



**Denise Gonçalves
Branco**

**Inglês para Fins Específicos, Engenharia e a
Indústria: que relação?**

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Universidade de Aveiro Departamento de Línguas e Culturas
2005

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Indústria: que relação?**

Dissertação apresentada à Universidade de Aveiro para cumprimento dos requisitos necessários à obtenção do grau de Mestre em Estudos Ingleses, realizada sob a orientação científica da Professora Doutora Maria Teresa Costa Gomes Roberto, Professora Auxiliar da Universidade de Aveiro

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keywords

English for Specific Purposes; professional discourse community; Genre Theory; Systemic-Functional Linguistics; Needs Analysis; Project-Based Learning.

abstract

The international context we live in has brought about changes regarding individuals' communicative competence within professional environments. Societal requirements have placed a significant pressure on education systems which are expected to cater for the specific communicative needs of the professional communities. Higher education has not been an exception and changes at this level have been propounded by The Bologna Declaration. Language teaching has not been excluded from this setting and specific demands of the professional sectors have created situations which require that language teachers cater for highly specific communicative needs. The importance of English as the *lingua franca* in business and technological contexts has called for changes and innovations in the theoretical frameworks which support the decisions made by ESP teachers concerning classroom methodologies and contents of courses.

The validity of an English for Specific Purposes approach has been brought into the highlight again, but teachers and theorists have verbalized the need for a new theoretical approach which allows highly specific needs to be addressed in such a way that students are taught to be more autonomous and more able to make appropriate choices when faced with specific situations.

In this work I propose a theoretical framework which consists in the bringing together of two theories, namely Systemic-Functional Linguistics and Genre Theory and the contribution that a methodology such as that of Needs Analysis gives in assessing the needs of the target professional discourse communities, namely by identifying the genres which are generated within these specific communities, as well as the way in which such genres allow the users to achieve their social and communicative goals. The applicability of this theoretical framework was applied to the English course of the 1st year of the Electromechanical and Electrotechnical Engineering courses lectured at *Escola Superior de Tecnologia e Gestão de Águeda – Universidade de Aveiro*.

The findings of needs analysis were considered in the designing of the course syllabus and the effectiveness of a genre approach was analysed within the field of ESP.

palavras-chave

Inglês para Fins Específicos; comunidades linguísticas profissionais; *Genre Theory*; *Systemic-Functional Linguistics*; *Needs Analysis*; Ensino Baseado em Projectos.

resumo

O contexto internacional em que vivemos gerou mudanças no que diz respeito à competência comunicativa do indivíduo no âmbito de contextos profissionais. Exigências de natureza social levaram a que pressões significativas tenham sido feitas aos sistemas educativos no sentido de os levar a ir ao encontro de necessidades comunicativas específicas das comunidades profissionais. O Ensino Superior não foi excluída destas alterações e as mudanças desejáveis encontram-se concretizadas no Acordo de Bolonha. O ensino das línguas não é uma exceção e as exigências específicas dos sectores profissionais deram origem a situações que exigem que os professores de línguas vão ao encontro de necessidades comunicativas altamente específicas. A importância da língua inglesa como *lingua franca* em contextos empresariais e tecnológicos tem vindo a exigir mudanças e alterações no enquadramento teórico que justifica as decisões tomadas pelos professores de Inglês para Fins Específicos no que respeita a metodologias adoptadas dentro da sala de aula e conteúdos dos cursos.

A pertinência de uma abordagem de Inglês para Fins Específicos tem vindo a ganhar importância novamente. Contudo, professores e teóricos têm vindo a verbalizar a necessidade de gerar novos pressupostos teóricos que permitam aceitar os desafios colocados por necessidades comunicativas altamente específicas no sentido de tornar os alunos mais autónomos e mais capazes de tomar decisões apropriadas quando confrontados com situações específicas. Neste trabalho, propõe-se um enquadramento teórico que assenta na confluência de duas perspectivas teóricas, nomeadamente *Systemic-Functional Linguistics* e *Genre Theory* aliadas aos contributos dados por *Needs Analysis* que permite proceder ao levantamento das necessidades das comunidades profissionais alvo. Assim, é possível identificar as tipologias textuais geradas por essas mesmas comunidades discursivas, bem como a forma como estes textos permitem aos utilizadores atingir os seus objectivos comunicativos de natureza profissional. A aplicabilidade deste enquadramento teórico foi aplicado à disciplina de Inglês do primeiro ano dos cursos de Engenharia Electromecânica e Electrotécnica leccionados na *Escola Superior de Tecnologia e Gestão de Águeda – Universidade de Aveiro*, no ano lectivo de 2003/2004.

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acronyms and definitions

- CMC** – Computer Mediated Communication
- CCCCE** – Council for Cultural Co-operation of the Council of Europe
- DS** – Data-sheet
- EAP** – English for Academic Purposes
- EBP** – English for Business Purposes
- EFL** – English as a Foreign Language
- EME** – Electromechanical Engineering
- ESP** – English for Specific Purposes
- ETE** – Electrotechnical Engineering
- ESTGA** – *Escola Superior de Tecnologia e Gestão de Águeda*
- GE** – General English
- GT** – Genre Theory
- ICT** – Information and Communication Technology
- INE** – *Instituto Nacional de Estatística*
- MSDS** – Material Safety Data-Sheet
- NA** – Needs Analysis
- PBL** – Project-Based Learning
- SFG** – Systemic Functional Grammar
- SFL** – Systemic Functional Linguistics
- UA** – University of Aveiro

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abstract

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The validity of an English for Specific Purposes approach has been brought into the highlight again, but teachers and theorists have verbalized the need for a new theoretical approach which allows highly specific needs to be addressed in such a way that students are taught to be more autonomous and more able to make appropriate choices when faced with specific situations.

In this work I propose a theoretical framework which consists in the bringing together of two theories, namely Systemic-Functional Linguistics and Genre Theory and the contribution that a methodology such as that of Needs Analysis gives in assessing the needs of the target professional discourse communities, namely by identifying the genres which are generated within these specific communities, as well as the way in which such genres allow the users to achieve their social and communicative goals. The applicability of this theoretical framework was applied to the English course of the 1st year of the Electromechanical and Electrotechnical Engineering courses lectured at *Escola Superior de Tecnologia e Gestão de Águeda – Universidade de Aveiro*. The findings of needs analysis were considered in the designing of the course syllabus and the effectiveness of a genre approach was analysed within the field of ESP.

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Introduction

Discourses are tools – they do things. That is why they have evolved and thus their functionality determines their character. But because discourses are semiotic tools (and therefore unconscious) they are generally taken for granted in discussions of twentieth-century technology, which focuses instead on designed tools – the material products of conscious invention. Nonetheless, it is the unconscious and evolving discourses of our culture which engender all consciously designed systems. And without a robust interpretation of these discourses, any understanding of the development of material technology in our culture and the ways in which it can be mastered (and masters us) is necessarily incomplete.

(MARTIN, 1993:221)

The study of genre as an approach to teaching and learning English has become an issue of interest among language teachers and theorists within the field of linguistics throughout recent times. The change of focus on the role that text plays in the classroom, and the fact that it has become accepted that context and communicative needs play a vital part in the way language is used, requires that a number of different dimensions be taken into account when preparing materials and designing language courses for specific purposes.

My work focuses on the English taught at the level of higher education in Portugal, namely in the case of the first year students of the Electromechanical and Electrotechnical Engineering courses taught at *Escola Superior de Tecnologia e Gestão de Águeda – Universidade de Aveiro*, during the school year of 2003/2004.

The reasons which lead me to develop my research within the field of ESP, besides my personal inclination and interest in the area, had to do with the contact with students and professionals, with solid General English (GE) backgrounds, who floundered or found it difficult to cope with language, namely English, in specific professional contexts. These situations were very different, depending on the individual's academic and/or professional experience, be it reading scientific texts, presenting a report at a meeting, reading an instruction manual, explaining the malfunctioning of a machine, etc. The fact was that people felt that something was missing; something which was out of the scope of GE, and created an obstacle to communicating appropriately in specific situations. Some

professionals added that they felt that their expertise and professional standing were jeopardized in certain situations in which they were unable to communicate appropriately.

In the school year of 2003/2004, faced with the demands of a highly specific pedagogical context, I decided to develop my research in the hope of finding answers to the many questions which arose during the designing of a twenty-four lesson ESP course syllabus; questions which I was sure other teachers in similar situations had asked themselves, and for which I wanted to find answers. While researching the works of others who share my interest in the area of ESP, it became clear that not many teachers were sharing their experiences and contributing to the development of a theoretical framework which could provide answers to such questions.

The need to define a theoretical framework has to do with the fact that English for Specific Purposes (ESP) has found a place within the world of language teaching, but has not, unlike other teaching practices, supported its development with a consistent theory which validates choices and decisions made by the ESP teacher within the classroom, and when deciding upon materials. ESP has essentially remained specific in its interests and aims, but general in its materials and methodologies. It became clear to me too that ESP is pertinent when addressing highly specific needs, especially within the context of higher education, where students are not only learning a foreign language for general and highly specific purposes, but using it in order to access specialist knowledge.

I therefore decided to make use of two theoretical perspectives which recognise each others' relevance within the context of language learning, namely Systemic-Functional Linguistics (SFL) and Genre Theory (GE), but which have not yet been combined within a single consistent theory, alongside the analytical tool of Needs Analysis (NA) in the area of Electromechanical and Electrotechnical engineering.¹ The specificity of the language needs of the first year students of Electromechanical and Electrotechnical engineering required an approach which took into consideration their professional and academic requirements. A course had to be tailored to the learning needs, wants and lacks of these students, who were in a highly demanding pedagogical setting, namely Project Based Learning.

My major objective became to furnish students with tools which would avoid making English a course of limited applicability which would cease to be meaningful when the year was over and exams were passed.

¹ John Swales' work in the field of genre analysis and its application to business and academic contexts of communication has been extremely important in sustaining the applicability of genre-analysis to different teaching and learning requirements.

This work is divided into five chapters which discuss in detail the stages that I went through in order to test the applicability of the theoretical framework chosen, namely the bringing together of Systemic Functional Linguistics (SFL), Genre Theory (GT) and Needs Analysis (NA), and its consistency with the designing of courses which are aimed at furnishing individuals with highly specific needs with the necessary tools, skills and competences that will not only expose them to a variety of professional genres, but will also allow them to become more autonomous in the management of their professional language needs in the future.

Chapter I contextualises the pedagogical setting I worked in, namely the environment of Project-Based Learning (PBL), which was of extreme importance not only because of the type of learning needs it generated, but also because of the type of activities and skills it required. In this chapter, I also discuss the relevance of my work within the context of higher education, bearing in mind the relationship between students' needs and the target communities' needs from the point of view of language learning, and the development of communicative language competence².

Despite the importance of addressing local concerns as I shall discuss, one should not forget the global setting which learners are part of, as it brings about requirements of another nature which the teacher should take into consideration, especially in the context of ESP

Chapter II explores, discusses and proposes the reasons why Systemic-Functional Grammar, Genre Theory and Needs Analysis allow the ESP teacher to gain a better insight into the discursive practices of the target professional communities which the students will be part of, and why that is relevant from the point of view of language learning, as well as a greater confidence in the selection of materials. The aim of the chapter is also to explain and sustain a perspective of language as a means of creating meanings within contexts of culture and situation, and not just as a set of rules. This chapter also highlights the relationship between ESP, technology and genre awareness as an empowerment tool. These in turn are evaluated as contributions to the development of transversal skills that encourage learners to develop a life-long learning perspective.

Chapter III addresses the methodology adopted to carry out this work, namely the reasons for choosing questionnaires to obtain a profile of each company, as well as their needs and expectations regarding the future engineers' English skills and competences. This chapter also provides class profiles and the analysis and discussion of the

² As understood by the Common European Framework of Reference (1998), Council for Cultural cooperation, Council of Europe, Strasburg, 1998, p. 14.

consequences of such information for the designing and development of the course syllabus.

In Chapter IV I put theory into practice by presenting a selection of tasks which were part of the students' workbook and which illustrate the way in which different approaches, within this framework, were put into practice. Each task is then accompanied by personal comments on what had positive results, what brought about greater difficulties and why.

The issue of evaluation shall be discussed from the point of view of the tasks proposed in class, and the way in which such activities can motivate students within a Project-Based Learning (PBL) environment.

This thesis is an attempt to produce some groundwork that I, as an ESP teacher, would have liked to have encountered when starting out on this endeavour in a Portuguese context. I would have found it helpful to have a description of another ESP teacher's experience in starting off on an adventure such as this one, which is exhausting at times because most ESP teachers feel they have to go about inventing the wheel again. This is especially so because teacher training in Portugal is still catering essentially for General English needs, leaving the ESP teacher in a no man's land. Not much work has been published in Portugal on ESP experiences with Portuguese students who have highly specific needs, and who require immediate answers. Journals have started to be published in the area of ESP, namely those related to translation of specialist usages of language. This is the case of *Confluências*, which focuses on scientific and technical translations, encouraging teachers and researchers to share their experiences and work. I think it is of the utmost importance to develop work in such areas in Portugal given the lack of tools and specialists to assist professionals working in different fields.

Most of my readings provided me with information and experiences of teachers working in other countries, especially in the area of English for Academic Purposes (EAP). However, I found little reference to other teachers who have adopted a genre-approach in order to introduce students to professional discourse practices, other than the academic community. I did not consider traditional approaches to EBP appropriate for the contexts my students would be needing English for, for reasons I shall discuss further on.

It is important to consider that the kind of theoretical framework chosen is deeply related to finding answers for very specific needs, considering the highly specific roles the students will be required to carry out in varied professional settings. The profile of the individuals we aspire to have within a specific social and professional context is also an aspect which is present in the philosophy of every higher education institution and which bears an influence also on the way in which a syllabus is designed. In this case, and

bearing in mind the general aims which have been pointed out by the European Union, the aim is help students become autonomous individuals, aware of cultural differences and of the importance of learning a foreign language as a means of becoming an active citizen in the global village we are part of. Alongside these aims, the objective was also to furnish students with an attitude which would encourage them to view any learning experience as a life-long process.

To sum up, my central aim was:

- to define a theoretical framework of support;
- to adjust language teaching strategies to language needs;
- to refine the choice of materials;
- to motivate and sustain motivation.

Chapter I

Contextualization and relevance of this study

1997 It may well be that the case that the English language has already grown to be independent of any form of social control. There may be a critical number or critical distribution of speakers (analogous to the notion of critical mass in nuclear physics) beyond which it proves impossible for any single group or alliance to stop its growth, or even influence its future....If there is a critical mass, does this mean that the emergence of a global language is a unique event, in evolutionary terms? It may be that English, in some shape or form, will find itself in the service of the world community for ever.

(CRYSTAL, 1997:139-40)

The present international context is a complex one, reflected by the specificity of the demands made on languages and language learning. Once again the call for new theories and methodologies in the area of language teaching and learning has to do with the political, economic and social motivations that have changed the requirements on the individual's communicative competence in a foreign language. These requirements and the need to explore new perspectives of language are the recognition of the fundamental role that languages play in the identity of nations, and reveal that arguments of nationhood will imply language policies that take into account the social dimension of each individual. The international requirements for language teaching today are quite different from those which resulted from the mobility that characterised the period after World War II. Today, more than preparing individuals for situations of mobility, language teaching has to provide learners with skills and competences which allow them to be autonomous learners on a life-long basis.

Conscious of the need to change the way English is taught to students with highly specific needs at the level of higher education, throughout this chapter, I discuss the relevance of issues which influenced my personal and academic motivations to carry out this work.

This chapter is divided into three distinct fields of discussion. The first section discusses the influence of the international context on the call for new theoretical perspectives and methodological approaches to the teaching of English as a foreign

language. I also discuss the consequences of the recognition of variations within English on the way in which English is taught to Portuguese students at the level of higher education. The second section explores and discusses English for Specific Purposes as an approach to language teaching, and the place of ESP in the context of higher education in Portugal. In the third section, I discuss the importance of the pedagogical context which I work in, namely that of Project-Based Learning, and its bearing on the choice of an ESP approach to language learning.

1. English and the Tower of Babel

1.1 *Lingua Franca*? World English? International English? Global English?

The way in which societies have developed at the level of international communication and the need to have a single international language led English to occupy a unique position as the language of international communication. Despite the importance of other foreign languages such as French, German and Chinese, it is a fact that English has come to play the role of preferred medium at the level of international communication, despite the importance that other foreign languages have had in international communication, namely French.

Several authors have addressed and discussed this issue, given the consequences that English as a lingua franca has on the development and evolution of the language as a mother tongue. Unlike other languages, English has been influenced by its function as a tool in business contexts, as well as by the standards which have regulated its evolution in other countries, namely in India, South Africa, Canada, New Zealand, Australia, etc. While other languages are exposed to factors of change which are integrated into the norm, English is exposed to a usage which makes it difficult to establish a norm. The parameter of appropriateness is constantly challenged by non-native speakers who recognise the validity of certain lexico-grammatical choices and who force English to serve the functional purposes that regulate the interaction between participants in diverse contexts of communication. Such a use of English makes the establishment of a standard, or norm, painful in the sense that it is not recognised by users.

