utilisé.

Chaque facteur susmentionné est examiné ci-dessous (Section 3.2 à 3.5 y compris)

Il arrive parfois que cette procédure est inversée et que l'emplacement des détecteurs à travers le site est déterminé selon une grille tridimensionnelle avec une distance fixe entre chaque détecteur. Les détecteurs sont ensuite éliminés de la grille si le concepteur est convaincu qu'il n'y a aucun risque d'incendie ou de fuite de gaz. Cette méthode a l'avantage que le système sera plus capable de réagir aux fuites de faible probabilité mais nécessite par contre un plus grand nombre de détecteurs et est donc plus coûteux. Par conséquent, ce deuxième principe (relativement inhabituel) de disposition des détecteurs n'a pas été retenu pour l'amélioration des systèmes de détection au GLLZ.

3.2 Type et caractéristiques des détecteurs

Il y a plusieurs types de détecteurs différents chacun comportant des avantages et des points faibles qui sont examinés de manière détaillée dans de nombreux documents, guides d'étude et publications des fournisseurs.

Pour le projet de rénovation, le "premier choix" à faire est de prévoir des détecteurs identiques à ceux déjà en usage au GLLZ et appropriés au risque particulier de ces emplacements spécifiques existants.

A défaut, la deuxième option est de sélectionner des détecteurs aussi semblables que possible aux détecteurs existants mais d'un type plus perfectionné qui est sélectionné pour résoudre un problème particulier au niveau d'un détecteur existant. Cette solution permet une réutilisation maximale des contrôleurs existants.

- o Low pressure leak (flickering)
- o Fireball
- o High pressure gas leak (direction determined by equipment orientation)
- o Low pressure gas leak (direction determined by gas density - heavier or lighter than air)
- o Low pressure gas leak (direction determined by prevailing wind).

The hazard characteristics will normally determine the type of detector to be used. However, other factors may also be important, such as probability of spurious signals from welding, reflection of flares, etc.

3.5 Purpose of Alarm

All of the above comments relate only to considerations leading to the selection of detector type for alarms, and the general area in which it will be located. However, a final factor relates to the purpose for which the alarm will be used. In all cases, the number of detectors selected is a compromise between an economically practical arrangement which will detect the most probable leaks or fires, and a far more expensive system which will detect all leaks/fires. Clearly the data captured from systems with many detectors is more precise than data captured from systems with fewer detectors.

A system with relatively few detectors will normally be adequate for generating a general alarm which is used purely as an aid for deploying emergency teams to an approximate area of the site. However, such a system would be inappropriate if receipt of the alarm would cause a specific automatic action of some other equipment (termed "executive action").

3.6 Detectors for ESD Input

In some cases the designer of an ESD system will require a specific localised action in response to a specific fire alarm or gas alarm in that area. In such a case it is necessary to site detectors to monitor conditions in that specific area. For example, if the ESD system requires one vessel to be shut down upon detection of a fire close to it, then detectors must be sited to view that vessel, and no others. This need for specific response to alarm thus requires detectors with short ranges and in greater number than a layout for general alarm purposes.

An important factor in ESD operation at GLI.Z is the single line process arrangement. If one section of a trains should be shutdown, then the effect will cascade via process shutdown systems to shut down the whole train. For this reason the ESD design philosophy for the process trains is to automatically shutdown a complete train upon confirmed detection of either fire or serious gas leak anywhere in that particular train. This is in contrast to the blowdown, isolation and depressurisation philosophy which is a manually initiated action, section by section within each train. The requirement for fire or gas alarms to activate localised equipment ESD systems is absent at GLI.Z. Therefore, a fundamental design decision has been taken to site detectors for service as alarm initiators only, and to integrate the FDAS/GDAS systems with ESD as a global general signal only. This design concept means that the individual failure of single fire detectors or gas detectors will not cause an ESD action, nor will it prevent the ESD operating eventually.

Failed detectors will be ignored by the ESD system. Also, the philosophy is to activate ESD on confirmed detection of either gas leak or fire. Therefore, the ESD interface logic will not discriminate between fire detection outputs or gas detection outputs. The need for reliability of ESD input will be met by making the whole of the FDAS and GDAS on each train one single voting electorate, with an ESD 'go go' signal generated upon receipt of a predetermined number of positive signals from either gas or fire detectors. This threshold number will be adjustable, and will be controlled by the ESD system.

For example, suppose the predetermined threshold number is four positive signals (out of the total number of detectors on one train - say 50). Also suppose that various detectors are inoperative, as illustrated in the sequence below. Then the result of an incident would be as follows:

Detector Status	Response	Total Alarm No
All detectors either in non alarm state, or failed	Nothing	0
First fire detector activates	Fire Alarm	1
Second fire detector activates	Second Fire Alarm	2
(Third fire detector has failed)	No change	2
First gas detector activates	Fire Alarm and Gas Alarm	3
(Second gas detector has failed)	No change	3
Fourth fire detector activates	ESD operates as total number of detectors in alarm state equals four	4

Note: This demonstrates the philosophy of the integration only. The threshold number (4 in this example) will be determined during the detailed design.

4.0 INTEGRATION OF SYSTEMS

4.1 Integration of FDAS/GDAS/ESD/DCS

R3 The logic for the ESD/F&G systems shall be integrated into PLC's located in existing control rooms and in the control room of the new Central Control Building. All ESD and F&G alarm and status signals shall be transmitted to the DCS system.

Dans certains cas un type de détecteur de gaz complètement différent (type à faisceau) est proposé. Dans ces cas un seul détecteur surveille une zone étendue ce qui permet d'éliminer de nombreux détecteurs du type existant (point de détection). Cette solution est plus économique.

Dans certains cas, des détecteurs ultraviolets (UV) sont remplacés par des détecteurs ultraviolets/infrarouges (UV/IR) pour réduire la fréquence des fausses alarmes. Toutefois, dans ces cas le composant IR de la tête de détection actionnera tout simplement un circuit électronique permettant le passage du signal UV uniquement si une source IR est également présente. Ceci permet le fonctionnement des contrôleurs existants (pour les détecteurs UV) sans les modifier réduisant ainsi au minimum les coûts d'intégration.