Görlach (2002) and McArthur (2003) refer to three main distinctions which have come to be made when referring to English as a lingua franca, which in itself is a sign of the lack of identity which they feel some Englishes have at this moment. The acceptability of the word Englishes by many is revealing of the variations which co-occur and co-exist. The first notion is that of world English "*which covers every kind of usage and user*". They then

identify a second notion which is International English which “*depending on context, covers both Standard English (...) worldwide and the kind of common-denominator business English (...) used by natives with non-natives and non-natives with one another*”; the third, and most recent way of referring to the status of English as a lingua franca, is global English “*which runs parallel with economic globalization*”. The fact that these distinctions have been made is evidence of the changing nature of English, and the need to find a new identity for a language which has been forced to cope with unlimited demands. These concerns call for new theories which can account for the way in which English has been able to fulfil the communicative needs of so many different nations. In turn, the need for new theories is also an indication of the social and political significance that English has acquired in different societies.

Many discussions have focused on the consequences which the adoption of English as a ‘default’ language has on other languages, and the extent to which this may contribute to the slowing down of scientific and technological development within countries with minority languages, since most scientific research ends up being translated into English as part of the process of being considered relevant by peers, when not produced entirely in English, side-stepping the importance that mother tongues have on the scientific and technological development of each society. Portugal is not an exception.

I share the opinion that it is vital that each country should preserve its intellectual property by requiring that scientific production come about in the country’s official language, as well as in English, in this way contributing to the scientific and technological development of the societies of which the researchers and scientists are part of. This is a concern which Portuguese researchers working in the field of Terminology have been discussing, alongside colleagues of other countries who share the same concern, and who have been developing tools which contribute to the conservation of Portuguese as a system which is able to represent scientific and technological research.

Görlach (2002) is one of the authors who shares this concern when referring to the dominance of English as the language of progress:

If global English comes to dominate (at least conceptually and terminologically) in forward-looking domains such as science and technology, commerce and scholarly publications in all fields, this is a threat to the status of traditional standard languages making them become marginalized, impoverished, second-rate and finally limited to the arts and literature, to informal uses, and various discourse types expressing national identities.

(GÖRLACH, 2002:16)

The demand which has been placed on English to cater for the most varied communicative needs has 'deculturalised' it to a certain degree, in certain settings. However, it has been precisely this tool function that English has come to have which has given rise to the need to preserve each country's mother tongue. This is of the greatest importance because other languages are being called on to expand and grow in order to provide the different scientific communities with other languages, besides English. In other words, instead of depending on English to communicate within specific fields of study, for example, many languages are making an effort to provide equivalent terms. This means that scientific knowledge and the access to such information will not be limited to English. Therefore, presently, all languages are being required to meet the challenges and demands of the international context.

A different approach to language teaching and learning is therefore required in order to cope with such changes at an internal and external level concerning English. The awareness of a period of change started to grow in the 70s, when the issue of what constituted the standard language to be taught in English speaking countries and abroad brought about serious problems related to what was considered acceptable when communicating in English. The variations within English were forced into the highlight of such discussions and teachers and researchers came to understand that the aims and purposes of learning English around the world could not comply with 'native standards', which should not be perceived as a negative aspect. The acceptance of variation within English, while bringing about difficulties in deciding on what to teach, undoubtedly embraced the real world requirements which have to be met when teaching English as a foreign language. The recognition of diversity and variation within English also called for different teaching strategies which include exploring native and non-native varieties in the classroom. The recognition and acceptance of variation was extremely important from a teaching and learning perspective, because the starting point and motivation to learn English is different in the case of native and non-native speakers. The fact that English is taught as a foreign language means that it is a complementary mode/medium to the language which the speaker, the Portuguese speaker in the case of this work, already has. English is therefore seen as having different uses according to the learners' personal learning needs. In the case of business communities, English is a necessary tool to negotiate meaning in specific contexts; for engineering students it is a way of accessing specialist knowledge and communicating with other specialists. English learning, like any foreign language learning situation, will always be determined by the speaker's culture since it does not take place in a vacuum; the individual already has a perspective of the

world; a set of values and attitudes which are the environment in which English will be set. There is therefore, from my point of view, no reason why students should be subjected to native speaker constraints, when they are not native speakers of English. This argument will apply to the native English speaker to whom English shall never be a *lingua franca* because it is his/her native/mother tongue.

When English was first referred to as a *lingua franca*, many reacted against this label considering it as the ripping away of its cultural dimension. I can appreciate this perspective which is still well alive today, but I do think that the factual evidence of the role that English has come to play should be accepted and seen as having provided people with the opportunity of sharing a medium which allows different cultures to express themselves. This issue is still at the centre of many heated discussions, but I have come to think that English, like other languages, will accompany the needs of those who resort to it, in order to accomplish their communicative intentions, and that, I think, can only be seen as being extremely positive for any human being to be able to overcome the constraints of a single language and to be able to use another language in order to communicate with the Other. The advantage of a language which can be used by people who speak different languages is that it provides a medium which allows for a more middle-of-the-road contact with another culture, in which both make an effort to reach mutual understanding.

The complexities which surround issues such as face-saving and politeness are acquired through time, but simpler register variables can be taught and learners' can be made aware of the way in which these variables are activated within specific communicative contexts, which is why I believe a genre-approach to ESP is an advantage. Görlach (2002) states the importance of making students aware of the real world variations in English, which are not always in conformity with the norm, but which are still valid:

One of the consequences (...) is that ELT should increasingly make some use of varieties, including regional/national standards, outside England and the United States, and selected non-standard forms of English in order to increase comprehension (teachers pointing out that languages are necessarily heterogeneous), but should draw a clear dividing line when it comes to the learner's active competence.

(GÖRLACH, 2002:12)

What then is the 'clear dividing line' that separates the students' active competence from non-standard forms of communicating?

The concept of standard or norm is of obvious importance in the context of English teaching, but it is also essential to teach learners that language is dynamic and will submit to the rules of usage, because language represents the social contexts in which it is used. While it may be possible to advocate and more easily maintain a norm which regulates the use of written genres, this is not the case at the level of oral texts, in the sense that the natural evolution of language cannot be stopped because oral production is more sensitive to change given that its development is not constrained by institutional and societal rules. Like in any language, the appropriate use of written genres is a process of socialisation in the sense that these have to be taught and learners need to be made aware of the functions they serve in specific discourse communities. When change takes place in society, language will accompany that change, and language teachers should keep up with what language does in society, and bring that usage into class. Language learning stands alongside the most recent developments in science and technology, and teachers have to be prepared to address the ways in which the different discourse communities adapt and generate different forms of communicating in order to get things done.

The recognition of varieties within English, and the fact that these variations have brought about their own standardized linguistic behaviours, has raised the question concerning the validity of certain choices, and the way in which the uncritical acceptance of certain varieties may put the linguistic concerns of a scientific community at stake, as Görlach (2002) mentions.

There is a danger that in a field characterized by emotional judgements and plausible-sounding verdicts and all-to easy solutions a discipline that urgently needs the utmost objectivity and methodological rigour may slide into narrative exposition by self-appointed experts.

(GÖRLACH, 2002:1)

This is a legitimate concern which can be addressed by theoretical frameworks which are able to consider such varieties as part of the phenomena to be studied.

However, I think it is important to understand that if it had not been English to take the centre stage as the *lingua franca*, another language would have done so. For some reason the number of people studying Chinese has risen. During the informal conversations with the respondents of the questionnaires handed out in the professional discourse communities, many of them mentioned that the most important languages at the level of international communication were English, German and Chinese. Spanish was also considered to be essential, given its recent growth in countries such as the United

States. It has been one of the few languages which has managed to cross the linguistic boundaries of English speaking countries, namely in the United States, and this will have practical consequences on the social status of the language in a very near future.

Although intercultural issues are not the main issue of my work, they are obviously always present, because learning a language is learning how to develop a different perspective of the world.

1.2 Standards in English

Learning a language means becoming aware of the rules which regulate the way it is used within a discourse community. By association, teaching a language means showing learners what a certain discourse community finds acceptable, or not, in its daily routine. Therefore, studying a language means learning how to say and write things correctly, as it is the standard, or norm, which establishes the boundaries of what is more or less appropriate.

By focusing exclusively on the norm, teachers risk excluding varieties and variations to the norm which are nonetheless acceptable to members of different communities as these variations regulate their discursive practices. Teachers should therefore expose learners to different registers and diverse ways of getting things done when using language, drawing students' attention to the fact that standards are politically and not linguistically determined. Hence the power of languages.

Linguistic norms determine pronunciation, spelling, grammar and vocabulary. In the case of English teachers who are teaching the language in foreign countries, as a foreign language, the issue of what standard to follow - British English or American English – often arises. Choices are usually made according to the teacher's personal inclination unless there is an official position regarding this issue within the teaching institution, or on behalf of the Ministry of Education. In the case of Portugal, most teachers adopt the standards of British English because that is the standard traditionally preferred in textbooks for reasons of cultural and historical identification. I too tend to prefer British English for personal reasons which have to do with the norm adopted in the South African education system in the 80s where I undertook a substantial part of my schooling. However, I have to admit that most of the students I have worked with throughout the last eight years are more exposed to American culture and, consequently, tend to unconsciously adopt the American English standard which is the result of their contact with songs, American films, the Internet, etc. I have never imposed either British English

or American English norm on any of my students. I draw their attention to the most relevant distinctions regarding spelling, because there are systemic distinctions (and therefore, one or the other form has to be chosen) which need to be accounted for, and then encourage them to be coherent in their choices. I believe that students focus less on this issue when studying because their choices do not interfere with their ability to get their message across. Given the general tolerance with regard to the two standards, I do not discuss these differences in detail. Instead, I draw students' attention to these differences when these are relevant to the context of situation.

The fact that English is used in international contexts, namely in the European Union, will have consequences on the norm which regulates the acceptability of oral and written genres. As I have already mentioned, standards and norms in languages are the result of political determinations which is why English, as a language which is forced to address the communicative needs of different nations, will undergo changes which are the direct result of institutional requirements brought about by the EU.

Conscious of the fact that teaching a language requires that a standard be upheld in class made it all the more important to make students aware that norms and standards are politically bound concepts which have nothing to do with the natural evolution of language. The fact that language is a social phenomenon leads it to conform to the rules which regulate the interaction between individuals in varied social contexts, in which social roles are carried out. For this reason, institutions norm imposing role will also determine the way in which language is taught and perceived as being appropriate or inappropriate.

2. English for Specific Purposes in Portugal

2.1 English for Specific Purposes and its relevance in the field of English as a Foreign Language (EFL)

ESP is by no means a new approach to language teaching for teachers who have taught students with specific learning needs. Teachers and researchers know that different people, in different contexts, have different learning needs, hence the branching of ESP into English for Academic Purposes (EAP), English for Business Purposes (EBP), English for Occupational Purposes (EOP), among others, which is representative of the different occupational contexts in which people are required to be communicatively functional. However, in spite of this narrowing down into specific areas of ESP, teachers are still constantly faced with students who have highly specific needs, needs which cannot be addressed from traditional ESP approaches. Despite prior knowledge that the students have such needs, the courses designed are seldom based on the know-how that

the professionals are expected to have when faced with specific situations and tasks, and when teachers are alerted to needs, it is from the perspective of the students. This means that most ESP courses are based on learning needs and wants, because that is what makes individuals look for complementary training in language learning. However, such an approach leaves out lacks, and these have to be accounted for in order to address needs and wants. This is one of the areas in which NA provides invaluable information since the only way to introduce students to professional discourse is becoming better acquainted with the routines of these professionals (for detailed discussion on NA, see Chapter II).

It is easy to find various English for Business Purposes courses in language schools which cater for the needs of those who may have attained acceptable competency in General English, but who come to a point in their professional or personal lives where they are able to identify specific learning needs, given the target situations they are required to perform in, but the offer in other specific areas is sparse.

After having carried out needs analysis in the target communities, it became obvious that unless I acquainted myself with the genres generated by the different communities, it would lack applicability and the ability to address *learning needs* and *target needs* appropriately. This was a situation I was confronted with when designing the course syllabus, and which made me avail myself of the potentialities of NA. There were topics which I thought would be relevant, within a business context, namely taking part in meetings and presenting facts and figures. However, after carrying out NA in twenty-one companies of the electromechanical and electrical sectors in the city of Águeda (see Chapter III – Methodology), the results showed that the written and oral genres more frequently required in these communities were telephone calls, socializing while prospecting for clients, writing emails, and reading instruction manuals and other procedural texts. Had I not carried out NA, I would not have been aware of the passive and active skills that students are required to have within a specific professional context in order to communicate appropriately. Had this been the case, my course would have been English for Specific Purposes, but it would not have catered for the specialized requirements that those discourse communities have.

Does this mean that some ESP courses are pending towards General English courses in certain cases? Perhaps. The ESP teacher cannot hope to be a specialist in all the areas that have specific communicative needs, but a teacher can investigate the target community, talk to the competent speakers within that discourse community, and combine specialist knowledge with the teacher's know-how. If the teacher does not carry out NA,

and depends exclusively on the common-sense knowledge s/he has of the community, then in fact that ESP course risks falling short of its objectives. Teachers should recognise the important contribution that target communities can give in the designing of ESP courses. By doing so, ESP lessons are in fact contributing to the development of communicatively competent individuals who learn to recognise the genres that a specific community generates in order to get things done, contributing in this manner to the development of more competitive industrial sectors.

The complexity of defining ESP, which has already had time to mature in many areas, shows the tensions among the professionals working in this field, for there is still no definition of ESP which gathers consensus. For some teachers and theorists, ESP is teaching English for any specific purpose, while others tend to relate ESP exclusively to academic or professional contexts. This is evidence of the need for a theoretical basis upon which ESP can justify the choice of certain practices.

There has been a gradation in the way ESP is defined. I will start from the view propounded by Tony Dudley-Evans³ (1997) who, based on Strevens (1988), points out some characteristics considered absolute to the field of ESP. These characteristics show that ESP can be considered a methodology.

1. *ESP is defined to meet specific needs of the learners.*
2. *ESP makes use of underlying methodology and activities of the discipline it serves.*
3. *ESP is centred on the language appropriate to these activities in terms of grammar, lexis, register, study skills, discourse and genre.*

(DUDLEY-EVANS & ST JOHN, 1998:3)

ESP has been enriched with perspectives that I will present further on in my discussion.

These central characteristics illustrate that ESP works alongside specific content subjects in some cases, and in other cases depends on a specific profession's practices in order to create meaningful and authentic contexts. By doing so, the teacher is providing students with the context in which they will be required to use English, i.e. students are introduced to the professional communities' discourse, namely to ways in which language is used.

³ Dudley-Evans, along with Swales, has produced relevant work in the field of ESP, providing the concepts which have allowed for the development of ESP and Genre Analysis in particular.

Dudley-Evans (1998) also points out what he considers to be variable characteristics:

1. *ESP may be related to or designed for specific disciplines.*
2. *ESP may use, in specific teaching situations, a different methodology from that of General English*
3. *ESP is likely to be designed for adult learners, either at a tertiary level institution or in a professional work situation. It could however, be for learners at a secondary school level.*
4. *ESP is generally designed for intermediate or advanced students.*
5. *Most ESP courses assume some basic knowledge of the language systems.*

(DUDLEY-EVANS & ST. JOHN, 1998:5)

Several authors have noted the difficulty in establishing a clear distinction as to where GE ends and where ESP starts.

One of the absolute characteristics that Dudley-Evans and St. John removed from Strevens' definition of ESP had to do with the contrast between ESP and GE, which makes sense from my point of view, given that GE is always necessary ESP should not be considered a substitute for GE, but as a methodological perspective which addresses the areas which are not usually focused on in traditional approaches, precisely due to their specificity. Given what has already been discussed regarding the relevance of a standard in English, an ESP approach should expose learners to the lexico-grammatical choices which are representative of specific communities' ways of saying things and getting things done. While GE traditionally focuses on a standardised approach to English, ESP and a genre-approach will expose students to the challenges which result from the overlapping of genres in the real world. Knowing the standard is important so that different genres can be explored in order to meet different communicative needs in specific professional settings.

Attempting to separate GE from ESP, to my understanding, is a mistake, given that people are not likely to interact in only specific scientific and technological contexts, because communication is always at an interpersonal level. GE is traditionally the language of soft skills, i.e., it is the language which interweaves the specific purposes in which language is used for highly specific purposes. What is important to understand is that while GE caters for situations which are part of most users' personal daily routine, developing on a generalist perspective of the world, ESP deals with the needs which result from specific ways of seeing the world; perspectives which have been perceived and generated as forms of communicating within specialist contexts, situations in which even a native speaker of English might feel uncomfortable. It is undeniable that considering ESP as a form of developing technical vocabulary is simplistic, given that terms are only meaningful within a linguistic context. And that is where a genre-approach

to ESP makes a difference: by drawing on the social relations which underlie specific contexts, when teaching technical vocabulary within specific genre connected to specific purposes, the teacher is providing students with an insight into the professional discourse community that generates that specific genre and the purposes it serves.

In the case of my research, the ESP course focused on specific study skills too, and on the contexts of usage of professional genres that the students would be encountering in the future and which were chosen according to the findings of NA. These genres, as I shall discuss further on, are frequently the genres which students will deal with in their academic and professional lives, and therefore the analysis of data-sheets, for example, was a form of addressing both academic and professional requirements.

Another problem which was addressed through a genre-approach to ESP and the management of the syllabus had to do with the heterogeneous public which made up the classes. Students' previous learning experiences were different from each other (see Class Profiles, Chapter I), which required specific learning needs and wants. Some might argue that an ESP approach would not be the best choice in this specific situation, but given the expectations that the target community had, given the sparse classroom contact that this discipline entailed, given the amount of material to be covered, and given my own personal belief in ESP, I considered it the only possible choice.

ESP should therefore, as many authors have pointed out, be seen as an attitude, as an approach to studying language, as Dudley-Evans states. Hutchinson et al. (1987) also conclude that:

ESP is an approach to language learning in which all decisions as to content and method are based on the learner's reason for learning.

(HUTCHINSON et al, 1987:19)

I will take this further and include that the professional communities' reasons for learning are an added incentive to choosing an ESP approach.

The way in which ESP has developed has however shown that teachers in this field have come to identify themselves more with teaching for academic purposes than with ESP for professional purposes (might it be because they feel more comfortable with the academic context of culture?). A lot of research has been carried out within educational contexts, and interesting contributions have been made regarding the learning process of students who need English in order to study in foreign countries where English is the language of study. However, students' needs go beyond EAP, and the place to acquire specific means and methodologies is within the ESP classroom.

2.2 ESP in a Portuguese teaching/learning environment and its relationship with students' expected competences

Language schools have dominated the field of ESP for professional needs in Portugal. This has been the case because most schools and universities have not offered the general public the possibility of enrolling in courses which cater for specific needs, since most language syllabi are usually part of language and culture courses. And when there are ESP courses which aim at addressing specific needs, they are essentially directed towards general business contexts, and not the language which someone working within the field of Circuit Analysis is more prone to encounter in problem based contexts of communication. Therefore, there has been a gap in the Portuguese educational system as regards life-long learning opportunities.

The importance of developing life-long learning skills has started to preoccupy governments and higher education institutions, and ICT has come to play a vital role in overcoming limitations which might limit access to knowledge. It is therefore with great pleasure that I have seen some changes at this level, namely with the help of Information and Communication Technology (ICT). The access to further education in a field of study, which might be of particular interest to an individual, has not always been an easy process for people in Portugal. Education is costly and only throughout the last thirty years have most people started to have free access to education. Statistics regarding this issue are clear in illustrating the lack of opportunities that many young people have to schooling that would provide them with power and possibility of negotiating their professional future. Despite the costs and limited access that many people in Portugal still have to ICT – on the one hand this has to do with economical and geographical reasons, on the other hand, it has to do with the individuals' limited knowledge of the way in which e-learning, for example, can provide opportunities that would be impossible without ICT. Many disadvantages regarding the use of ICT have been identified and publicly discussed. However, I believe that the benefits which can be collated from the use of ICT for educational purposes are by far a more valid argument for the continuous use of such a tool in all classrooms. In the case of Portugal, ESP, in fields other than business English, does not have a long history in higher education. English has always been ranked as being important for university education, and it has been included in the different courses, and no one has suggested removing it, but what is the nature of these English lessons? Are we teaching lawyers, doctors, engineers, pilots, and soldiers the same sort of

English? How have these courses been designed? What priorities have been established? How specific does ESP have to be at a higher education level?

Anyone who has taught ESP knows that one of the problems that has to be dealt with at a certain point has to do with the high expectations of students and teachers. An ESP course consists of a number of decisions that the teacher has to make while considering the number of hours that make up the course and the nature of the students who are enrolled in it. However, the choices made by the teacher may not coincide with the students' expectations, because these tend to think that an ESP course is going to deal with their specific wants very much like the private lessons that they seek as a supplement to their formal education.

In the case of my research, my choices were based on factors such as:

- the reduced number of sessions per week (a two hour weekly session);
- the fact that students are usually employed by electromechanic and electrical companies in the city of Águeda (in many cases even before they finish their training) and therefore I had a target community at hand which could provide invaluable information about what these students are expected to be able to do, in English, as professionals;
- the fact that most of the students' bibliography is in English;
- and the fact that the students had different backgrounds regarding English study, use and motivation.

Given that first year students were not likely to provide me with accurate information regarding their future professional needs, they were questioned in order to complement the information collected by means of the questionnaire in the NA process.

As a teacher I have often questioned myself why so many professionals with acceptable General English have so many problems when faced with specific contexts of communication. Something was missing because too many years were spent studying English which was not furnishing students with what they needed to know in order to respond appropriately to unexpected situations.

Another question was how specific must ESP be? I consider that it should be as specific as it needs to be to guarantee that people are able to get things done, in a specific context. This means that the ESP teacher has to be able to decide what is more relevant at a certain stage, but always considering that the ESP class should be anchored in a General English background.

2.3 ESP teacher/GE teacher – is there a difference?

The fact that we should ask such a question presupposes that there is a distinction between a GE teacher and an ESP teacher. The difference has nothing to do with the academic background that each may have, because most English teachers come from a GE training, but with the way in which they approach language teaching.

The tendency to state that GE teachers are those who continue to address topics which are not specific to certain disciplines or contexts of situation provides a very superficial definition of what an ESP teacher is, but seems to define what is expected of a GE teacher: to provide students with a widespread knowledge which covers everyday areas. The difficulty in knowing what is expected of an ESP teacher has to do with teacher training: universities have not diversified the profile of the language teachers which are sent out to work in schools and institutions of higher learning. How is language teaching to change and avoid the need for teachers to constantly reinvent the wheel when addressing the specific needs of learners?

From my point of view, one of the main differences between an ESP teacher and a GE teacher lies in the relationship between teacher and student, and in content. A GE teacher will play a different role in the learning process, since s/he will control language and content. An ESP teacher will have to negotiate the traditional power relationship that is usual in a classroom where the teacher is the specialist, while the student usually has a more passive role. In an ESP classroom, there is a lot more sharing being done, the teacher is more of a tutor who guides students along more personal learning paths. The ESP teacher has to find a new identity because s/he does not have the specialist knowledge of the way in which specialist genres are used. This change of roles is neither an easy one for the teacher, nor for the students because these share a greater responsibility in their learning process, since it is usually more comfortable for them to trust the teacher. Students are used to getting a straightforward answer from a teacher, which does not always happen in an ESP class. Learners are invited to find answers alongside the teacher, which initially creates some lack of trust in the teacher's competences. However, throughout the year, my aim was to share certain methodologies in order to help students develop and adapt their own personal responses to the different situations they encountered. In the case of the Portuguese education system, only recently has the English secondary school curriculum included functional genres, and the contextualisation of language learning in order to accomplish a specific action. An ESP approach was therefore a completely new way of approaching English, for most students.

An ESP class has to be an opportunity for the interaction with specialists from other areas and the teachers should accept the advice on issues that they are not used to sharing with professionals from other fields. This does not mean that the GE teacher has an inflexible attitude and that certain interactions cannot take place in a GE classroom, but as I have mentioned before, ESP is an attitude which implies a change not only in the name of the course, but also in the contents and the way in which these are addressed, and which the teacher will have to learn about through consultation of specialists and NA. An ESP lesson should not be based on traditional classroom practices, neither should the designing of the syllabus focus on traditional sentence-based approaches to language, as different forces will be brought to bear on these practices. Changes have to be represented in new methodologies and classroom practices, as well as new course designing.

This is another aspect which distinguishes the ESP teacher from the GE teacher. Unlike GE curriculae which are usually given to the teacher who then devises strategies to teach the contents, having the possibility of using materials which have been produced for such purposes, the ESP teacher usually has a lot more preparation to do in the sense that s/he always has to start from the beginning, namely carrying out NA, analysing the results, designing the course syllabus and selecting materials.

Dudley-Evans and St. John (1998) define five key roles that the ESP teacher has, and which distinguish the latter from a GE teacher.

Table 1 – ESP teacher’s key roles (DUDLEY-EVANS & ST. JOHN (1998)⁴)

ESP teacher	GE teacher
teacher	teacher
course designer and materials provider	
collaborator	collaborator
researcher	
evaluator	evaluator

The fact that the ESP teacher has these roles makes the whole process a lot more complex and time consuming. It also requires a methodology which guarantees more focused results in response to the preparation which is carried out, given that the findings have to allow the ESP teacher to make choices regarding the different aspects of language that have to be acquired.

⁴ GATEHOUSE, Kristen (2001). “Key Issues in English for Specific Purposes (ESP) Curriculum Development” in *The Internet TESL Journal*, Vol. VII, Nº. 10, October 2001.

2.4 How does an ESP course syllabus gain substance?

In order to understand the choices made when designing the syllabus for the Electromechanical and Electrotechnical engineering courses, it is useful to take a brief look into the past of the development of syllabus design.

The development of syllabus design and curriculum development in ELT, and even more so in ESP, has long been an area of concern amongst all those involved in the process of teaching the language.

Social, political and economical happenings required changes to the way in which English was being taught, especially after World War II, as I mentioned briefly in the previous sections. The need to learn English in order to meet the needs of growing mobility led to the development of the situational approach, or the structural-situational approach or Situational Language Teaching, in the 1950s and 1960s. This was a time of great activity at the level of methodologies. In the United States, for example, in the 1960s, the Audiolingual Method brought about a new set of concerns at the level of language syllabuses too, which was closely followed by the Audiovisual Method developed in Europe. The attempt to provide answers for the new demands being made is a sign that no methodological approach is a final, complete answer; it is simply an approach to English teaching, at a certain time, to respond to needs which are generated by social changes. However, an essential element was missing in these new approaches: the consciousness of the learner's needs.

In 1969, the Council of Europe stressed the need to remove linguistic obstacles in order to promote cultural and educational cooperation, insisting on the need to learn foreign languages. This concern led to different assessment criteria to test learners' command of the language, namely levels of proficiency such as those proposed by the Threshold Level, which was considered '*the lowest level of general foreign language ability to be recognized in the unit-credit system*⁵' (Van Ek and Alexander, 1975).

It was during this period that ESP began to take into account specific concerns which resulted from practical situations, and which started establishing a difference between GE concerns and other forms of addressing new learner needs such as:

- the need to prepare non-native English students to study in American and British Universities in the 1950s (hence the developments in EAP);

⁵ The unit-credit system was defined as "An educational system in which the syllabus, curriculum or body or material (knowledge and skills) to be studied, learned or acquired, is broken down into a number of quantum units of work, each with its own precise definition of the terminal behavior to be achieved by the learner, all of the units being accompanied by a carefully constructed system of credit ratings. (Kingbury, 1971:11 In: RICHARDS, J., p.27)

- the need to provide individuals who had a GE background, with specific skills and competences for professional needs;
- the need to cater for people who used English for business purposes;
- the need to teach immigrants how to deal with job situations.

Nonetheless, there still seemed to be a lack in the methodological approaches, because the functional dimension of communication was not being considered, because the relevance of professional interpersonal relationships was still not being accounted for.

It was then that the works of Ewer, Latorre, and Swales in the area of scientific English provided ESP with the reference points which allowed teachers to approach the specificity of language, namely through the concepts of register and discourse type. It seems clear that the development of perspectives regarding the design of syllabi had to do with the growing awareness of the importance of the learner's participation in the development of language courses. This was done by engaging needs analysis, which focused primarily on students' needs. Most of the NA presently carried out still focuses predominantly on students' needs.

Syllabus design is therefore the reflection of the social changes and expectations that society has on the topic of people's ability to interact and communicate in society at a number of levels.

From this point of view, a syllabus should first of all have a social function in the sense that there is a strong link between the type of skills and competences developed in a classroom and the social dimension which brings about such needs.. For this reason, syllabus choices and curricula development should consider the individual as a complex human being, who is required to meet specific social and professional objectives successfully.

Education and consequently syllabi have to take into account the type of society that we live in and the responsibilities which are delegated on the education and training of learners in a specific society. Identifying the needs of the social institutions in order to complement the students' learning needs is, within this perspective of syllabus design, an obligatory stage (for a more detailed discussion on Needs Analysis, see Chapter II).

Autonomy and the ability to appropriately handle unexpected situations require skills and competences which can be developed during the learner's schooling, at all levels. This was one of the main aims of the syllabus I designed. The idea of belonging to a global village, where the concepts of multiculturalism are still issue for debate, and which need to continue to be discussed, has come to acknowledge that the differences between

individuals inside and outside national boundaries have new discriminating elements, one of them being the freedom of access to Information and Communication Technology, hence the relevance of including a technology-based approach to ESP too.

Multiculturalism is already a fact in the lives of our students today, and therefore issues which concerned us years ago, have come to be a natural part of young people's lives, at least in the lives of those who are able to freely access information. The big distinction now lies between computer literate and computer illiterate individuals.

The English syllabus I was required to prepare aimed at exposing students to ways in which the professional communities they would be working in construed and generated meaning within specific contexts of communication; i.e. introducing students to the professional community's perspective of the world.

The main aims of the syllabus I designed were the following, based on the findings of NA:

1. to identify the communicative intention of different genres;
2. to identify specific terminology and activate it appropriately according to the context of situation;
3. to use ICT as working tools in order to overcome various linguistic and communicative obstacles;
4. to become autonomous in their learning process and in the ability to develop life-long learning methodologies;
5. to infer information in different situations, with different registers, in familiar and unfamiliar contexts, and give appropriate responses;
6. to recognise the generic structure of different functional genres in order to be able to use them to communicate appropriately in specific communicative situations;
7. to develop tools and methodologies which will be useful in future professional and personal contexts;
8. to recognise and apply the standards of textuality;
9. to look for information and validate it, to research ideas and specialist opinions for different purposes by using ICT;
10. to become aware of the importance of cultural awareness in professional contexts.

An ESP teacher who analyses genres from fields as diverse as Thermodynamics and Circuit Analysis is not usually a specialist in each of the fields. The genres generated might be the same, but the lexico-grammatical choices may differ. There are cases in which a professional from a specific field carries out relevant work from a linguistic point of

view, but this is not usually the case. One might then ask: how can the course syllabus be designed if the teacher is not familiar with the content? This is precisely one of the many challenges that the ESP teacher faces, because the content is always new. It is also a strong argument in favour of NA. The teacher has to study and carry out NA in order to have a clear perception of what the teaching choices are. Needs analysis is not new to the area of ESP, but what distinguishes the decisions made during my research from the work that other teachers have carried out, has to do with the sample community I chose, which was the professional target community, and this had unexpected results which were taken into consideration when selecting and designing the syllabus. A more detailed discussion is provided in Chapter III.

Important contributions have been given in the development of course syllabuses as a result of NA carried out on student sample groups, and usually for academic purposes. Students are requested to identify their learning needs, although most of the time the feedback is incomplete, because the results will only reflect what students are able to perceive at a certain point of their learning process. They are usually unable to establish the difference between needs, lacks and wants, or learning needs and target needs. therefore, it is essential to complement student information. Bearing this in mind, I chose to carry out NA on the target community which has been employing the graduates from the Electromechanical and Electrotechnical Engineering courses lectured at ESTGA.

Considering that the companies from the electromechanical and electrical sectors would be able to provide the important information about the genres generated by them, I decided to take advantage of the close contact which was already established.

Carrying out needs analysis implies that what the target community has to say does count and that their contribution has to do precisely with the fact that they are only concerned with the future engineers' communication requirements, and the genres that are used in order to make this communication work. The rest is left up to the specialist, who is the teacher; the person who has to design the syllabus by integrating the information that the community has provided. Therefore, from my point of view, there is no risk of overlapping competences when care is taken to discuss the information obtained from the communities' informants.

Respondents recognised the importance of having qualified professionals, but pointed a finger at the lack of interaction between higher education and professional communities. Both have a lot to learn. Some admitted that it would be interesting to have ESP courses at the university after working hours. Most of their personnel either enrol in courses organised by the Industrial Association, or else the companies hire teachers to teach

intensive ESP courses at the companies. The end result in this case is usually an ESP business course which is already prepared and taken out of a general menu, and based on perceived needs and not confirmed ones.

Considering that I am not a specialist in any of the areas of the students' content subjects, I had to depend on colleagues to become better acquainted with certain practices carried out in each subject.

An ESP syllabus should therefore be seen as a point of convergence where different participants give different contributions in the designing of the syllabus which embraces various real world situations of communication

2.5 Who then participated in the building/designing of the syllabus?

An ESP syllabus is not a ready made programme to be pulled out of the drawer and presented to students year after year...At least this should not be the case. An ESP syllabus, which results from NA, brings in different professionals who do not usually participate in the designing of such courses. NA is an ongoing process which requires continuous interaction between the teacher/students/professional discourse community and content subject teachers, which was the case of my syllabus.

If we are to recognise the valid contributions that each participant can make, then this should be represented by a syllabus which reflects the usage of language in situations which address students' specific needs at different levels.

I aimed at developing a syllabus which would be in accordance with the students' curriculum, as well as with their learning needs and of the target community's needs, and in this way providing students with a learning experience based on the specific philosophy which underlies a Project-Based Learning (PBL) curriculum.

Assessment was the area which was more difficult to adapt in such a short period of time given the way in which the Engineering students' school year was organised and the number of English lessons. My discussion of evaluation therefore focuses more on qualitative than quantitative results. In order to discuss evaluation in depth, I would have had two sample groups exposed to different strategies, which is what I intend to do this year, in order to further my conclusions as to the validity of a genre-approach to ESP.