3.3 Type d'équipements à surveiller

Des fuites peuvent se produire dans tout équipement comportant des produits inflammables. Toutefois, l'expérience indique que certains équipements sont plus sujets aux fuites que d'autres. En général, l'expérience démontre qu'il est normalement peu économique de prévoir un système de surveillance pour toute fuite possible, par exemple à chaque bride sur une conduite. Néanmoins, il est prudent normalement de surveiller les conduites au moyen d'un détecteur à faisceau ce qui permet la supervision simultanée par une seule unité de plusieurs points de fuite potentiels. On évite normalement de placer des détecteurs de gaz à proximité des points d'échappement des vannes de détente atmosphériques dont les fuites sont sans danger et sont prévues dans le processus de conception. Il est normal de concentrer les détecteurs autour des équipements de procédé dont les risques de fuite de type "maintenance" (p. ex. vannes, régulateurs de pression de gaz, pompes, etc.) sont les plus élevés. Sur de grands équipements les détecteurs sont placés de manière à surveiller les parties d'équipements où les risques de fuite sont les plus probables (p. ex. les systèmes d'huile de lubrification).

3.4 Caractéristiques d'incendie ou de fuite

Ayant établi qu'un équipement ou une partie d'équipement constitue un danger suffisamment grave pour justifier une détection, le concepteur doit ensuite évaluer les caractéristiques de l'incendie ou de la fuite à prévoir. Cela nécessite l'examen des facteurs suivants:

- le type de défaillance pouvant causer une fuite.
- La quantité et les conditions physiques du produit qui s'échappera.
- L'environnement dans lequel la fuite se produira
- Les caractéristiques de l'incendie ou de la fuite qui se produira.

L'examen de ces facteurs donne lieu à l'établissement d'un tableau d'analyse des risques (compris dans le rapport 020-RP-Y-004) qui permet d'identifier les caractéristiques du risque à examiner. Les caractéristiques de risque typiques sont les suivantes:

- nappe de feu (avec fumée)
- nappe de feu (sans fumée)
- incendie à flamme jaillissante (stable)
- fuite à faible pression (instable)
- boue de feu
- fuite de gaz à haute pression (direction déterminée par l'orientation de l'équipement)
- fuite de gaz à faible pression (direction déterminée par la densité du gaz - plus lourd ou plus léger que l'air)
- fuite de gaz à faible pression (direction déterminée par le vent prédominant).

Les caractéristiques du risque détermineront normalement le type de détecteur à utiliser. Toutefois, d'autres facteurs peuvent également s'avérer importants tels que la probabilité de signaux accidentels provenant des opérations de soudage, de la réflexion des flammes, etc...

3.5 Objectif de l'Alarme

Les commentaires susmentionnés se rapportent uniquement aux considérations intervenant dans la sélection du type de détecteur pour les alarmes et la zone général dans lequel il sera installé. Cependant, le dernier facteur à prendre en considération se rapporte à l'objectif pour lequel l'alarme sera utilisé. Dans tous les cas le nombre des détecteurs sélectionnés est un compromis entre un système pratique et économique capable de détecter les fuites et les incendies les plus probables et un système beaucoup plus coûteux qui détectera tous les incendies/fuites. Il est évident que les données fournies par un système comportant de nombreux détecteurs sont plus précises que les données fournies par des systèmes ayant moins de détecteurs.

Normalement, un système ayant relativement peu de détecteurs sera suffisant pour produire une alarme générale qui est utilisée uniquement dans le but de faciliter le déploiement des équipes de secours dans une zone approximative au site. Toutefois, ce système ne serait pas approprié si l'alarme devait causer une activation automatique spécifique d'un autre équipement quelconque (ce qui est appelé "action exécutive").

3.6 Détecteurs pour le système d'arrêt d'urgence (ESD)

Dans certains cas le concepteur d'un système ESD exigera une action localisée spécifique en réponse à une alarme incendie/gaz spécifique dans cette zone. Dans ce cas il est nécessaire de sélectionner l'emplacement des détecteurs de manière à leur permettre de surveiller les conditions dans cette zone particulière. Par exemple, si le système ESD nécessite l'arrêt d'un récipient sous pression en cas de détection d'un incendie dans sa proximité, les détecteurs doivent être placés de manière à surveiller ce récipient à l'exclusion de tout autre équipement. Cette nécessité d'une réponse spécifique à une alarme demande donc l'utilisation de détecteurs à faible portée et en plus grand nombre que dans le cas d'un système utilisé à des fins d'alarme générale.

Le procédé à ligne unique (single-line process) utilisé au GLI.Z est un facteur important à considérer dans l'exploitation d'un système ESD. L'arrêt d'une section d'un train produit un effet de cascade par le biais des systèmes d'arrêt de procédé et donne lieu à l'arrêt du train entier. Pour cette raison, la philosophie conceptuelle du système ESD pour les trains de procédé est de provoquer l'arrêt automatique d'un train entier sur confirmation d'une détection d'un incendie ou d'une fuite de gaz grave en n'importe quel endroit de ce train particulier. Ceci diffère de la philosophie de purge, d'isolation et de dépressurisation qui est une action à commande manuelle effectuée section par section pour chaque train. Le besoin d'une activation de systèmes ESD sur des équipements locaux par des alarmes d'incendie ou de gaz est absent au GLI.Z. Par conséquent, une décision fondamentale au niveau de la conception du système a été prise dans le sens que les détecteurs seront installés uniquement pour servir d'initiateur d'alarme et que les systèmes FDAS/GDAS seront intégrés avec le système ESD uniquement pour produire un signal général global. Ce concept d'étude signifie que la défaillance des détecteurs d'incendie ou de gaz individuels n'entraînera pas une activation du système ESD ni n'empêchera son fonctionnement final. D'autre part, la philosophie est d'activer le système ESD lorsque la détection d'une fuite de gaz ou d'un incendie a été confirmée. Par conséquent, la logique d'interface du système ESD ne fera aucune distinction entre les signaux de détection d'incendie et les signaux de détection de gaz. Le besoin de fiabilité des signaux d'entrée du système ESD sera assurée par la sélection, pour l'ensemble des systèmes FDAS/GDAS sur chaque train, d'un système de vote unique en fonction duquel un signal ESD "MARCHE" est produit après réception d'un nombre prédéterminé de signaux positifs émis par les détecteurs de gaz ou d'incendie. Ce nombre prédéterminé pourra être ajusté et sera contrôlé par le système ESD.

Par exemple, supposons que le seuil prédéterminé soit 4 signaux positifs (sur un nombre de 50 détecteurs pour un train, par exemple). Supposons d'autre part que plusieurs détecteurs sont hors de fonctionnement comme indiqué ci-après; le résultat d'un incident serait alors comme suit:

Situation Détecteur	Réponse	Total nombre d'alarmes
Tous les détecteurs hors d'état d'alarme ou défaillants	Rien	0
Premier détecteur d'incendie activé	Alarme incendie	1
Deuxième détecteur d'incendie activé	Deuxième alarme incendie	2
(Troisième détecteur d'incendie défaillant)	Aucun changement	2
Premier détecteur de gaz activé	Alarme incendie et alarme de gaz	3
(Deuxième détecteur de gaz défaillant)	Aucun changement	3
Quatrième détecteur d'incendie activé	Le système ESD entre en fonctionnement lorsque le nombre total de détecteurs en situation d'alarme est égal à 4.	4

Note: Ceci indique uniquement la philosophie d'intégration. Le seuil (4 dans cet exemple) sera déterminé au cours de l'étude détaillée du système.

4.0 INTÉGRATION DES SYSTÈMES

4.1 Intégration des systèmes FDAS/GDAS/ESD

Les systèmes FDAS et GDAS seront totalement séparés pour ce qui concerne les détecteurs, le câblage sur site et les modules de contrôle. Les panneaux de contrôle seront installés, comme c'est le cas actuellement, dans les salles de contrôle individuelles existantes suivant le précédent adopté pour la disposition du système DCS.

Les signaux d'alarme de sortie émis par chaque module de contrôle seront transmis à des systèmes d'affichage intégrés facilement compréhensibles à la fois dans les salles de contrôle existantes, dans la nouvelle salle de contrôle central et au poste incendie. L'affichage intégré des signaux transmis sera une amélioration majeure des systèmes d'alarme. La nature physique de l'affichage sera déterminée au cours de la phase d'engineering détaillée et sera réalisée soit au moyen d'écrans/panneaux synoptiques soit au moyen d'écrans de visualisation (VDU) contrôlés par l'opérateur.

The FDA system and the GDA system shall be totally separate systems with regards to detectors and field wiring. The alarm and fault signals from detection devices shall be hardwired back to the individual ESD/F&G PLC's. These individual PLC's shall be connected to each other via data link line. Dedicated monitors, keyboards and printers for displaying, recording and retrieving relevant alarm and status information from the ESD/F&G PLC's shall be located in the control rooms of the LNG Terminal Control Building, the new Central Control Building and the Fire Station.

The ESD/F&G PLC's shall also be interlinked with the DCS system and the DCS monitors in each of the control rooms shall display ESD and Fire and Gas alarm and status information.

R3 4.2 Executive Actions

From the ESD/F&G logic output, executive actions shall be transmitted to the required equipment. However, all signals to fire protection equipment which require to be fault monitored shall be sourced from a separate control panel located in the Central Control Building Incident control panel. This is required to conform to NFPA requirements.

5.0 BLOCK DIAGRAMS

The following sheets show in graphic form:

1. Existing U-V (Fire) Detectors and Controllers
2. Existing Gas Detectors and Controllers
3. Proposed F&G Alarm System Schematic and Integration with ESD and DCS Systems.

R3

4.2 Intégration des systèmes FDAS/GDAS/ESD au système DCS

Rien n'est prévu dans la prévision No.4 pour l'interface des systèmes DCS avec les systèmes FDAS, GDAS et ESD. Les données du système DCS seront affichées sur des écrans de visualisation VDU spécialisés. Les systèmes FDAS et GDAS seront affichés sur des panneaux synoptiques ou des écrans VDU installés dans les salles de contrôle et au poste d'incendie. Les signaux d'état transmis par les interrupteurs ESD seront également affichés pour les opérateurs dans les salles de contrôle mais les détails n'en ont pas encore été arrêtés. Il serait possible (et cela pourrait s'avérer souhaitable et rentable) d'intégrer les signaux de tous les systèmes et d'utiliser une série d'écrans VDU pour l'affichage de toutes les données. Toutefois, ce concept n'est pas compris dans l'étendue des travaux convenue pour la prévision No. 4. D'autre part, rien n'est prévu dans la prévision No. 4 pour la future intégration des systèmes FDAS/GDAS/ESD dans les systèmes DCS.

5.0 BLOC DIAGRAMMES

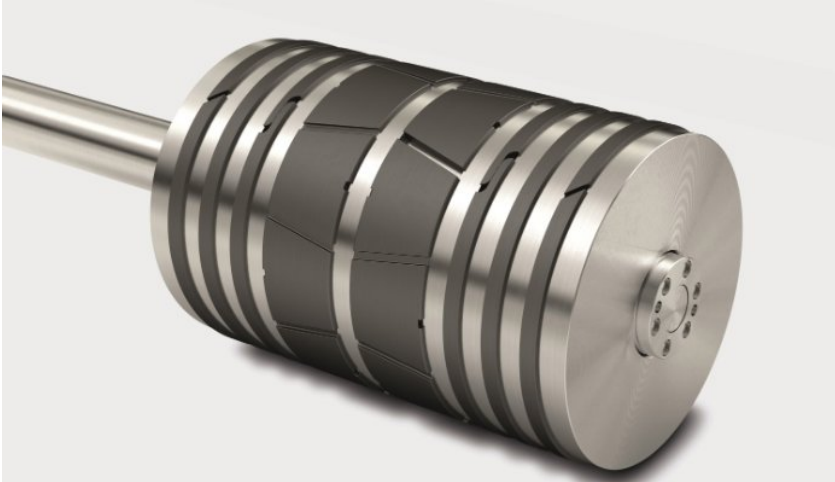
Les feuilles ci-jointes donnent une représentation graphique des systèmes suivants:

1. Détecteurs et contrôleurs UV (incendie) existants
2. Détecteurs et contrôleurs de gaz existants
3. Amélioration proposée des systèmes FDAS/GDAS et intégration avec le système ESD.