2.6 Material in the ESP class – how important is authenticity and is authenticity possible?

Carrying out NA helped me to immediately distinguish and prioritise the different competences required of future professionals in the electromechanical and electrical

sectors, and allowed me to gear my management of the curriculum with regard to the four skills.

Given that I had the information about the professional genres, and the way in which these were used, the materials would have to be representative of this effort to bring authenticity into the classroom. Today I would have complemented this information with observation in order to get a clearer idea of the sectors' communicative routines.

The issue of authenticity in an ESP approach, and more specifically for a genre-based perspective, is of major relevance. The degree to which authenticity can be brought about in an environment where the purpose of communication is to break down different phenomena and make them perceptible and understandable to learners is indeed a complex task. Bearing in mind that genres exist because of other genres which generate responses in forms considered acceptable and appropriate by the members of a discourse community requires, one again, that the student be encouraged to play an active role in the learning process. The effectiveness of role playing or simulating interaction which usually takes place within a business context is based on the understanding of what genres are, and what they bring about when being used. Genre awareness and a clear understanding of the aims of a genre approach ascribed a specific role to texts in the classroom. Students were aware that they were not being exposed to a random text repertoire; they understood that they were being exposed to forms of communicating which would, in most cases, only occur in the context of apprenticeship. Although the awareness of the genres generated and used by the professional community was in no way a substitution of the knowledge acquired during a period of apprenticeship, it was a form of providing students with an insight into the discourse patterns of the professional community they would be part of.

For methodological purposes, I put together a workbook which guided students through the course, providing them with a safety net which they could recognise and relate to when dealing with a language teaching methodology which was new to them. The workbook was divided according to the competences which were to be focused on which helped draw students' attention to what would be required of them in different situations.

The workbook was divided into the following units:

Unit 0 – Theoretical considerations and contextualization. In this unit a selection of different genres were chosen, such as bumper-stickers, smilies, cartoon symbols, and

students were asked to analyse them and comment on the way in which content and form come together in conveying meaning successfully in specific contexts.

Unit 1 – Personal and Professional Genres which focused on a set of texts that establish links between different groups of professionals and between the individual and the community. Personal professional genres are the stepping stone into a company. Here, the following genres were explored: CVs, covering letters, job advertisements and interviews. The aim was to make students aware of the fact that, like words, genres do not occur in a vacuum, they are the way in which exchanges and ways of organising information have come to be considered acceptable by different communities. Given that students usually encounter genres in their environments, the task was to make the variables clear.

In *Unit 2 – From specialist to specialist*, students were exposed to genres which have developed certain moves according to the needs of specialists within different fields. Here they were led to establish a difference between general professional genres which allow different communities to communicate with each other, and those which have a narrower target audience and moves which were associated with the individual's knowledge in a specialised field of knowledge. Examples of genres in this unit were abstracts and data-sheets.

Unit 3 – Extensive Reading aimed at diversifying the types of genres analysed in class. Besides moving away from technical and scientific genres, in this unit, the changes brought about by technology on the way people communicate was explored in the short-stories selected. Students' attention was drawn to the overlapping of oral and written genres and the way in which boundaries have become more difficult to establish considering the role of ICT.

Unit 4 – Translation, Terminology and Technology, which included scientific articles and chapters from the bibliography of content subjects which introduced students to the basic concepts of the field. In this unit (as in all of the lessons), students were encouraged to use online tools, and to develop their personal glossaries within the context of a specific content subject. This unit was assessed by means of the presentation of a mini-project which students developed in class. In groups, different themes were chosen according to a specific area of one their content subjects, and online tools were developed in which Portuguese and English were compared and contrasted. This activity was particularly productive because students chose subjects in which they had greater difficulties. These online tools were then reviewed by me and colleagues of content subjects. It was interesting to find that the outcome of the glossaries allowed the content subject teachers

to get a clear feedback on students' understanding of what was being taught. There does seem to be space to develop interdisciplinary projects which can be extremely enriching both for students and teachers.

It is pertinent to mention at this point that, unlike some ESP teachers who find collaboration with content subject teachers a complex issue, I was fortunate to have a group of colleagues who were always available to assist me when doubts arose when addressing disciplinary contents and practices.

Classroom practice was complemented by the *webct*⁶, which has been replaced by the *Blackboard*, and which required that students develop their skills in Computer Mediated Communication, which has brought about changes to barriers which traditionally separate oral and written texts. I shall discuss the importance of ICT further on in this chapter.

Given that students were not familiar with the professional context in most cases, and therefore unaware of the genres generated by the target community, they were sometimes unable to grasp the usefulness of dealing with certain genres. This made me understand that it was not always efficient to introduce professional genres which students could not relate to in any way. Second and third year students had different reactions because they were already developing projects and were therefore familiar with the genres and more able to identify their difficulties in dealing with that particular text type.

Material such as software manuals and instruction manuals were brought into class by the students, and were either material that they had to work on during the projects, or else, in the case of working students, material that was part of their professional context. Students were constantly encouraged to bring their communicative problems to class, which resulted in a variety of materials too large to be dealt with in one year.

2.7 Expectations regarding ESP: students', teacher's, target communities'

Considering the promise that ESP seems to convey, students build their personal expectations regarding their ability to communicate in English and expect their problems to be overcome in an ESP class. This contributes to the building of motivation and provides the students and teacher with the necessary signposting of the specific aims of the course. However, it also generates expectations which might be inappropriate in the context of a specific course.

⁶ The *webct* is an online platform which provides teachers and students with necessary support to carry out e-learning. The platform can be organised according to each particular learning environment, providing teachers and students with the appropriate tools which guarantee learning opportunities and CMC.

An ESP approach requires that the students have a solid General English background. I do not agree that ESP can be used at the beginner level. Having said this, I found that ESP was productive at a false beginners' level, for it provides instruments that further the students' autonomy, even if their linguistic competence is not solid.

Just as there is space for high motivation, this can also give way to disappointment, because an ESP course is not a private course at an individual pace, which is why it is important to share expectations at the beginning of the course, so that realistic aims are set.

None of these issues are easy to address, but research has managed to provide some theories and practical suggestions which help the ESP teacher put what has to be taught into a realistic chronological and methodological framework. These issues which are so difficult to address when the teacher is making a number of choices simultaneously is why I found the need to anchor my work in a theoretical approach which would allow me to establish a number of guidelines, namely regarding aims, methodologies and practices and assessment criteria, and to help students understand what was expected in each situation.

This theoretical framework together with the practical suggestions therefore come together in a system of prioritising essential genres and skills which I explore in Chapter II, when discussing the theoretical setting adopted throughout this work.

2.8 Why choose an ESP approach?

Given the context I have described in previous subsections, it seems clear that at the level of higher education, in the global work context in which we find ourselves, students have to be furnished with skills and competences which allow them to become autonomous and flexible in seeking solutions to familiar and unfamiliar situations they might encounter throughout their professional lives. More than learning a set of grammatical rules, students have to understand that learning a foreign language is learning to look at the world in a new way, and that doing something in a foreign language, in a more or less appropriate manner, reflects upon them as professionals and as individuals.

2.9 ESP and Information and Communication Technology (ICT)

ICT proved to be essential throughout the entire school year, and my previous belief regarding the importance of technology in language teaching, was strengthened by the important contributions that it gave to the ESP classes.

I do not think that we can go on teaching languages without being aware of the way in which technology has changed people's organisation of daily routines. ICT has become part of our world and of our lives in such a way that ignoring it has social and professional implications. The speed at which new information is processed is no longer compatible with the exclusive use of traditional textbooks and traditional classroom methodologies. We as teachers must keep up with this change when working at the level of higher education, and given the responsibility we have of constantly exposing our students to the most recent findings, we must furnish them with tools and methodologies which help them to keep updated information in their everyday professional lives. The relevance of specific approaches to language and the process of language learning will only make sense to students when ESP appeals to their field of interest.

Given the fact that the students and I only met once a week for two hours, I decided to expand the classroom by using the *webct* platform (which has recently been replaced by the *Blackboard*). This means that students were exposed to a new working environment which allowed them to manage their learning process according to their personal needs. The aim was not only to expand the time spent studying English, but to encourage students to further their education by means of ICT.

Students were surprised with how much they were expected to do given their previous English learning experiences. Our methodology had more to do with the one adopted in other content subjects, which also helped them understand how English serves different purposes.

The virtual classroom provided students with different situations. The platform had a number of files which gave guidelines for a number of areas, namely studying skills (preparing reports, preparing oral presentations, information on how to document and quote different sources, etc...); class summaries; classroom activities; worksheets and corrections; links to online dictionaries, thesauruses, glossaries, data banks, etc. This platform was particularly helpful for working students who made online appointments for chat room sessions given the impossibility of coming into class.

This platform was therefore fundamental for the work carried out through the year, and led students to develop a new approach to the advantages that ICT and to learning English through this means, recognising the mutual benefits and symbiosis they generated

2.10 Technology-based ESP – from analysing needs to developing workplace communication systems

Technology has come to occupy a place within society and within professional environments which requires that individuals be technology literate. By this I mean that the way in which individuals acquire computer skills, or if these are ever openly taught, is hardly ever questioned since it is assumed that one is familiar and comfortable with technological settings.

In the case of my work, I was able to glean the importance of Information and Communication Technology (ICT) within the electromechanic and electrical sectors when analysing the role of electronic correspondence within companies. However, the importance of learning and acquiring skills and competences which enable the future engineers to be functional at that level was never openly mentioned, because it assumed that somehow and somewhere such competences have been acquired.

Considering the role that the *webct*, now the *Blackboard*, played in the English lessons, I quickly became aware of the difficulties that some students had in working with ICT effectively, which is one of the reasons why I encouraged students to explore the advantages of ICT not only within the scope of their learning process, but also as a form of extending their learning experiences in the future.

The results of NA allowed me to focus on forms of communication which simultaneously developed ICT skills and competences and genres generated by the professional communities.

By carrying out NA, I also hoped to collate data which would allow me to encourage students to acquire and develop working strategies which could be applied to any working context within their profession. NA was a way of identifying transversal skills which avoid limiting students to specific professional placements by developing a methodological approach to different communication situations. They were taught how to develop interdisciplinary solutions for different problems, namely developing templates which could be adapted to different situations and different companies. Consulting online dictionaries and tools in order to improve their skills in English and Portuguese also proved to have a positive outcome, since most students resisted printed dictionaries and were often unfamiliar with ways in which to go about dealing with unexpected situations. Therefore, it was also essential to encourage students to develop their personal studying methods.

The way in which ICT was explored in the ESP class showed students that working habits were changing and that they had to be able to keep up with changes by learning to adapt. The development of templates for different genres, for example, and exposing

students to situations in which they had to make choices in order to communicate appropriately, was an extremely productive approach because when making choices they were activating a number of competences which made their doubts more productive in the acquisition of a context based perspective of language use.

The fact that it was possible to have lessons in computer labs caused some surprise in students since they did not seem to understand how they could learn English by using computers. Thinking about the role that English plays in the access to specialist knowledge and addressing and analysing content subject texts helped to establish an interdisciplinary approach to learning which is not as easy to adapt to as many think.

Working in an environment which provides students with a foreseeable outcome regarding tests is not productive in the sense that it leads students to develop mechanical reactions to learning a language, which then contrasts dramatically with their ability to deal with real life situations which are not made up of neat and well known grammatical structures.

The genre-based approach adopted provided students with an organised way of dealing with unexpected situations in the sense that they would be able to establish a relationship between content and form and the context of situation. By comparing and contrasting genres learners became more critical of the quality of the texts produced, and allowed them to develop their personal criteria when producing and reading texts.

The advantages of a genre approach are developed in Chapter II and exemplified in Chapter IV.

By encouraging students to develop a hands-on approach to language learning, research skills were developed which led them to explore the potential of flouting certain genres in order to communicate more successfully. By being familiar with ways of doing things when language is used gave them an opportunity to make choices according to their communicative intentions.

ESP allows them to acquire competences but gives them opportunities to become agile in the use of templates, for example, and of the internet.

More than developing mechanised forms of dealing with language at the level of the sentence, it is crucial that students be taught to be autonomous by providing them with a framework which they can use as a starting point in any language, in any context, because they have become familiar with the different dimensions involved in the act of communicating.

3. Project-Based Learning (PBL) and ESP

The pedagogical context which I worked in throughout the school year of 2003/2004 was not only relevant because I was working with engineering students, but above all because the Electromechanical and Electrotechnical Engineering courses are based on Project-Based Learning which, in my opinion, is the attitude which underlies, or which should inspire, an ESP approach based on Genre Theory and Systemic-Functional Linguistics. Why? Because PBL is based on the perspective of learning by doing.

3.1 What is PBL?

Project-based learning is a pedagogical approach based on the belief that students learn by learning how to learn, i.e. an essentially learner-centred approach which encourages individuals to discover forms of solving problems as a form of learning. Students are lead to develop a greater understanding of the methodologies and procedures which allow them to access knowledge with greater ease. Teacher becomes supervisor, tutor, fellow colleague by assisting the students along a path full of uncertainties and doubts, but simultaneously full of challenges. By knowing more about him/herself, students are given the opportunity to make choices regarding their learning process.

For those who are familiar with this approach, it is clear that the teacher and student have to get used to a change in roles, just as the ESP teacher has to negotiate his/her role in a context which aims at providing an environment which motivates students to take the centre stage and develop an individual learning programme based on singular needs and wants. This context was therefore the ideal environment to include an approach to language which embraced learners' academic and professional challenges, needs, wants and lacks.

In the case of *Escola Superior de Tecnologia e Gestão de Águeda* (ESTGA), the students' three year BA is quite specific in the distribution of content subjects. The first year subjects provide basic knowledge which will allow students to face the challenges of developing thematic projects in their second and third years. These are then presented by the students in front of a jury made up of members of the professional communities and teachers who lecture in other institutions. This is one of the reasons why English is a first year subject, since it is expected that students will acquire a number of competences and skills which will allow them to use English to access specialist knowledge from diverse sources, to read and understand texts such as data sheets and instruction manuals which are similar requirements for performance in professional contexts. Given this specific

learning setting, English is required to address highly specific needs of students who are not required to have studied English in order to enrol in the engineering courses. The consequence of this, as the section on the class profiles will show, is that the classes were extremely heterogeneous at all levels, which made the twenty-four lesson course a first aid survival kit for many engineering students.

3.2 PBL and ESP

Given the nature of PBL and the theoretical perspective I adopted, I did not encounter the institutional constraints which other ESP teachers have faced. I had frequent meetings with colleagues who were teaching first year content subjects as well as consultation with colleagues who supervised the second and third year projects.

Content subjects provided me with the perspective of the academic and professional community. This perspective was integrated into my lessons through classroom strategies which developed and prepared transversal skills required in content subjects and in the professional communities. I tried to propose themes which would be enjoyable while providing the context to acquire specific skills.

An example of a language project

PBL lent ESP the content for a genre-based approach. Not only did I use the texts of the academic and professional communities, but in certain circumstances adapted their procedures to language activities. Examples are the guidelines for project work that is developed in the second and third years, the development of preliminary reports and final reports, as well as oral presentations.

The following activity illustrates the development of interdisciplinary concerns.

	Project	<i>English</i>
	Course:	<i>Electromechanical Engineering Electrotechnical Engineering</i>
	School year:	<i>2004/2005</i>
	Teacher:	<i>Denise Branco</i>
	Title:	Your Junk, My Joy
	Aim of the project:	The aim of the Project is to build a functional object using industrial waste.
	Problem:	<p>According to ISO 9000:2000, companies are required to take measures that ensure that the life cycle of their products is not harmful to the environment. Therefore, industrial waste has to be dealt with to avoid environmental disorders.</p> <p>You and your team of fellow engineers have been invited to take part in an international contest named YOUR JUNK, MY JOY. The aim is to encourage companies to present solutions for the recycling of industrial waste.</p>
	Guidelines for the project:	<p>The development of your project should take into account the following aspects:</p> <ol style="list-style-type: none"> 1. The material used in the construction of the object has to be used material. 2. The object has to have a functional purpose.
	Group:	The group should consist of 4 elements.
	Due date:	<ol style="list-style-type: none"> 1. Projects will be presented orally on the 20th December 2004. 2. Final reports are handed in on the 16th December. <p>NOTE: Reports shall NOT be accepted after the 16th December.</p>
	Documents	<p>Students will be required to hand in the following documents – via Blackboard - on the following dates:</p> <ol style="list-style-type: none"> 1. Plan and proposal report – Thursday, 2nd December. 2. Memorandum with an update of the group’s activities – 8th December. 3. Memorandum requesting equipment needed for the group’s oral presentation – 17th December.
	Evaluation:	<p>Although the group’s final report will not be graded, there will be a section in the exam which will address the final report.</p> <p>The oral presentation is a preparation for the oral exams students will be taking as part of their evaluation.</p>

Evaluation criteria:	<p>Written work: Students shall be assessed according to the following criteria:</p> <ol style="list-style-type: none"> 1. Compliance with norms which regulate the layout of the information in a report (this includes covering pages, bibliographical references, numbering of pages, index, ...). 2. Structure of text (consistency of ideas presented). 3. Spelling. 4. Appropriate lexico-grammatical choices. <p>Oral work:</p> <ol style="list-style-type: none"> 1. Operational command of the language. 2. Fluency. 3. Ability to rephrase ideas. 4. Ability to understand questions. 5. Appropriate register bearing in mind the context of situation. <p>Transversal skills:</p> <ol style="list-style-type: none"> 1. Ability to take advantage of audio-visual support. 2. Eye contact with the audience. 3. Tone of voice. 4. Posture. 5. Organisation of the oral presentation.
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I have already stated in other parts of my work that NA was the essence of my work in that it allowed me to know what the objectives were at different moments throughout the year and this had consequences on the way I approached the organisation of classes and of the *webct* platform.