Appendix XII:

English Technical Documentation

Appendix XII: English Technical Documentation

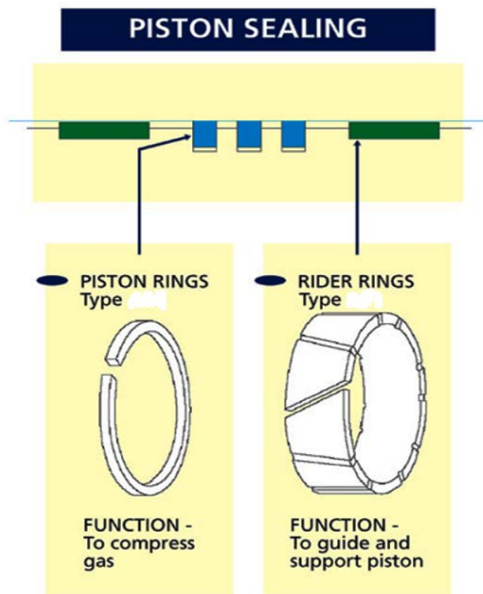


COMPRESSOR PISTON SEALING

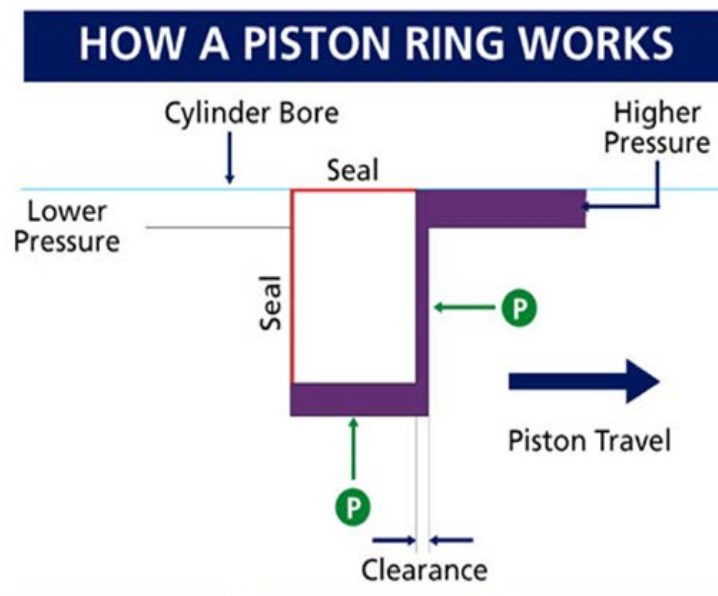
Published on March 21, 2016

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The reliability of reciprocating gas compressors depends upon the function of certain critical components. Among these, compressor Valves, Piston Rings, Rider Rings and piston rod sealing systems, which has come a long way in last 25 years developments, both in design and material technology.



PISTON RINGS: In reciprocating compressors, pistons work against pressure and must have a sliding seal to allow the piston to compress the gas without leakage past the piston. The piston rings provide this sealing for maximum cylinder capacity and efficiency. The piston sealing elements are only subject to the dynamic pressure component varying between the suction and discharge pressure. At piston ring, the gas pressure pushing ring outward against cylinder wall and side of ring results in sealing as shown below.



Pressure

distribution across the rings has been analyzed and measured and, for a two-ring piston, would look as illustrated in Fig 1 below.

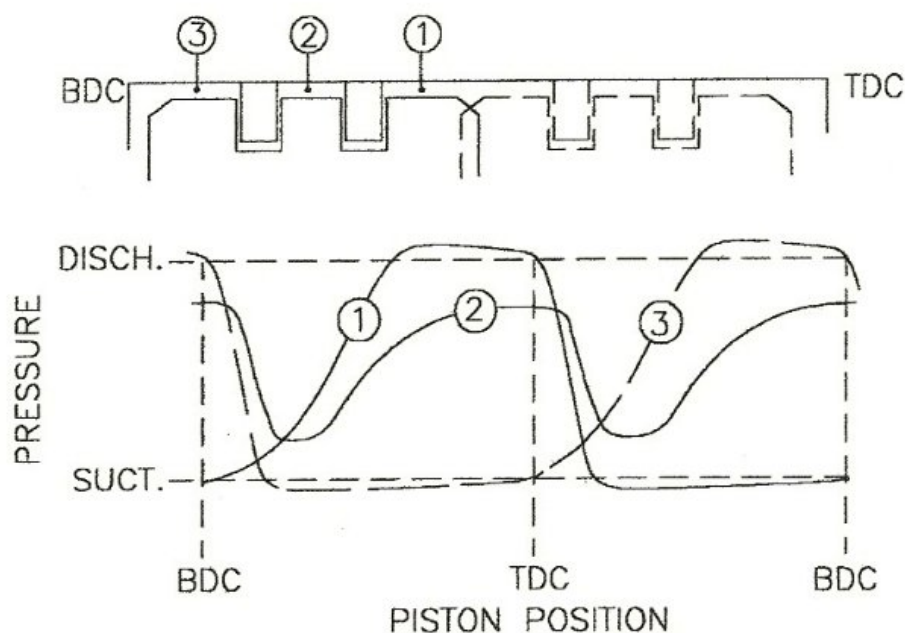


FIGURE 1 Instantaneous pressure between piston rings.

The number of piston rings selected for a particular application is calculated taking into account the Gas molecular weight, Pressure differential, whether the cylinder is lubricated or non-lubricated, speed of the compressor and Space available on the piston. There is significant variation in the number of piston rings recommended by different manufacturers and compressor builders.

Pressure deferential *Rings quantities.*

Up to 300 psi 2

300 to 900 psi 3

900 to 1500 psi 4

Over 1500 psi 6

Piston rings made of PTFE will have an end gap clearance of 0.020" to 0.024" per inch of piston diameter when fitted into the cylinder bore. Side clearance in the groove should be 0.010"-0.015" per inch of width. It should be remembered that Teflon expansion rates are approximately seven times those of cast iron. Values for oil-lubricated compressors with cast iron