4. Class profiles

In order to make the reasons for my theoretical approach to the specific context I have described in the previous sections clearer, it is relevant, at this point, to provide a profile of the students I worked with.

A PBL approach to teaching and learning generates a set of specific needs which can not be approached regardless of the characteristics of the students which a teacher will be working with.

The following graphs provide information about the Electrotechnical and Electromechanical courses according to three parameters: gender, student regime (whether the learner is a working student or an ordinary student), and the number of times students have enrolled in English. I focused on these three aspects because they had direct consequences on the levels of motivation in class and the number of students I could expect in each session.

EME class profile

ETE class profile

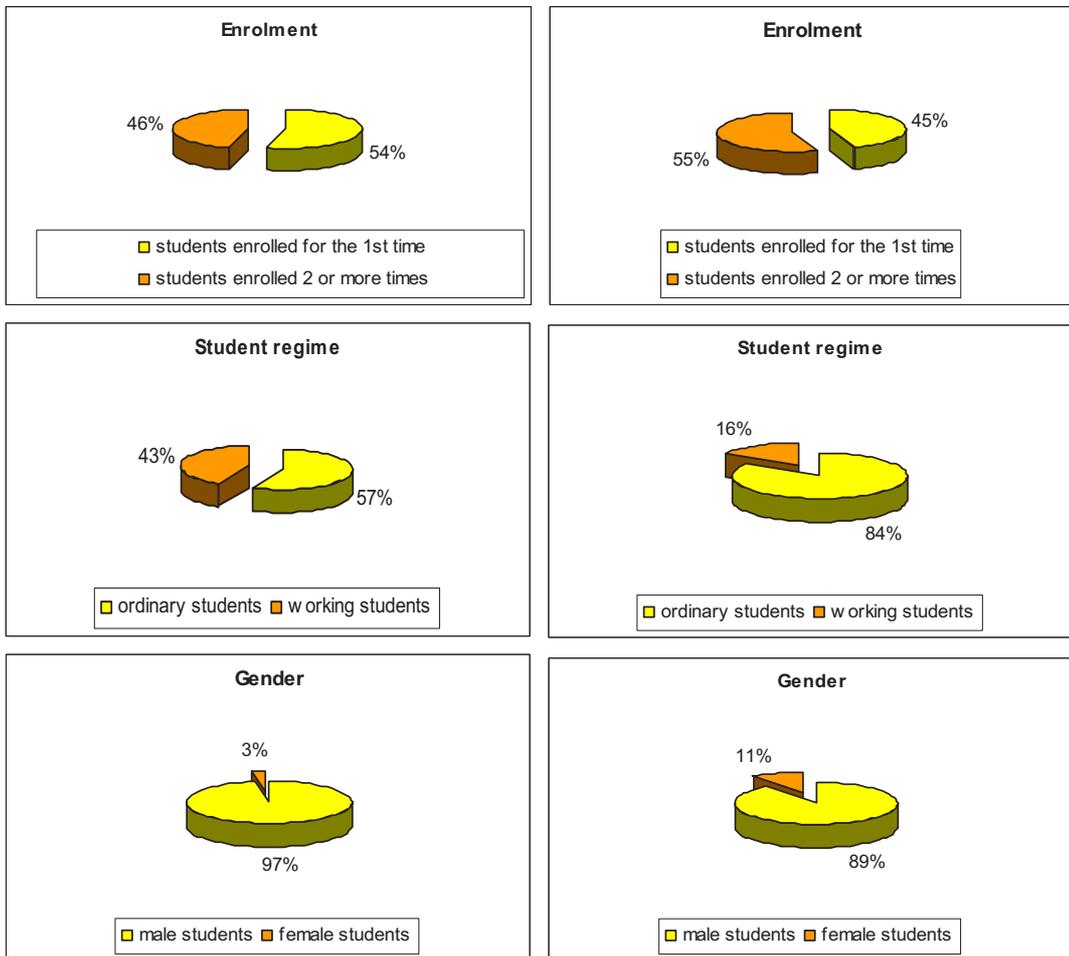


Figure 1 – Class profiles

4.1 Discussion of class profiles

Gender

As one can see from the charts, the classes were predominantly made up of male students: 89% in the case of the Electrotechnical Engineering (ETE) course, and 97% in the case of the Electromechanical Engineering (EME) course.

Student regime and number of enrolments in English

Student regime and the number of times students had enrolled were of major importance when deciding on classroom strategies and practices, given the consequences of these two aspects on the issue of motivation.

An analysis of the charts evinces irregularities which determined the dynamics of the class. The fact that 54% of the EME students and 45% of the ETE students had enrolled in English at least twice was a sign that specific issues had to be dealt with in order to understand the reason why students were encountering so many obstacles in learning the language. Once again, these figures also announce the levels of motivation I was confronted with in the classroom. Besides the high percentage of students who had failed, another constraint was brought about by the number of students who were unable to attend class for two reasons: they were either working or they were attending second and third year subjects. This made the webct, today the Blackboard, an essential tool. With regard to student regime, 43% of the EME students and 16% of the ETE students were working and studying at the same time which not only had consequences on the number of students in class, but also on the varied expectations which arose from professional and academic contexts.

Alongside these constraints, there was the heavy timetable that students had within the framework of PBL. An appropriate theoretical framework was therefore crucial to keep students motivated and willing to learn English. The theoretical framework would also have to be flexible enough to allow students who were at different levels of linguistic and communicative competence to benefit from the English sessions. A genre-approach seemed to me to be the most appropriate approach for several reasons:

1. the fact that students were exposed to a professional text repertoire used in real world contexts of communication;
2. that learning involved real world discourse;
3. that learning to analyse genres was a form of learning to do things;
4. that learning English meant studying for content subjects.

4.2 Motivation

One of the main functional problems which resulted from the heterogeneous class profiles presented previously was never knowing how many students would be in class, because students who were enrolled in English for a second or third time would randomly be present in class, which meant that I had to be prepared for lessons with five students and lessons with twenty students or more.

I was aware of the fact that time constraints and such diverse needs, wants and lack would result in leaving out many genres that could be explored under different conditions, but narrowing down the number of genres was fundamental if I intended to furnish students with tools and methodologies which privileged autonomy as students and as future professionals.

The fact that many students are actually employed before they finish their course was another argument in favour of exploring the professional communities' genres.

Overview

In this chapter I have discussed the way in which changes at the level of the international context play a decisive role on the type of syllabus which is designed when catering for specific learning needs. Such societal changes call for new theories and methodologies which are able to provide answers for the new challenges and demands made on languages and on language teachers.

A brief overview of ESP and its evolution through time has been discussed, as well as the relevance of placing the learner in the centre of the learning process, as an active element in the decision making process concerning what has to be learned.

The fact that the Electromechanical and Electrotechnical engineering students are studying in a Project-Based Learning environment calls for an approach to language teaching and learning which takes into account what students have to be able to do with language in order to get things done.

I have also provided a profile of the classes in order to make the practical examples presented throughout this work clearer in their intents, as well as my choice of a theoretical framework based of a functional perspective of language and on a genre-approach as a tool which encourages students to develop life-long learning autonomy.

In this context, ESP becomes an ally to the other content subjects in developing transversal skills which will allow students to become more autonomous throughout their lives.

In the following chapter I present and discuss my proposal of a theoretical framework which is flexible in its applicability to provide a valid substantiation to decisions taken within the field of ESP

Chapter II

Theoretical framework

*Communication calls upon the whole human being.(...)
As a social agent, each individual forms relationships with a widening cluster of overlapping social groups, which together define identity. In an intercultural approach, it is a central objective of language education to promote the favourable development of the learner's whole personality and sense of identity in response to the enriching experience of otherness in language and culture.*

(The Common European Framework in its political and educational context, p. 1)

The aim of this chapter is to discuss in detail the theoretical framework chosen in order to address the learning and target needs of the first year students of the Electromechanical and Electrotechnical engineering courses.

My decisions throughout this work, as well as the approach developed, were not uninfluenced by the changes brought about and propounded by the Bologna Declaration, and by The Common European Framework regarding language teaching. Both are concerned with the development of a language policy which is based on a holistic perspective of language learning and aim at developing competences within the classroom, but which are intended to go beyond the classroom.

The three basic principles which have been at the basis of the projects developed by the Council for Cultural Co-operation of the Council of Europe (CCCCE) regarding modern languages set down in the preamble to Recommendation R (82) 18 of the Committee of Ministers of the Council of Europe, and which also influenced my perspective throughout this work propound the following guidelines

- that the cultural diversity of language and cultures in Europe should be a form of approaching peoples:
- that a better knowledge of European modern languages will promote European harmony and mobility;
- that each European member consider the European context when deciding on national language policies.

Besides these principles, the CCCCE recommends:

- free access to acquiring knowledge of the languages of member states so as to
 - a) guarantee professional mobility in the European community;
 - b) to exchange ideas;
 - c) to become more familiar with other cultures.
- the promotion of the convergence of European language policies by:
 - a) focusing on the learner needs;
 - b) defining realistic objectives;
 - c) developing appropriate methods and materials.
- the development of teaching systems which allow learners to develop their communicative competency in order to achieve their specific needs.

These principles and measures are the reflection of the need to provide new approaches and perspectives of language teaching. The need to focus on learners' needs and encouraging and promoting the development of skills and competences which include the linguistic and cultural diversity of the more global context Portugal is part of should therefore be the cornerstone of any methodology or theoretical perspective of language teaching.

All teaching practice requires a theory and a perspective of the object which is to be studied. In the case of language teaching, the object, or phenomenon, is language, and therefore the perspective one has of the phenomenon must be defined. This shall be the aim of sub-section 1, where I discuss Systemic-Functional Linguistics in detail.

The way in which the phenomenon is perceived brings about a way of activating and making the phenomenon operational within a specific context. This has to do with the methodology chosen which, in the case of my research, is supported on Genre Theory and on a genre-based approach to language teaching, which is explored in detail in sub-section 2.

The reasons which led me to choose the theories presented previously have to do with the importance of Needs Analysis in the diagnosis of what those involved in the teaching and learning process have perceived to be their needs as regards English within specific professional discourse communities.

Discourse communities

It is pertinent to mention at this point what is to be understood by professional discourse community given the relevance of this concept to my work. I shall discuss the concept further on, but a general definition is required at this point.

Discourse throughout this work is used according to Bhatia's definition, which I have extended so that it includes oral texts, to refer to '*any instance of the use of written [or oral] language to communicate meaning in a particular context (...)*'. (BHATIA, 2004:18-19). Discourse communities are therefore the group of competent users who communicate by employing discourses which are recognized as being legitimate, and therefore meaningful, to the other individuals of that community. Therefore, and once again according to Bhatia, in discourse communities

(...) the focus is on lexico-grammar, texts and genres that enable members throughout the world to maintain their goals, regulate their membership and communicate efficiently with one another'

(BHATIA; 2004:149).

The distinctive feature of professional discourse communities has to do with the way in which the members regulate and generate meaning which distinguishes the discursive practices of one professional community from another. Lave and Wenger (1991) define a community of practice:

'as a set of relations among persons, activities and the world over time and in relation with other tangential and overlapping communities of practice'

(BHATIA, 2004:149).

In order to define a professional discourse community one must be aware of the societal and institutional factors which determine and bring about certain perspectives of the world and certain ways of getting things done. Professional communicative contexts are specific in the requirements that are made upon language to guarantee that a specific community is able to guarantee the interaction of individuals within that community and with members of other overlapping professional communities. From this perspective, a professional discourse community can be seen and analysed from the point of view of the '*practices and values that hold the communities together, or separate them from one another'* (BHATIA, 2004:149).

Given that my work focuses on the professional discourse that learners will be expected to be competent in when they find themselves in their workplaces, it is relevant

to explain that workplaces, according to Sarangi and Roberts (1999), are to be considered as:

(...) social institutions, which are held together by communicative practices, and where resources are produced and regulated, problems are solved, identities are played out and professional knowledge is constituted

(BHATIA, 2004:149)

Considering the definitions provided and the perspective developed, the theoretical framework adopted aimed at being flexible and allowing for multiple areas of language to be focused on. In the case of this work, the dimensions focused on are those of the occupational, or professional, and academic dimensions of the students' learning and target needs.

The theoretical framework proposed recognised the importance of developing an applicable theory that allows for the development of critique. I therefore aimed at defining a framework which was at once **diverse** and therefore applicable to different situations, **systematic** in the sense that it allowed me as a teacher and researcher to develop consistent and coherent analysis of the phenomena being studied, and **applicable** in so far that a theoretical bases allows for a greater understanding and a deeper insight of what is being studied. Unlike structural linguistics which has been concerned with the sentence, I wanted to bring sentence into text, develop an above the sentence approach.

The development and claim of any theoretical framework therefore requires the clarification of the perspective adopted to approach a specific phenomenon, and the definition and discussion of the concepts which will be at the basis of the work presented. In the case of this work, it was essential to arrive at a clear definition of language and text. Considering only one of these concepts would have made my proposal incomplete. It would also give little contribution to a better understanding of the way language is used to mean what we want to mean. The aim was to understand why certain choices have such relevant social consequences and in what way this perspective of language can assist teaching. The production of texts requires a certain knowledge of the world which is shared by the members of a discourse community, and if this can be translated into a pedagogical setting, then it is possible to teach students to communicate appropriately in specific situations, and provide them with a framework which can assist them in the future from the perspective of life-long learning.

In bringing together two theoretical perspectives, namely Systemic Functional Linguistics and Genre Theory, and in using Needs Analysis as a tool, I aimed at developing a framework which would allow me to carry out my research in a coherent and systematic manner. The relevance of such a theoretical framework in ESP lies in the fact that it can assist teachers in developing specific approaches to specific situations in a consistent manner. This framework allowed me to be more critical about my work, and to have guidelines upon which I could support my claims and improve my practice as an ESP teacher, and provide me with relevant and contextualised feedback for future developments.

Any object of study can be approached from different perspectives. I chose to develop a theoretical framework which is directly concerned with addressing the following issues.

- 1 the way in which an ESP course syllabus is to be developed considering the specific needs it has to address;
- 2 the criteria used for the selection of materials;
- 3 the way in which the previous aspects help develop transversal skills relevant to the learner's life long learning process;
- 4 and the way in which such an approach increases the students' motivation.

Throughout this chapter, the same concepts are visited from different perspectives, but the aim is to develop a unique view of the way in which this theoretical approach can assist ESP teachers in providing students with a learning experience which goes beyond the development of linguistic competence and with a form of learning which does not end when the course is over.

Although each of the perspectives is discussed separately for methodological purposes, they are to be perceived as belonging to only one framework, and being called upon simultaneously when working in the classroom.

1. Systemic Functional Linguistics (SFL)

When exploring the applicability of SFL to a specific teaching context, I drew on the works of JR Firth (1976), Halliday (1985), and Suzanne Eggins (1994).

1.1 Why SFL?

The adoption of a SFL perspective of language in the context of an ESP course has to do with the fact that Systemic Functional linguists of the Australian school, in the 50s and 60s, through the works of Firth and then Halliday, took a step away from a sentence based approach to language, considering text as the basic unit of meaning. Text was seen as a societal outcome and all communication, either expressed orally, in writing, or signing, is text. Language and its outcome: text, is therefore a product of social interaction, and is considered within the cultural and social contexts in which it is generated.

Halliday's role in developing Firth's work⁷ by establishing the relevance of discourse communities and the way in which their social life is organised, and by considering the function of language in the way things get done, highlights the dimensions of language which have to be taken into account when studying it.

Halliday defines Systemic Functional Grammar as follows:

(...) it is functional and semantic rather than formal and syntactic in orientation, takes the text rather than the sentence as its object, and defines its scope by reference to usage rather than grammaticality

(HALLIDAY)⁸

By placing sentences into specific contexts, Halliday opens the door to an approach which requires that language be studied from a functional point of view, from the perspective of usage.

Systemic-Functional Linguistics (SFL) is a theory of language centred around the notion of language function. While SFL accounts for the syntactic structure of language, it places the function of language as central (what language does, and how it does it), in preference to more structural approaches.

(HALLIDAY)

⁷ Firth's seminal work in the 50s was later developed by the Australian School, namely by Halliday in the mid sixties. Firth's academic concerns can be divided into the following areas: (1) the idea that the concepts of 'meaning' and 'context' should be central to linguistics; (2) the relevance of discussing the perspectives of British linguistics; (3) the role of phonology in linguistics; (4) to study the linguistic descriptions and encyclopaedia articles on Indian and southern Asian languages.