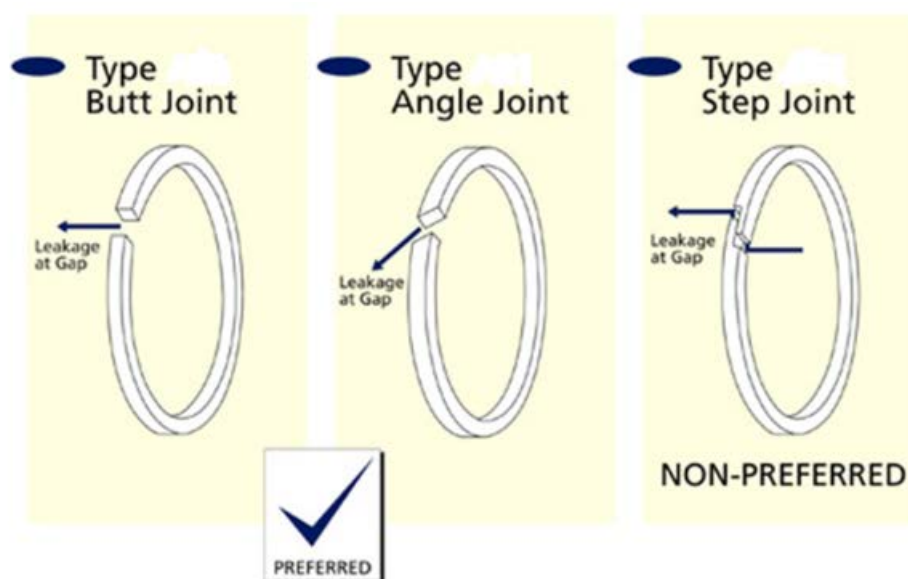
rings are 0.0035" per inch of diameter for the ring. A piston used in a non-lube cylinder is usually made 0.125" to 0.250" smaller in diameter than the cylinder bore, depending on the size.

Piston Ring back clearance = (0.0025 x cylinder diameter) + 0.005

Approximate leak rates from end gap can be in large variations, from 0.03 scfm in a small cylinder all the way up to 40 scfm in a very large one. For new rings in lubricated applications, loss of V.E. with open joint rings will be about 0.5% up to approximately 3%. Power needed to overcome ring friction will usually be only about 0.5% to 2%.

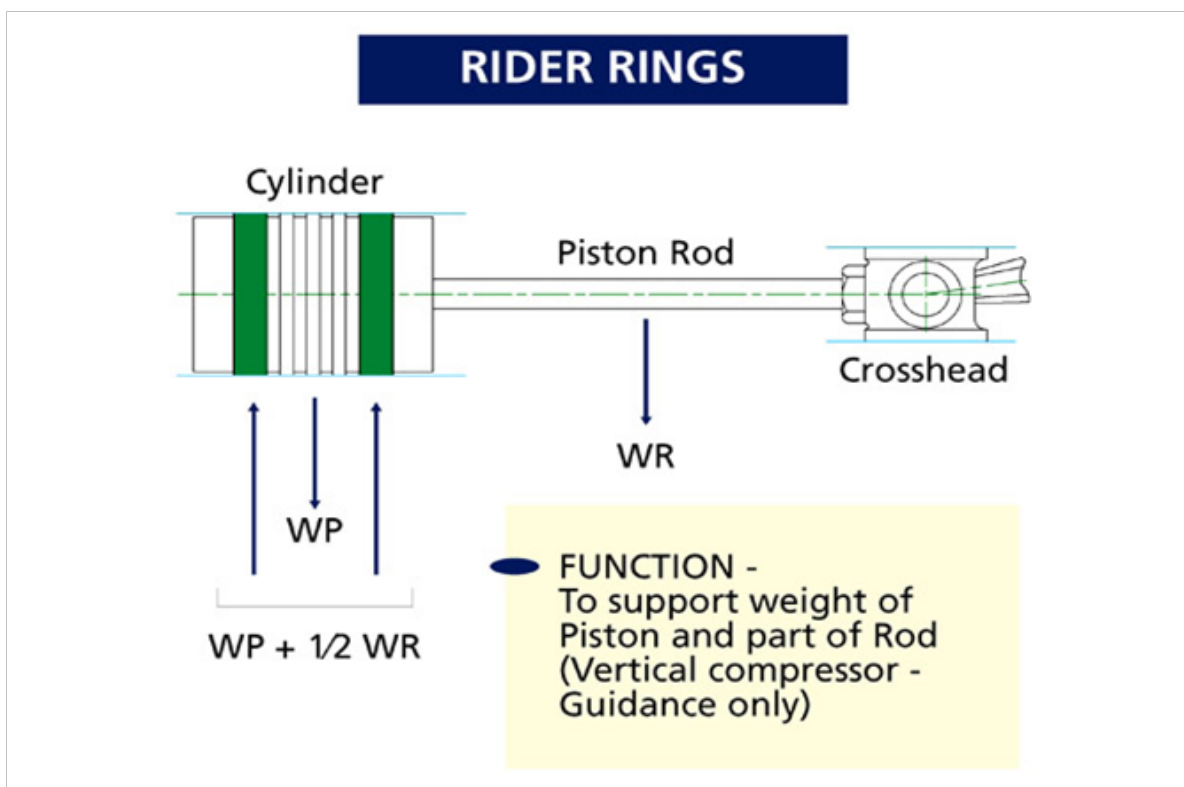
Piston Rings Types:

There are two basic ring types: one-piece and segmental. The most common ring joint is an “open type” angle or butt cut. Angle cut has some slight advantage, less gap clearance (0.7 butt cut). At high speed, 720 RPM and over, there is a tendency for this ring to rotate or spin. This will cause wear of the piston groove especially for an aluminium piston so Butt joint ring should be used. At atmosphere or below 10 psi or vacuum suction an expander may be required to provide additional loading of the ring against the cylinder. Step cut joint used for performance issue where low leakage is desirable. Segmental two pieces or more type is used when the ring material is not flexible or very hard. There is some reduction in wear if piston rings do leak slightly and thus, distribute the pressure drop over more than one ring. A good rule is that piston rings should be changed when they have worn between 30% - 50% of their original radial thickness.



RIDER RINGS:

Rider bands protect the cylinder liner against contact with the piston. (They also allow operation with a lower lubrication feed rate for processes that are damaged by lube oil.).The rider supports piston weight plus one-half rod weight. This load is considered to be carried by the projected contact area of a 120 arc ($=0.866DW$). Loading is usually acceptable if kept below 5 psi for non- lubricated cylinders. For lubricated service American Petroleum Institute Standard API 618 limits rider loading to 10 psi, but this has been extended to more than 70 psi successfully in a number of applications with improved new materials. One major problem with riders is preventing them from pressure actuating like the sealing rings. The angle cut rider ring normally used in the center of the piston between the piston rings with side relief grooves and occasionally face relief grooves to prevent the ring from trying to act as a seal ring. Single acting: rider ring positioned after the piston rings. Double acting: rider ring positioned in between piston rings. A guide when the rider ring standout from the piston O.D. is reduced to 20% of its original then the rider rings should be changed.or 0.25 mm minimum.



Rider Ring Diameter Clearance:

iron Piston = $(0.0015 \times \text{cylinder diameter}) + 0.005$
 $\times \text{cylinder diameter}) + 0.005$

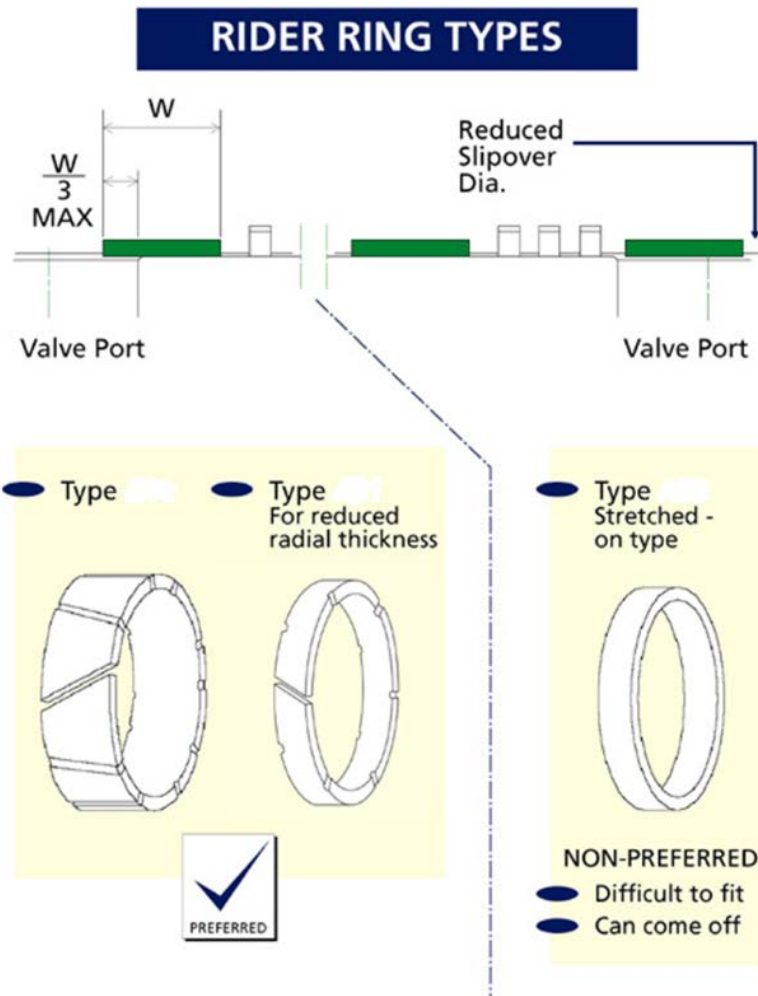
Steel or Cast

Aluminium piston = $(0.0025$

PISTON SEALING MATERIALS:

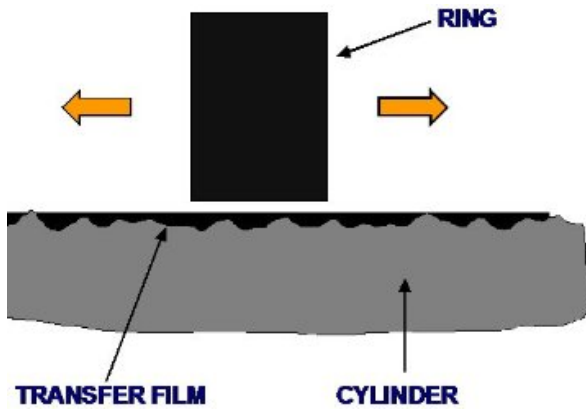
For lubricated service, time-proven bronze and cast iron are still commonly used materials. For non-lubricated, Low-friction materials are capable of running without lubrication. By careful formulation and selection of filler materials, the sliding wear behavior or self-lubricating properties of filled PTFE materials have been improved to give longer lifetimes, especially in dry gases. But should not be operated under conditions of intermittent oil supply which usually results in high ring wear. Rider bands & piston rings and packing are made from PTFE (Teflon) with various fillers such as Glass fiber 5-25%(hardness), Carbon 10-35% (deformation strength), Graphite 5-10%(excellent wear properties), Bronze 40-60%(high thermal conductivity), MoS₂ 5%(reduce friction), all the above are compression molded made .

*Or made from **HOT Compression Molded**, proprietary, filled PEEK compound for higher pressure, PI Polyimide Resin (chemical resistance, temperature), PPS (elevated temperatures and pressures).or high performance polymer alloys. All these materials are products of powder technology.*



WEAR MECHANISM.

The process by which self-lubricating sealing components provide their own lubrication and wear resistance is described as a transfer mechanism. Self-lubricating materials operate by what is termed an "adhesive wear mechanism". They deposit a thin film onto the sliding counter-surface. This film once stabilized becomes the lubricant against which the component (piston or packing ring) can continue to slide with reduced friction and an acceptably low wear rate.



The advances made in self-lubricating materials have put the reciprocating compressor companies back into best position for reliability. A graph shows an ideal wear profile is shown in fig.2. The initial part of the profile corresponds with the deposition of the transfer film, and the time for this transfer depending on the working conditions of the compressor.

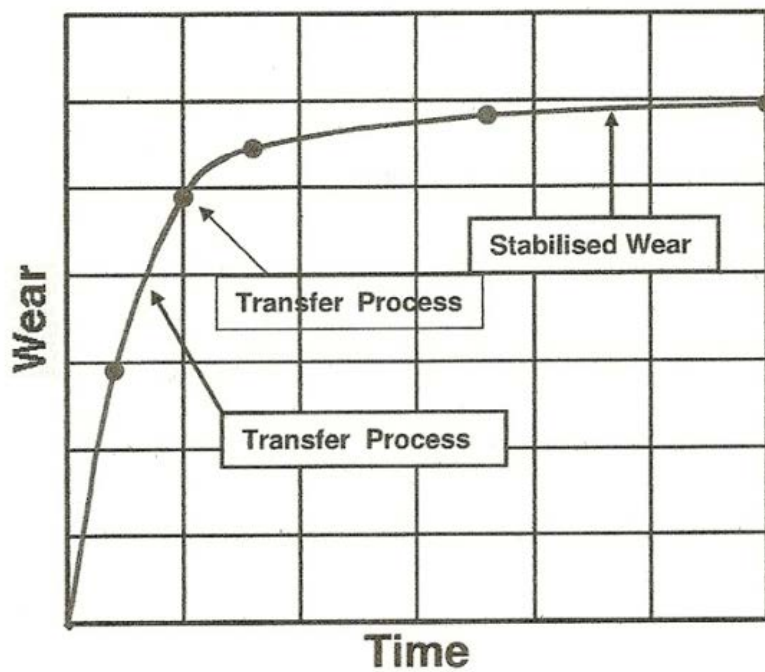


Fig. 2 Ideal Wear Profile

Factors influencing the wear mechanism;

Apart from the proper selection of self-lubricating material, there are a number of important operating factors which influence the actual running life which can be obtained in a given compressor system. These includes:

- 1. Differential pressure*
- 2. Gas temperature*
- 3. Counter-surface material & surface finish*
- 4. Gas type & dryness*
- 5. Gas cleanliness (e.g. absence of solids or liquids)*
- 6. Cylinder & Packing cooling*
- 7. Speed & stroke.*

Any selected polymer has gas pressure and temperature application limits.