⁸ "Systemic Functional Grammar", Systemic Modelling Group, Macquarie, 30 Jun. 2004
« http://minerva.ling.mq.edu.au/resource/VirtuallLibrary/Publications/sf_theory.html »

The common core concern of systemic linguists, a concern which I share, has to do with the way in which language is used in everyday life, which has brought about the following theoretical claims which can be called upon (and explored by Genre Theory) by the ESP teacher who chooses to adopt a SFL perspective of language, and which Eggins (1994:2) points out:

1. *that language use is functional;*
2. *that its function is to make meanings;*
3. *that these meanings are influenced by the social and cultural context in which they are exchanged;*
4. *and that the process of using language is a semiotic process, a process of making meanings by choosing.*

(EGGINS, 1994:2)

In the case of this work, the concern is about how language is used in professional settings and what consequences taking professional discourse practices into the ESP classroom might have on language learning.

Considering that language incorporates multiple dimensions when being used, Halliday proposes that three types of meanings are brought about when people communicate:

1. the interpersonal, which considers the interaction between the interactantes, i.e. information regarding the relational component of the text;
- 2 the experiential, which has to do with the subject matter of what is being communicated;
3. and the textual, which signposts the way in which language comes together textually.

Since language is a system, which is taught according to social conventions, then it is safe to assume that the users of such a system come to acquire a certain know-how regarding the appropriateness of certain choices and uses when trying to communicate in specific contexts, and when trying to convey a certain communicative intention. As Eggins points out,

This semiotic interpretation of the system of language allows us to consider the appropriacy or inappropriacy of different linguistic choices in relation to their contexts of use, and to view language as a resource which we use by choosing to make meanings in context.

(EGGINS, 1994:3)

Such a perspective has relevant consequences on the way that language is perceived by the teacher and students, and also on the way language is taught. Given that language

is context bound, and meaning is brought about by different contexts of situation, then a lot more has to be said to our students in class, because a lot more is being taught than rules which regulate the construction of sentences. Students have to be given resources and furnished with skills and competences which encourage them to understand that language is what it is because of what it does, and that the way in which we choose to use language is part of how we behave in society. Language teaching therefore includes teaching students purposeful behaviour.

As I discuss in sub-section 2, by bringing professional genres into the classroom, students are not only learning how to communicate according to specific discourse practices, but s/he is also becoming familiar with, and gaining a deeper insight into that particular community. By adopting this approach, students are also being exposed to meaningful texts which reflect the social and professional aims of a particular community.

Learning in this way becomes more meaningful, and students are more able to transfer and integrate their knowledge of their mother tongue and of the world into ways of getting things done in a foreign language. By becoming genre aware, students become conscious of the reasons for lexico-grammatical choices which are made in different situations and this assists them in deducing the contexts in which certain meanings are produced. A genre-approach draws students' attention to the way in which a certain community has chosen to organise its discourse practices. Grammar, from this perspective, is no longer taught at the level of the sentence, but as a choice within a specific context of communication above the sentence, within a certain genre.

The fact that realistic goals can be established is of extreme importance to language learners, especially in the case of those who, like my students, are frequently at a false beginners' level and who need to acquire a form of approaching genres in order to access the specialist knowledge they need in their content subjects.

By providing students with a framework and context they can relate to, the teaching and learning process is placed within a clear and understandable setting which encourages learners to become more autonomous when encountering the multidimensional nature of genres in their academic and professional lives.

1.2 Text and context in SFL

The term text (...) refers to a complete linguistic interaction (spoken or written), preferably from beginning to end. Because the purpose and structure of communicative behaviour cannot be described by looking at simple sentences, systemic linguists look instead at texts, the linguistic products of everyday events.

(EGGINS, 1994:5)

SFL theorists have defended that there are two aspects of context which have a particular impact on the way in which language is used. These aspects are culture and situation.

We know that individuals' discourse is influenced by the way in which text is organised so as to achieve communicative goals (context of culture), and that the relationship between interlocutors, the topic and the medium used to communicate lead to specific choices in order to communicate appropriately (context of situation).

Although the importance of context has already been stressed in the previous section, it is the way in which these two dimensions are brought about that provides the teacher with the theoretical background which justifies analysing texts as a point of departure in class, without making ESP classes solely discourse analysis lessons.

A genre-approach provides the context in which functional grammar can be applied so as to provide a deeper insight into the way in which language is used in specific contexts.

By making students aware of the three dimensions of meaning which are brought about when communicating: (1) the experiential which has to do with the way in which our experience of the world is represented in language; (2) the interpersonal which relates to the relationship between speakers, attitudes, etc.; and (3) the textual which refers to the way in which text is organised as an oral or written utterance, the act of communicating can be broken down into different sections which allow the learner to understand how his/her learning experience fits into a specific context of communication.

The main aspect that students have to be made aware of is that one can only deduce the context in which a text was generated in because context finds its way into texts by means of certain stages, or moves, or through a schematic structure, which we, as competent members of a specific community, are more or less familiar with, and therefore more or less able to ascribe meaning to.

In establishing this relationship between text and context, two concepts are of fundamental importance because they are the notions which are activated in order to ascribe meaning to a text: genre, which reflects the way in which the context of culture influences language; and register, which varies according to the context of situation.

The concept of genre will be discussed in detail in sub-section 2, but can, at this point, be defined generally as '*how things get done, when language is used to accomplish them*' (MARTIN, 1985) or, more specifically as '*a staged, goal-oriented, purposeful activity in which speakers engage as members of our culture*' (MARTIN, 1984).

The concept of register is discussed in the following section.

1.3 The register variables field, tenor and mode

Malinowski stated that '*language only becomes intelligible when it is placed within its context of situation*' (EGGINS, 1994:50), i.e. that language is what it is because of what it is doing at a certain moment in time and space.

When one stops to think how complex this is, then none of the concepts seem able to embrace the number of dimensions which interact and overlap when people produce different texts. This is one of the reasons why learners have to be made aware that learning a language is a life long experience, and that language develops, changes and adapts to the different needs that the speakers have. This is the reason why teaching a language has to be complemented with study skills, which is another strong argument in favour of a genre approach, given that it provides teachers and learners with a framework which helps one extract the meaning associated with a certain text.

I have already mentioned that the starting point in class was text, since it is the only authentic part of the professional discourse community which could be taught. However, in order to approach the text so that its analysis provides learners with specific competences in specific contexts, it is essential to have a conceptual framework to support such an analysis.

The concept of register is an instrument of analysis which can be applied to different texts and which students were introduced to. My experience showed that students reacted well to this nomenclature, and were able to understand that certain texts are not wrong or right; they are more or less able to achieve their social and communicative purposes according to the speaker/writer's expertise in exploring and flouting certain genres for specific purposes.

Halliday's register variables, field (topic of a certain interaction), tenor (relationships of power and solidarity), and mode (the role of language in the interaction), from the point of view of classroom interaction, is productive when drawing students' attention to the variables in a telephone conversation, in a scientific article and in an employer's report on an employees' performance.

The concept of register was productive in English as well as in Portuguese (the students' mother tongue) given that students have not been exposed to a broad enough text repertoire to make them functionally competent in situations other than daily routine interactions. As sub-section 2 discusses, this functional incompetence has consequences

on students' academic and future professional lives because they have not been made aware of how meaning is brought about in contexts of a functional nature.⁹

Being aware of the concept of register and context of situation, students developed their ability to predict how language could be used in a target situation and prepare themselves for that specific situation. The concept of genre was essential to this process, since in the case of reporting genres, students were able to understand that a same genre can undergo specific changes according to the context in which it is generated.

Skills and competences related to register variables were explored in class by means of presenting a machine or electrical device for different target audiences: primary school students, university students and to specialists.

Students frequently mentioned that they knew something had to change in each situation, but were often unsure about what had to be taken into account. This is the manifestation of a very specific learning need; a need which usually accompanies students throughout their academic and professional lives because this know-how is assumed to have been acquired somewhere along the line, but very seldom taught specifically.

The interaction of different dimensions which should be focused on in class are represented in figure 2.

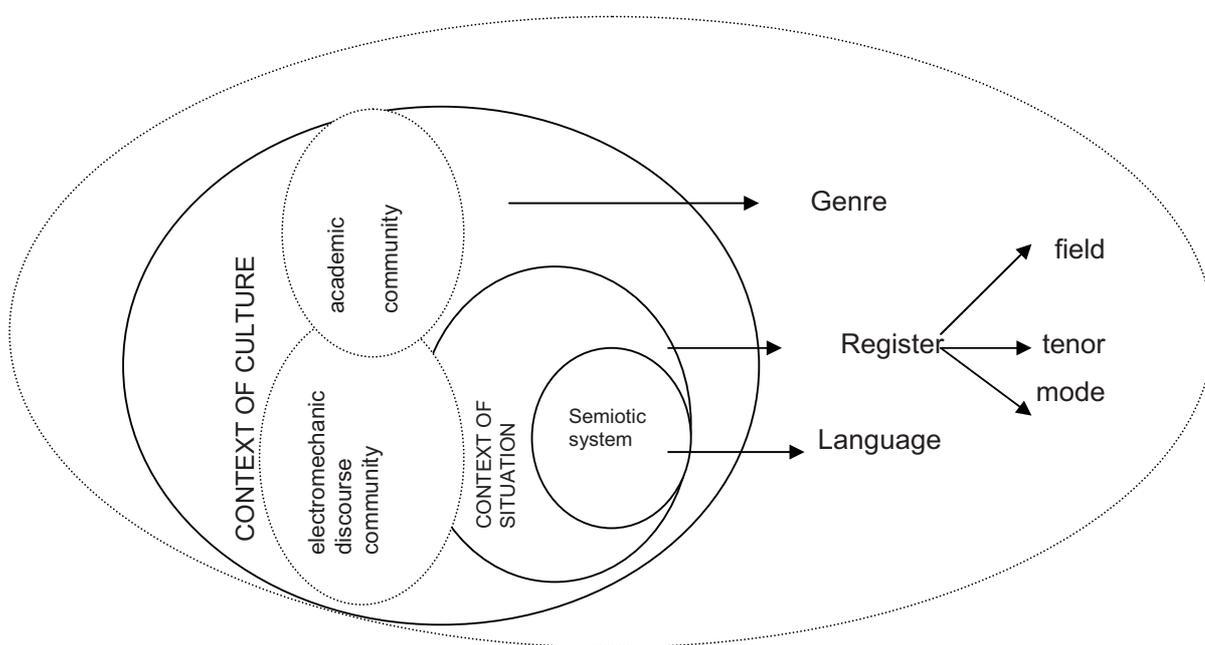


Figure 2 - Variables which generate specific genres

⁹ The awareness of the lack of exposure to a text repertoire of a functional nature among Portuguese students has brought about changes, namely at the level of the English secondary school programme.

Given the concern in analysing language in its contexts of usage, the question of authenticity is of major relevance. One might be tempted to ask the following questions:

1. Is it ever possible to bring authentic texts into class?
2. Does the classroom constitute a like production context for these texts?
3. Can simulated situations in class aptly produce or reproduce these professional situations?
4. And is it possible to analyse the text sequences?

I hoped that the theoretical approach adopted throughout this work would allow be find answers to such questions.

NA becomes particularly relevant in this context because more than identifying the professional genres that are to be incorporated in the syllabus, it provides the teacher with an insight to the way in which the competent users see these genres, i.e. what contexts of situation, what variables of register are more relevant in that specific context of culture. Therefore, the only way to guarantee a productive approach to the language used in professional settings is to ask the professionals to tell us what they need language for.

Unlike traditional sentence based tasks students were used to, classroom tasks in genre analysis and genre production encouraged them to analyse aspects related to context so as to understand why language was used the way it was, bearing in mind the register variables of field, tenor and mode.

The greater awareness of register variables provided the students with a tool which they could use when confronted with different genres, and supplied them with a tool which helped them improve their reading, writing, speaking and listening skills.

As Eggins (1994:9) states:

Register theory describes the impact of dimensions of the immediate context of situation of a language event on the way language is used.

(EGGINS, 1994:4)

Not surprisingly, students identified everyday genres with greater certainty than those generated by a professional context of situation and culture given the types of communicative expectations generated in their environment.

Given that the specificity of the material used in our classes was the result of the choices of field, throughout the year students were made aware of the way in which tenor

and mode were influenced by such choices. Students were led to understand how these three dimensions contributed to the ability to understand texts, or not, and the social implications intrinsic to them.

1.4 SFL and ESP

All ESP courses aim at addressing needs which the teachers/institutions have in some way managed to assess. However, although the courses often aim at providing learners with an answer to their specific target and learning needs, there is a void between the NA phase and the implementation of classroom strategies. And that void has to do with the lack of solid theoretical support which should assist the teacher in developing appropriate classroom practices to improve students' learning competences.

In the case of my research, the systemic approach to language was not a process void of difficulties for the students, since they were used to being asked to do gap-filling exercises, reading and comprehension of texts without a specific communicative aim, producing sentences either using reported speech, the passive and active voice, without a specific context of situation. Students regularly asked me to give them grammar tests because they knew they would have good marks, but when questioned about the usefulness of such exercises, the only answer they could provide had to do with how these provided neat assessment routines with foreseeable outcomes. Students who were unable to produce a simple sentence in order to communicate sometimes showed contradictory competences at a purely mechanical grammatical level, i.e., transformation exercises. When asked to contextualise language and produce specific genres with specific communicative intentions, they were unable to use, much less optimise, such competences.

However, when students became aware of the concepts of genre and register, issues related to the use of modal verbs, for example, allowed them to establish a link between the usage of certain words and the context of situation in which they occurred, allowing them therefore to develop their communicative competency. Although I did not use a sentence-based approach to language, it is important to develop students' linguistic competence. This is when a solid GE background becomes extremely relevant. Examples are the use of the imperative in instruction manuals, data-sheets, and other procedural texts with which these students interact during the development of their projects throughout their course, and which are also part of the professional communities' routines. Specific lexico-grammatical choices made more sense when placed within the theoretical

framework I adopted because metalanguage had a context of application which had real life applications.

Another advantage of the concepts of field, tenor and mode has to do with the intuitive quality they have about them, which makes it easy for the students to become aware of what language is doing in a specific context. Some of the problems students had in this area had to do with difficulties with their mother-tongue, and the novelty of this text analysis approach, which saw language as being appropriate or inappropriate and not just right or wrong.

By considering grammar as a choice making process, students learned that the selection of a certain word influences the semantic role of other words within a text in a relationship of mutual grammatical interdependence. Understanding that certain words and expressions are not possible choices in certain fields, tenors and modes, and knowing that words have a tendency to co-occur with certain expressions producing collocational units, made the production of texts less complicated for them. By becoming aware of these dimensions in the process of communicating, and the way in which meaning is built, students started developing their own strategies for creating meaning. By being able to identify specific genres and the type of meanings that could be expected within certain contexts, students were led to understand texts which they had previously not been exposed to because they were unaware of the specific moves and lexicogrammatical choices within each genre.

2. Genre theory

Language is power, and the power of language is the 'power of genre'.

(BHATIA, 2004:189)

The aim of this section is to propose and further discuss a workable definition of genre and to justify the inclusion of genre theory as a part of my theoretical framework. Besides the definition of genre, this section will deal with the concept of genre from three different perspectives. The first has to do with the way in which the context of culture is present in language through generic or schematic structures related to specific forms of organising discourse in order to achieve specific communicative goals in professional discourse communities. The second aspect focuses on the way in which genre awareness can act, from the point of view of the students, as a stepping stone into the world of professional discourses, providing them with an insight into the way in which the expert members communicate. The third aspect has to do with the framework that a genre-approach offers, furnishing students with skills and competences which help them to become more autonomous in their academic and professional lives. These three aspects are discussed in detail in order to clarify the applicability of genre theory in the framework this work has developed, and consequently on the generating of a new approach to teaching English for Highly Specific Purposes.

It is not within the scope of this work to go into theoretical considerations and discussions regarding the development and tensions of the concept of genre. I shall focus on the applicability of the concept according to the definitions provided by the works of authors such as Bakhtin, Bhatia and Swales, and explore the way in which a genre-approach contributes to the definition of a framework which provides ESP with a theory, i.e. with a way of doing things which simplifies procedures, and guarantees, to the extent which is possible within languages, that learners develop their communicative competence.

2.1 The concept of genre and a genre-based perspective of discourse

A basic definition of genre has already been given in previous sections of my work, but given the core importance of the concept to this work, a more detailed discussion of what is to be understood by genre is required.

Genre has been defined as a way of getting things done with language by members of a discourse community. SFL has applied the concept to its analysis of language usage

given that genre is the physical evidence of the influence of context of situation on discourse practices.

The fact that language does not occur in a void has been stressed previously. Context is required in order for language to mean, i.e. meaning requires a context of situation in which participants need to communicate something, for a specific purpose. However, this alone does not guarantee the accomplishment of a communicative intention. Communication requires a shared knowledge of how to do things with language. We do things with language such as asking for a cup of coffee, buying a ticket, inquiring about a friend's health. The answer or response to such interactions will depend on the acknowledgement of the legitimacy of the way in which language is used. The appropriate or inappropriate choices will be the result of a greater or lesser genre awareness. The broader the knowledge of different genres, the clearer it becomes for speakers to manage expectations. This was clearly not always possible with all genres because there has to be some shared knowledge to build on. It is also important to avoid allowing students to consider genres as something which one learns and applies according to that exact schematic structure, that set of moves, that genre as the only option in a particular environment. Genre has to be understood as being dynamic, and flexible.