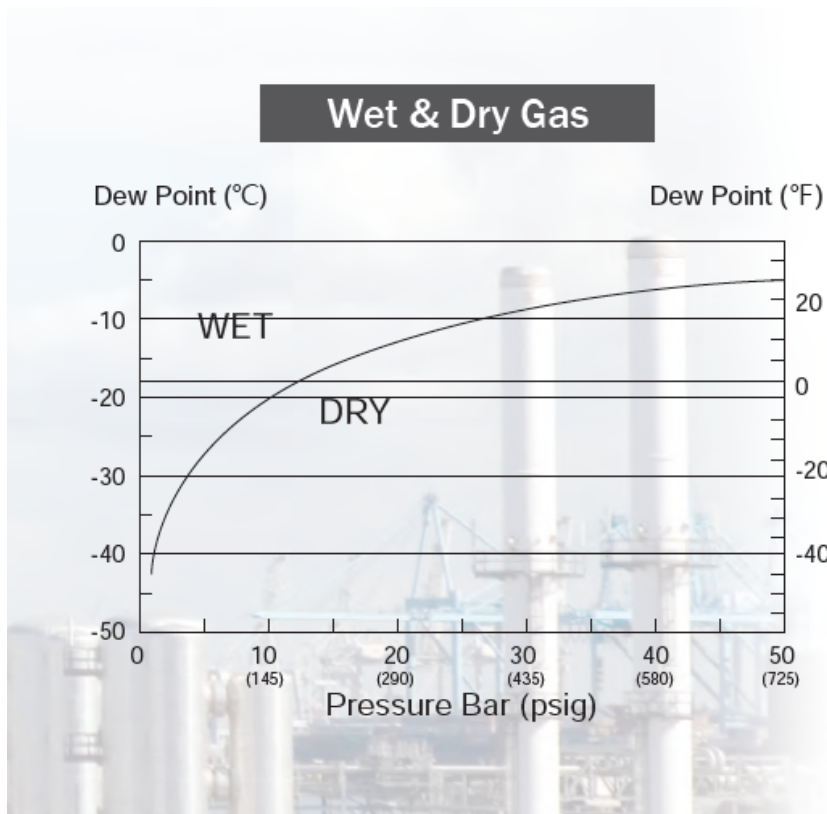
The max differential pressure; filled PTFE (non-lubricated) materials, across the piston up to 580 psi, and packing up to 870 psi. The polymer alloys (non-lubricated) max pressure differential across the piston up to 2100 psi and across packing 3100 psi.

Gas mean temperature; filled PTFE (no- lube) materials up to 250 F, Polymer alloys (non-lube) up to mean temperature 350 F.

Liners Material:For the majority of applications grey (flake graphite) cast iron (BSI 1452 grade 250 or 300) has proved to be an ideal choice. The preferred hardness should be at least 200 HB. Optimum liner surface finish is in the range 0.4 to 0.6 microns Ra. There may be several grades of stainless steel which can be centrifugally cast for liner manufacture. Liners which have become polished by abrasive wear should be re-roughened to restore optimum ring life.

Piston rods Material:Alloy (AISI 4140) or stainless steels (AISI 420) have proved successful, but these must be hardened to 50 / 55 Rc to give adequate stability for the transfer film, Optimum Rod surface finish is in the range 0.2 to 0.3 microns Ra.....

Gas dryness (bone-Dry):Process gas with dew point lower than -20 °C, will contain less than 1000 ppm H₂O. The influence of gas dryness and, in particular, its water vapor content, significantly affects the transfer process when the components are manufactured from filled PTFE materials.



The abrasive effect of the particles can be highly destructive to a set of self lubricating rings and to the transfer film which they have so carefully laid down.

Cylinder inlet coolant temperature should be less than 10 F from gas inlet temperature, maximum coolant inlet 60 F. API 618 recommends packing not cooled for standard PTFE material non-lube up to 17 bars , for lube up to 35 bars. Most polymer alloys can stand for non-lube up to 80 bars, for lube up to 100 bar not cooled.

The sliding speed limit of Double acting horizontal 700 ft/m for lubricated for non-lubricated 600 ft/m, for vertical compressors with lubricated 800 ft/m for non-lubricated 700 ft/m .the speed of 4 m/s is close to the upper level of average piston speed normally encountered in an oil-free reciprocating compressor.

Actual field experience in a closely matching gas type is the best guide to the proper selection of ring (and counter surface) material.

CONCLUSIONS

The development of new polymer alloys has enabled users of oil-free reciprocating compressors to achieve exceptional improvements in consistency and life of the sealing rings.

Are your Compressors Piston Sealing up-to-date ?

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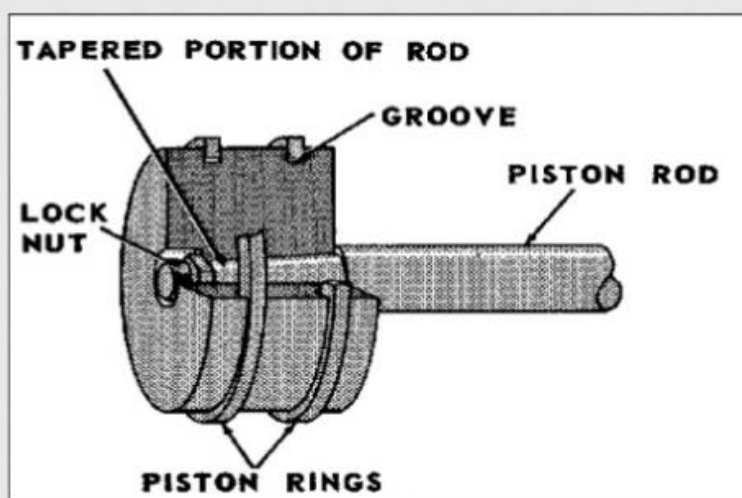
Ankara 21 Mar 2016

Reciprocating Compressor

(source: <https://www.slideshare.net/AdityaSharma434/reciprocating-compressor-55897969>)

1. 1. By- AdityA ShArmABy- AdityA ShArmA
2. [2.](#) □ Principles on which compressors work: □ A compressor is a mechanical device that increases the pressure of a gas by reducing its volume. (The fluid here is generally air since liquids are theoretically incompressible). □ George Medhurst of England designed the first motorized air compressor in 1799 and used it in mining. 2 Introduction
3. [3.](#) □ CLASSIFICATION □ There are mainly two types of Compressors-
4. [4.](#) □ □ In a reciprocating compressor, a volume of gas is drawn into a cylinder, it is trapped, and compressed by piston and then discharged into the discharge line. The cylinder valves control the flow of gas through the cylinder; these valves act as check valves. □ Reciprocating compressors can be Single acting or double acting. Reciprocating Compressor
5. [5.](#) □ □ Single-Stage Reciprocating Compressor □ Compression is done in single stage or by single cylinder only and it is used for generation of low pressure air. □ Double-stage Reciprocating Compressor □ It is a compressor that produces highly pressurised air and mostly it is used nowadays in heavy duty mechanical devices. Reciprocating Compressor Types
6. [6.](#) □ □ Different parts of Reciprocating compressor are listed below: □ Suction valve. □ Suction Chamber. □ Piston & Piston Rod. □ Cylinder. □ Discharge valve. □ Discharge Chamber. Reciprocating Compressor
7. [7.](#) □ □ For low speed compressors (upto 330 rpm) and medium speed compressors (330-600 rpm), pistons are usually made of CAST IRON. □ Upto 7" diameter cast iron pistons are made of solids. Those of more than 7" diameters are usually hollow (to reduce cost). □ Carbon pistons are sometimes used for compressing oxygen and other gases that must be kept free of lubricant. Piston
8. [8.](#) □ ♣ Generally, the piston rod is fastened to the piston by means of special nut that is prevented from unscrewing. The surface of the rod has suitable degree of finish designed to minimize wear on the sealing areas as much as possible. The piston is provided with grooves for piston rings and rider rings. PISTON ROD
9. [9.](#) PISTON ROD AND PISTON

Piston Rings



10. [10.](#) Piston Rings
11. [11.](#) Piston Rings □ Piston rings provide a seal that prevents or minimizes leakage through piston and liner. Metal piston rings are made either in one piece, with a gap or in several segments. Gaps in the rings allow them to move out or expand as the compressor reaches operating

temperature. Rings of heavy piston are sometimes given bronze, Babbitt or Teflon expanders or riders. Lubrication is a must for metallic rings. Teflon rings with Teflon rider bands are sometimes used to support the piston when the gas do not permit use of a lubricant.

12. [12](#). Valves □ There are two valves namely suction and delivery valve. □ The valves are of automatic type. They open due to the effect of the differential pressure between cylinder and the suction or discharge chambers, and close due to the force of springs acting on the plates plus the differential pressure across the valves.
13. [13](#). □ Principle of Operation ∪ Fig shows single-acting piston actions in the cylinder of a reciprocating compressor. ∪ The piston is driven by a crank shaft via a connecting rod. ∪ At the top of the cylinder are a suction valve and a discharge valve. ∪ A reciprocating compressor usually has two, three, four, or six cylinders in it. 13
14. [14](#). 14 ∪ As the piston travels toward the bottom dead center, the volume of the cylinder increases and due to the pressure difference the suction valve is opened. ∪ The pressure inside the cylinder is slightly less than suction line pressure. So, the volume of the gas starts increasing as the piston moves towards BDC. ∪ So, the piston continues its motion towards BDC till the area above piston in the cylinder become full of fluid(gas) & then the suction valve gets closed.
15. [15](#). ∪ Now when the crankshaft moves further and complete its revolution the piston also moves in opposite direction this time towards TDC. ∪ Now, again due to the Pressure difference between the delivery line and inside of the cylinder the delivery valves open in the delivery stroke. ∪ So, at point 3, the piston reaches the top dead center TDC. ∪ At top dead center, as the piston comes to a complete stop prior to reversing direction, the pressure across the valve is equal. ∪ So, the discharge valve is closed.
16. [16](#). 16 ∪ At point 2, the pressure inside the cylinder has become slightly greater than discharge line pressure. ∪ This causes the valve opening allowing the gas to flow out of the cylinder. ∪ The volume continues to decrease toward point 3, maintaining a sufficient pressure difference across the discharge valve to hold it open.
17. [17](#). 17 ∪ Now Again, As the piston moves towards BDC, the gas pressure inside the cylinder becomes less than the suction line pressure, so the suction valve opens again. ∪ The cycle then starts over again. ∪ The shape of the re-expansion line (Line 3-4) is dependent on the same compression exponent that determines the shape of the compression line.
18. [18](#). □ The states of the refrigerant in a reciprocating compressor can be expressed by four lines on a PV diagram as shown in Fig
19. [19](#). □ Single Acting Compressor Operation
20. [20](#). □ □ They are used to generate High pressurised air. □ They have one low pressure compressor and one high pressure compressor and in between them there is an INTERCOOLER. □ Firstly, air goes into low pressure compressor and compressed. Then this compressed air goes to INTERCOOLER(heat exchanger) where its temperature is decreased by Rejection of heat at Constant Pressure. Multi Stage(Two Stage) Reciprocating Compressor Work Saved
21. [21](#). □ □ Then the air is passed to the high pressure compressor to get further compressed. □ Highly pressurized air is thus obtained from the delivery valve of high pressure compressor.
22. [22](#). □ □ Reciprocating compressors are typically used where high compression ratios (ratio of discharge to suction pressures) are required per stage without high flow rates, and the process fluid is relatively dry. □ P.E.T bottling industries, gas filling stations usually use reciprocating compressors. 22 Application of compressors
23. [23](#). □ □ Processing equipment, Oxygen Generators Oil Atomization use compressors of required capacity. 23