The recognition of discourse as social practice is at the essence of genre theory. The development of the definitions regarding the concept of genre evinces the relationship between social goals and the acknowledgment of ways in which those goals are accomplished by means of specific lexico-grammatical choices.

Language as a system has an unlimited ability to cater for individuals' communicative needs, and therefore there will be as many genres as communicative needs. Genres have an intrinsic dynamic quality to them because they evolve and develop to accompany the changes which take place within discourse communities, and they will be as diverse as the human activities.

All the diverse areas of human activity involve the use of language. (...) the nature and forms of this use are just as diverse as are the areas of human activity.

(BAKHTIN, 1986:60)

This dynamic characteristic may contradict what I have said previously regarding the need to produce genres which are considered acceptable and legitimate by the expert members of a discourse community, but the contradiction is only apparent, because genres are negotiated ways of doing things which bring about the necessary conditions to

guarantee communication in different contexts and flexible enough to be stretched, manipulated and changed to serve communicative intentions and individual creativity.

Despite their flexibility, genres have to be stable enough entities in order to be considered acceptable within a certain environment. Only then can flouting be effective, because certain expectations accompany the moves which are characteristic of each genre.

Bakhtin's concepts of *thematic content*, *style* and *compositional structure* already recognised that despite the fact that the use of language is a highly individual behaviour, which is the result of individual choices, such use of language's potential to create meaning is determined by what each sphere of activity recognises as being more or less appropriate concerning linguistic behaviour.

These features of stability, and therefore the concept of genre, were defined as follows by Martin and Rothery (1980-81):

- a genre pertains to a particular culture and its social institutions (hence a 'social purpose');
- social purposes are purposeful (hence 'goal-oriented')
- it usually takes a number of steps to achieve one's purpose (hence a 'staged process')

(MARTIN & ROTHERY, 1980:81)

Martin (1985) provided a broader definition of genre which highlights the idea of text repertoire which is at the basis of genre theory:

Genres are how things get done, when language is used to accomplish them. They range from literary to far from literary forms: poems, narratives, expositions, lectures, seminars, recipes, manuals, appointment making, service encounters, news broadcasts and so on. The term genre is used here to embrace each of the linguistically realized activity types which comprise so much of our culture.

(MARTIN, 1985:250)¹⁰

Throughout the years, different views of genre have developed, but the pedagogical applicability of a genre-approach is not shared by all those interested in this area. However, despite the tensions surrounding different perspectives, there are certain principles which are consensual, and which Bhatia (2004:23) sums up in six principles:

1. *Genres are recognizable communicative events, characterized by a set of communicative purposes identified and mutually understood by members of the professional or academic community in which they regularly occur.*

¹⁰ In: SWALES, J.M.(1990) *Genre Analysis: English in academic and research settings*, Cambridge Applied Linguistics Series, Cambridge, p.40.

2. *Genres are highly structured and conventionalized constructs, with constraints on allowable contributions not only in terms of the intentions one would like to give expression to and the shape they often take, but also in terms of the lexico-grammatical resources one can employ to give discursal values to such formal features.*
3. *Established members of a particular professional community will have a much greater knowledge and understanding of the use and exploitation of genres than those who are apprentices, new members or outsiders.*
4. *Although genres are viewed as conventionalized constructs, expert members of the disciplinary and professional communities often exploit generic resources to express not only 'private' but also organizational intentions within the constructs of 'socially recognized communicative purposes'.*
5. *Genres are reflections of disciplinary and organizational cultures, and in that sense, they focus on social actions embedded within disciplinary, professional and other institutional practices.*
6. *All disciplinary and professional genres have integrity of their own, which is often identified with reference to a combination of textual, discursive and contextual factors.*

(BHATIA, 2004:23)

Genre analysis is therefore to be understood throughout this work as,

(...) the study of situated linguistic behaviour in institutionalised academic or professional settings, whether defined in terms of typification of rhetorical action (...), regularities of staged, goal-oriented social processes (...), or consistency of communicative purposes (...).

(BHATIA, 2004:22)

Swales, in the development of a genre-approach to EAP, draws our attention to the importance of the concept of discourse community which has to be taken into account when working the concept of genre. Genre, language, is only meaningful when produced in a context, and the participants in that context of communication have to recognise the legitimacy of ways of saying things. The concept of discourse community shall be further discussed in this section. However, it is pertinent to state at this point that a genre is only representative of a discourse community's needs when the members recognise such a community, and the ways in which individuals construct meaning within such a community; hence the shared perceptions of the conventions of each context of communication. Swales also provides us with a definition which enables us to identify genres from a perspective which moves away from the prescriptivism that many associate with a genre approach. Swales proposes five characteristics which allow genres to be identified as such:

1. *A genre is a set of communicative events.*
2. *The principle criterial feature that turns a collection of communicative events into a genre is some shared set of communicative purposes.*
3. *Exemplars or instances of genres vary in their prototypicality.*
4. *The rationale behind a genre establishes constraints on allowable contributions in terms of their content, positioning and form.*
5. *A discourse community's nomenclature for genres is an important source of insight.*

(SWALES, 1990:45-58)

The different dimensions which the concept of genre engenders are further developed by Bhatia's multi-perspective model applied specifically to written discourse, but which can also be used as a framework for oral discourse. Four worlds of discourse are proposed: the world of reality (i.e. *the world of discourse in action*); the world of private intentions (i.e. *exploitations of discourse by expert and established writers*); the world of analysis (i.e. *the role of analytical tools*), and the world of applications. Bhatia's notion of discourse coincides with that of text which is adopted throughout my work. By discourse, Bhatia means:

(...) any instance of the use of written language to communicate meaning in a particular context, irrespective of any particular framework.

(BHATIA, 2004:19)

He also proposes that discourse be analysed from the point of view of *discourse as text*, i.e., knowledge of language structure and its function and how it is used to make sense; *discourse as genre*, which accounts for the way in which context influences the construction of the text, how it is interpreted, used and exploited within specific communicative contexts; *discourse as professional practice*, which extends the previous concept to include the specificities of professional discourse communities; and *discourse as social practice*, which includes the concept of tenor and which has to do with power relations, relations of solidarity and all the implications, advantages and disadvantages, brought about by the use of specific genres. By establishing these differences, Bhatia does not suggest that genres can be divided into independent layers. On the contrary, these perspectives are complementary in the sense that they allow the analyst, or in this case the teacher, to complement certain analyses with co-occurring dimensions, which are constitutive of the way in which language is produced.

Bhatia's multi-perspective model of written discourse is summed up in figure 3

Social-critical perspective

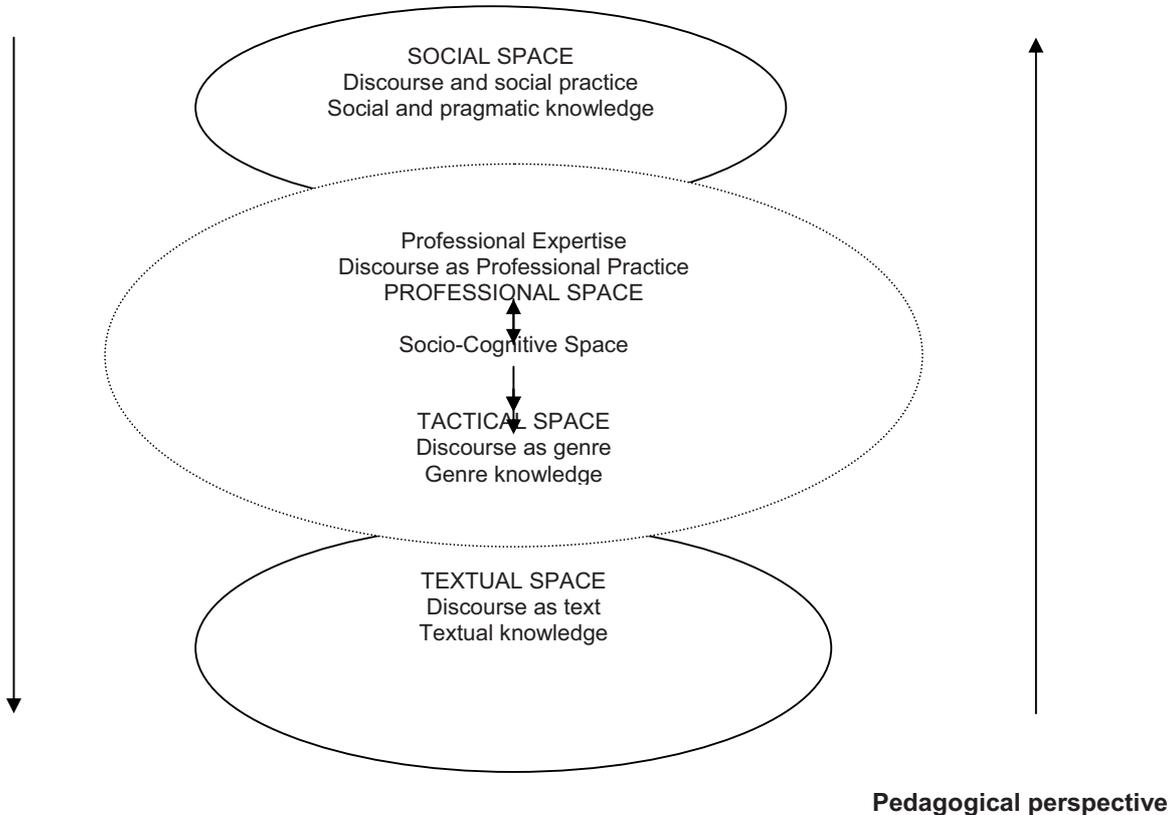


Figure 3 – Bhatia's multi-perspective four-space model

Bhatia's multi-perspective model is particularly relevant because it brings about different dimensions which also have to be taken into account when assessing the dimension which we as teachers will be aiming at.

This multi-perspective of discourse, and consequently of genres, was also an important instrument of analysis in class complemented by a functional approach to grammar which was approached as a choice within a specific context.

Swales' contribution to the adoption of genre-analysis within the field of EAP has proved to be of extreme importance, because he brought about concepts which are fundamental when discussing the concept of genre and language teaching, and these are the key concepts of *discourse community*, and *language-learning task*. Swales' use of the concept of genre and of genre analysis contributed to show the way in which a genre-centred approach provides a setting, a way of bringing about meaning when teaching

English, i.e. a form of providing learners with the possibility of accessing a community by studying the way in which that particular discourse community uses language. Although Swales' work has been developed in order to address the needs of learners who need to be functionally competent within an academic context, he certainly gave ESP an opportunity to move away from the traditional view of ESP as a discipline which focuses specifically on technical vocabulary. ESP studies have been concerned with communicative purposes, but have been lacking, from my point of view, in generating discussions which could make the decision making process in ESP less dramatic, while providing the teacher with a deeper insight into what is to be taught in class.

These are the premises of genre which substantiate my work and I shall therefore focus on and explore the idea that genres, within specific professional communities, are the result of specific communicative needs which can be observed through the genres they generate in order to accomplish specific communicative goals and which are recognised by the members of that community, and that this can therefore be the starting point for the designing of the ESP course syllabus: a genre-based approach to ESP.

What I propose to do throughout this work is move away from the traditional perspective which focuses, essentially, on knowledge of language structure, and work towards an integrated perspective, i.e. to teach language within the context it is doing things and why certain choices have been made. The aim is therefore to lead students to understand their language learning process as a socially constructive one.

Such a process will allow them to become more autonomous in the management of their life-long learning experience and, at the same time, take them a step further in the development of professional expertise within a professional context.

The choice of a genre-approach in the ESP class constitutes the innovative aspect of my work insofar as I incorporate information which results from NA carried out in the target discourse community. This is one of the main arguments of my research. If NA is carried out adequately, and considering the definitions of genre adopted, then it is possible for the ESP teacher to make more appropriate choices.

I chose to complement the concepts presented in this section with others proposed by Bhatia (2004), namely those of *generic integrity*, and its relationship with professional discourse, and *discursive competency* and the idea of expertise in specific professional contexts.

I linked these concepts with the perspective of Systemic Functional Grammar (SFG) and with that of NA. A genre approach within a highly specific ESP course would only make sense if the target community had been addressed in order to identify the

professional genres used by its members, besides addressing the students' and academic community's needs. This is where one of the innovative aspect of my work lies too. By establishing a relationship between the target communities' needs and students' needs, wants and lacks, not only do students feel more motivated while learning, but also become more aware of why certain choices are more appropriate than others in certain contexts of situation.

2.2 The effectiveness of a genre-approach in the classroom – What to teach with regard to genre?

By discussing a workable definition of genre throughout this chapter I have shared Swales' opinion regarding the validity of a genre approach in the context of language teaching, more specifically, in the context of the ESP. What Swales presents as an advantage when addressing the needs of students in an EAP context, is applicable to my working context. A genre approach is therefore a

(...) workable way of making sense of the myriad communicative events that occur in the contemporary English-speaking academy.

(SWALES, 1990:1)

In the case of my work, a genre approach is a form of bringing about meaning in professional genres, and establishing a link between learning needs and target needs.

It is important to mention that when teaching and analysing a genre, we are simultaneously approaching all the other genres which interact with the one in question. It is due to this cross textual interaction that the culture of a specific community can also be brought about in class.

This is the first reason for choosing a genre approach: it is important to provide students with tools which allow them to construct meaning. Within an ESP context, a genre approach takes language learning a step further by analysing the relationship between the context in which a specific text is generated, and the way in which external factors influence text production. By doing so, issues related to register become more pertinent and more understandable to those learning a foreign language, and provide ESP courses with the adequate material to be analysed in class.

By carrying out NA I have done what Bhatia feels is lacking when discussing the concepts of discursive knowledge and disciplinary knowledge, in the context of professional practices, and which is important from the point of view of genre theory:

Integrating these three [discursive knowledge, disciplinary knowledge and professional practices] in a realistic professional context is one of the greatest challenges that genre theory faces today. Of these influences and opportunities for development (...) we seem to be paying considerable attention to disciplinary as well as discursive knowledge independently of each other, but unfortunately there has been somewhat limited attention paid to the integration of these two, and perhaps no attention at all to the integration of these two with discursive practices in professional contexts.

(BHATIA, 2004:147)

This leads me onto the subject of the following section: discourse communities, professional genres and schematic structure.

2.3 Genre, discourse communities and schematic structure

Genre, discourse communities and schematic structures, or moves, have already been discussed due to the way in which they inter-relate in the construction of meaning.

Human beings are inherently social beings who relate and interact with each other creating societies and discourse communities which develop systems of communication that those members acquire in order to be able to live and carry out their social obligations and requirements within that community. This learning process is based on the unconscious regulated linguistic behaviour that individuals develop according to their communicative needs. Much is still to be investigated regarding the way in which individuals learn a language, but we know that language, dynamic as it is, develops and grows according to a discourse community's needs, and that those needs are met when the texts produced are recognised as being legitimate and meaningful within a given context.

The fact that it is possible to identify certain patterns in discourse and the recurring ways of saying and doing things has provided genre analysis with its object of study.

This form of viewing language should not be understood as limiting communication to a set of repetitive structures and ways of saying things, as if learning to reproduce certain linguistic structures is enough to make an individual communicatively competent. As my research revealed, being genre-aware allows learners to become more conscious of the different factors which play a part in the act of communicating. By doing so, as I shall

discuss further on, the ability to communicate appropriately and make conscious decisions makes learners more confident and more autonomous.

(...) genres are inherently dynamic rhetorical structures that can be manipulated according to conditions of use, and that genre knowledge is therefore best conceptualised as a form of situated cognition embedded in disciplinary cultures.

(BHATIA, 2004:24)

The concept of generic integrity (Bhatia, 2004) is fundamental to the process of understanding the role and function of professional genres in the everyday life of discourse communities, and how these become representative of such a community's culture.

I have already discussed the way in which each community comes to rely on specific genres to realize communicative goals, drawing attention to the fact that such conventionalised discursive patterns do not imply static and closed-ended texts. By providing students with templates of such genres, and allowing them to develop confidence in the manipulation of such genres, their ability to become more creative for specific communicative purposes was a natural consequence of genre awareness. This is an important issue which shall be discussed further on when addressing the notion of professional expertise and genres.

Should genres be valid from the point of view of their social motivations then, by identifying the specific professional genres within the communities mentioned, I would be able to give my students a head start in their integration within a professional context. Introducing them to some aspects of the professional discourse which is usually only acquired during periods of apprenticeship and which establishes a distinction between those who belong to the community and those who do not, would contribute towards their textual agility and confidence.

Swales established an important link between the concept of genre and that of discourse community. Considering the definitions of genre given, the latter only make sense when considered within the context genres are produced in when carrying out purposeful social activities within a discourse community. I wish to further develop understanding of how the concept of discourse community is an integral and essential one in the scope of my work.

(...) sociorhetorical networks that form in order to work towards sets of common goals. One of the characteristics that established members of these discourse communities possess is familiarity with the particular genres that are used in the communicative furtherance of those sets of goals. In consequence,

genres are the properties of discourse communities; that is to say, genres belong to discourse communities, not to individuals, other kinds of grouping or to wider speech communities.

(SWALES, 1991:9-10)

Bhatia points out that,

In genre theory, there has often been an overwhelming emphasis on the analysis of linguistic resources, with very little attempt to integrate the socio-cognitive factors that so often contribute to the act of genre construction, interpretation, use and exploitation to achieve non-linguistic ends in real life professional contexts.

(BHATIA, 2004:112)

The importance of developing linguistic competency has already been mentioned, since it is one of the dimensions that are part of being communicatively competent. A genre-based approach allows language to be studied while it is at work. Having a schematic structure or generic structure in mind when looking at a text allows the receiver to use communicative expectations as a tool. Therefore, by contextualising language, by teaching it in context, socio-cognitive dimensions are part of the teaching/learning process.

Another problem pointed out by Bhatia regarding genre analysis has to do with the knowledge that the teacher, in this case, has of the discursive practices which characterise specific professional cultures.

However, this is an issue which, from my point of view, and as my research shows, need not be considered insurmountable. NA is the element which I believe can bridge the gap between the teacher and students and their respective professional cultures and contexts. By creating a relationship with the target community, teachers can enlarge their contribution with the collaboration and expertise of the users of the genres within the professional communities. Given that most professionals become acquainted with the genres generated by the discourse community they integrate throughout their careers, a previous exposure to the text repertoire of such communities gives graduates an advantage when becoming members of such groups. With the teachers' competency in textual knowledge which can be expanded in order to analyse the genres identified by the target community, students can be better prepared for the situations which they are bound to encounter in the future. By working together, ESP courses bring about better conditions to address the needs of the students and of the professional communities.

It should be made clear that an ESP course, as I understand it, should not be limited to teacher and student; the door has to be opened to other specialists who have important contributions that will assist the teacher in designing an ESP course. This implies a change in roles as I have discussed in detail in the section dedicated to ESP, which not all professionals manage to cope with given the role that the teacher has traditionally been assigned, where there is an implied loss of face in going to seek help in a domain which is supposedly his /her area of total expertise, especially at the level of higher education.

Opening the door to professional communities means acknowledging their presence and making sure that each of these members is aware of the community as such. Recognising the existence of a specific discourse community means being aware of certain conventions which regulate the way in which things are done in a specific context. The participatory mechanisms which engage members of a community may vary, but I do think that in order to become a member, one must be aware of its existence as a grouping of common goals and common forms of getting things done. This starts out as intuitive and later becomes a framework which guarantees the successful interaction of the members of such groups and, at the same time, a mechanism which allows members to be recognised as being a part of that group. Therefore, genre-awareness is an empowerment tool in the sense that it provides the learners with the skills and competences to identify and later manipulate the communication mechanisms within their professional context.

The findings of NA confirmed that in fact the companies recognised certain genres as recurring in their professional routines and were able to assign those considered more important within specific communicative contexts.

This was extremely important from a teaching point of view given that ESP teachers should not design a syllabus based only on what they perceive are the needs of such a community. Bhatia points out that the genres generated within a community are not necessarily produced by the members of that community, and that the users of such genres do not choose them but are introduced to them during their period of apprenticeship. Not knowing how the genres are perceived by the professional community can make the approach adopted in class much less efficient. Considering that most of the respondents were not familiar with the concept of genre, it was interesting to note that they were however able to identify the structural, functional and contextual elements which make up the requisites for a genre to be considered as such.

An example of the distinction between who produces and who uses genres were the data sheets (DS) and material safety data sheets analysed (MSDS). Students were

exposed to this genre in their first year, namely in the subject of Circuit Analysis, but had never been led to 'think' about the genres from the point of view of their communicative intentions. The genre was analysed in detail given that it will be part of their training/schooling as well as of their professional lives. We discussed the production of such texts and compared them with the print out which accompanies medication. This was done in relation to the precautions which should be taken. The print out is not produced by the user, just as DS are not produced by the users (engineers, technicians,...), yet the genres have similar communicative intentions. The following example illustrates the way in which this was carried out in class (see Appendices for sample of DS and MSDS):

After having read the DS and MSDS, students were asked to carry out the following tasks:

Task A

In pairs, do the following activities:

- a) The two texts you have been given address different products but have a similar layout. Identify the main sections in each section.
- b) Can you establish a link between the sections of the two texts and the information in each section?
- d) What distinguishes one data-sheet from the other?
- e) How much can be said about the products by reading the data-sheets?
- f) In what situations do you think you might use these texts?

Task B

In pairs, consider the MSDS. Imagine that your company has just received the degreaser and that it has been considered necessary to place a list of safety precautions regarding the use of the product in the factory.

- a) Prepare a list of safety precautions which your co-workers should bear in mind when using Factory Formula HP.

(For further exploration of this genre, see Chapter IV Theory into Practice)

Even though members might choose to flout or bend certain conventions at certain moments, such bending will hardly ever be such that it may cause the communicative goals to be jeopardized because, as Bhatia (2004:114) says:

They [professionals from a specific disciplinary culture] do not always communicate within stringent or narrowly configured rhetorical circumstances. Often they exploit lexico-grammatical, discursal and other

generic resources to go beyond the narrowly configured generic objectives; however, all these variations are no more than subtle exploitations of social conventions within a narrow range of innovations. Expert members of professional or disciplinary communities rarely opt out of the professional, institutional or corporate games.

(BHATIA, 2004:114)

Genres are therefore dynamic in their essence, varying in the way they are used by members of the community, but keeping recognisable stages and moves.

2.4 Genre-awareness as an empowerment tool – a step into the professional discourse community

Swales (1990) and Bhatia (2004) both establish a direct relationship between genre awareness and the ability to perform adequately in a specific professional setting. By recognising and competently manipulating the genres which a specific community uses to convey its knowledge and needs, individuals become more powerful.

(...) an individual's development of genre-specific schemata has a number of generative and empowering consequences.

(SWALES,1990:11)

Given that genres represent certain instances of purposeful communication, the ability to competently manipulate such genres gives individuals power to negotiate within specific contexts. A competent user will know when to obey standard procedures in certain situations, and instances in which flouting conventions can be a **choice** in order to achieve certain results. When an individual can make such choices, then we are dealing with a highly specific communicative competence.

3. Needs Analysis (NA)

(...) if we had to state in practical terms the irreducible minimum of an ESP approach to course design, it would be needs analysis, since it is the awareness of a target situation – a definable need to communicate in English – that distinguishes the ESP learner from the learner of General English.

(HUTCHINSON & WATERS, 1987:54)

I went to class prepared to teach the meaning of words such as apnea, asthma, rhinoplasty, and blastocysts. Naturally I began saying something like “Does anyone know what apnea means?” Every hand went up. In fact, every hand went up for every word on my list. That day I learned my first lesson in ESP: ESP is not simply teaching technical vocabulary. My students already knew the technical terms of their field of study (...)

(REBECCA SMOAK)¹¹

3.1 What is needs analysis?

According to authors such as Hutchinson and Waters (1987) and Dudley-Evans and St. John (1998), ESP differs from GE because a specific learning need has arisen and the learner is aware of it or, at least, becomes conscious that s/he is unable to communicate appropriately in a given situation. From this perspective, a specific perceived learning need becomes the object upon which the teacher/researcher tends to focus. However, I think that this concern with a specific need is not enough to separate an ESP approach from GE. I believe that the main distinction between ESP and GE has to do with the way in which this need is assessed, and the way in which it is approached in the classroom.

The focus on the learners' needs has led to many ways of arriving at what such needs are, namely by:

1. exploring the learners' perception of their inability to communicate appropriately in a given situation;
2. considering the employers' concern in providing workers with ESP courses which address their company's needs;
3. through generalist perceptions which result in the designing of generalist ESP courses;
4. and finally through a conscious use of needs analysis as a form of assessing needs, namely asking learners' to identify specific learning needs.

English for Academic Purposes has undoubtedly been the branch of ESP which has contributed the most to the discussion and development of teaching practices and methodologies for learners with specific needs. The way in which such needs are

¹¹ SMOAK, R. "What is English for Specific Purposes?", Bureau of Educational and Cultural Affairs, U.S. Department of State, 6 Sept. 2004, «<http://exchanges.state.gov/forum/vols/vol41/no2/p.22.html>».

accounted for rely on approaches such as those numbered above. It has become clear through time that it is not enough to focus on the learner's perception of what his/her learning needs are. It is essential, as I have been arguing, to widen the scope of participants in the designing of ESP courses so that in fact there is a relationship between what is taught, and what the target community requires of the professionals it employs. It is clear, therefore, that when attempting to address a specific learning need, a different type of interaction is required between teacher/researcher/course designer/learner and community members. By establishing a bridge between academe and real world concerns and requirements, new roles are ascribed to teacher, who becomes tutor; to student (who becomes active in the learning process), and the discourse community (which contributes with the input which allows for innovation in education) The participation and role of those involved in the process of learning ESP requires new methodologies considering the new participants, the members of the discourse community, and strategies because roles change and because those used in a GE approach do not seem to provide the adequate answers within that specific learning context. This has to do with the fact that a GE approach does not usually have to deal with specificities which arise in an ESP context, because the GE teacher activates a number of strategies in order to achieve the objectives of a syllabus which is handed to him/her by the Ministry of Education or by a specific institution, usually with a suggested textbook, with certain materials. The actual role of the GE teacher has been designed through time, unlike that of the ESP teacher who is constantly negotiating his/her role inside and outside the classroom. The ESP teacher is faced with a context which requires assessing specific target needs and learning needs. Given that most teacher training courses are still training GE teachers, specific practical questions and doubts arise when a GE teacher is placed within an ESP context; a situation in which the teacher is often working alone (for a more detailed discussion on the differences between the GE and ESP teacher, see Chapter I), which makes the lack of a method and theoretical framework – which can be adapted to different personal needs and circumstances– of great importance, since this would allow the teacher to approach the object of study with guidelines; this is why so many have been insisting on the need for a more solid theoretical framework for ESP.

The fact that ESP requires a form of identifying target needs was first brought to light by John Munby in his *Communicative Syllabus Design* (1978), which presented a list of questions and procedures which made identifying the target needs of the learners a process which could be put into practice. However, this work was later considered to have

certain limitations given that the language-centred approach which was used to address the findings of needs analysis, and the fact that there was no clear distinction of what was to be understood by needs, limited the advantages of the findings. The language centred approach aimed at teaching the learner to reproduce specific linguistic features which were characteristic of the target situation. Further research came to reveal that learning a language cannot be limited to learning a set of grammar rules; that linguistic competency does not guarantee communicative competency.

Genre Theory and Systemic Functional Linguistics are among the different theories which have made explicit the different dimensions which consider the relevance of context of situation and register in the use of language, the importance of addressing them when teaching a language because language as a system cannot be isolated from the societal dimension which makes language the tool which humans use in order to communicate, which is something so primary and basic in individuals' need to establish relationships with other individuals. There is a lot more to learning to communicate in specific situations than merely reproducing linguistic features of the target situation. And language is so closely interwoven with each individual's personality, that it is limiting to ever consider that an ESP approach might be depriving learners from becoming aware of the Other.

I believe that students' ability to learn a foreign language is closely related to their linguistic and communicative competence in their mother tongue, and that their ability to broaden their horizons in either language will always have an 'interference' with the other forms of communicating, hence the relevance of Genre Theory. A foreign language needs to be anchored in the learner's knowledge of the world. This is especially the case in a genre-approach to ESP. When analysing excerpts from one of the textbooks adopted for Circuit Analysis, for example, the genre's schematic structure and the moves within each chapter were only clear to the students because of their ability to relate to the content of the text. Had I not chosen a text which focused on the introduction and definition of basic electrical quantities, the extraction of concepts and keywords related to the clarification of the concept of *electric charge* would have been of little use to the students. However, after having explained that concepts are signposted, that keywords related to concepts, that examples are essential in scientific discourse to substantiate claims, students were able to understand the way in which the text-centred concepts of cohesion and coherence are guaranteed by specific lexico-grammatical choices. (see Chapter IV Theory into Practice)

One cannot however dismiss the fact that Munby's work had an impact on the need to develop a new theoretical framework which addressed specific needs, and brought to the

attention of those involved in ESP that certain aspects have to be taken into consideration when trying to identify a specific learning need, namely a target situation in which the learner is required to have specific competences in order to be able to communicate; the fact that learners have specific lacks which generate specific needs; that it is important to carry out needs analysis in order to know what individuals' have to do with language in order to achieve certain social and communicative needs.

Researchers felt that it was therefore necessary to define *needs* because the concept seemed too broad to embrace the complex setting that the ESP teacher was faced with.

Defining the umbrella term *need* into *target needs* and *learning needs* was a step towards providing the learner and teacher with a better understanding of what is involved when learning a language, and what is to be focused on. The distinction between these terms made the possibility of designing highly specific course syllabi a more transparent process, providing teachers and students with a greater awareness of the way in which specific contents are to be approached, and what expectations are realistic within a certain period of time, and how to go about becoming aware of those needs and addressing them.

Hutchinson and Waters took this division a little further by dividing the target needs required by a specific target situation into necessities, lacks and wants. This subdivision allowed target situations to be considered from three very specific and relevant perspectives.

When referring to needs or necessities throughout this work I mean '*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 situations*' (Hutchinson & Waters, 1987:55). GT and SFL discuss the importance of the context of culture and context of communication when teaching a language, as this approach allows the social dimension to be brought into the classroom, and this is where NA plays an invaluable role.

Lacks have to do with the difference between what the learner already knows and what is lacking in order to meet target situation proficiency.

Wants have to do with what the learner perceives to be his/her needs in order to acquire the necessary competence in the target situation.

The applicability of this approach to language presupposes that in fact the student will be an active member in the learning process. This was one of the reasons which led me to ask what comes after NA: becoming aware of what roles teacher and students had in a

learning situation which had highly specific goals. It makes no sense to carry out NA if the findings do not have a significant impact on the strategies and methodologies carried out in the classroom.

Hutchinson and Waters' proposed a target situation analysis framework that helps the teacher prepare the ground for NA, which includes the following questions:

1. **why** is the language needed?
2. **how** will the language be used?
3. **what** will the content areas be?
4. **who** will the learner be required to use the language with?
5. **where** will the language be used?
6. **when** will the language be used?

As Section 3.2 will make explicit , these questions will only be relevant when the community chosen to carry NA in has a clear perception of the usage of genres, and when the teacher knows what s/he is looking for, because there should already be a framework supporting the NA which is going to be carried out. In the case of the 1st year students of the courses focused on in this work, NA would have been of limited use had I not complemented it with the information provided by the professional community. As I have already mentioned, a common-sense assumption of the genres which professional communities generate and the way in which they are used would have led me to design a syllabus which would be specific in its intentions, but generalist in its essence, hence of limited use to the students from the point of view I have been sustaining.

Besides target needs, learning needs also have to be taken into consideration in an ESP course, and here there are some diverging opinions regarding the way in which those needs are to be addressed. Another point of contention is the issue of authenticity of genres. It is important to recognise that a classroom has a culture of its own which brings about specific expectations. A classroom and its pedagogical concerns will always be an artificial setting for any genre other than pedagogical discourse. Because people are taught in a classroom, and like any other context of situation, classroom discourse cannot be replaced by the discourse of target professional communities unless there is an explicit intention to simulate, a shared complicity has to be engendered for "authenticity" to be imported into the classroom. This does not mean that authentic materials cannot be used and combined within a didactic approach, since the success of classroom

communication is motivation and professional simulation is motivational for learners. From my point of view, another advantage of NA is providing the teacher with a deeper insight of how students are to be motivated.

In order to analyse learning needs, Hutchinson and Waters propose the following set of questions:

1. **why** are the learners taking the course? The fact that English is not an option can be relevant in some cases, since it interferes with motivation factors.

2. **how** do the learners learn? This is an extremely difficult question to answer since we are still not sure about how individuals learn a language. I had to complement this question with another one in order to understand how my students might learn English. Within my personal context, the following question was a relevant one: **What role** does English play in the acquisition of specialist knowledge? Most bibliography of the content subjects is English which placed specific requirements on the subject.

3. **what** resources are available? In the case of Portugal, it is still not easy to make people aware of the fact that language learning develops alongside technological developments. I was fortunate to have been allowed to teach my classes in a computer lab, and therefore show students that English is relevant to everything they do.

4. **who** are the learners?

5. **where** will the ESP course take place?

6. **when** will the ESP course take place? This was a relevant question given that these students would only be studying English in their first year. It was interesting to note that at the end of the year, in a student questionnaire, most students said that they thought it was important to have more English on the course curriculum.

Once again, the relevance of the findings which result from NA can be limited, especially when the ESP course is not a choice and when students' perception of learning English is limited by their previous language learning experiences, which becomes even more dramatic for some students when faced with the importance of English in the access to specialist knowledge.

It becomes clear when considering target needs and learning needs that the relevance of NA depends on the theoretical background it is supported by. Unless there is a clear perspective of language and what one expects from NA, the findings will be of limited use

and their relevance for developing learners' communicative competency might be partially lost.

Now that I have discussed the premises of needs analysis, I shall now discuss in greater detail the advantages and limitations of Needs Analysis.

3.2 Advantages and limitations of needs analysis.

As I have already stated, GT and SFL have shown us that it is not advisable to remove genres from their context of culture and of **a situation of communication** and explore and analyse them as independent units of meaning.

SFL sees text as the basic unit of meaning, unlike sentence-based approaches to language, and these texts are seen as forms of social interaction, which implies recognising '*the importance of situational and cultural context in understanding why a text means what it does*' (EGGINS, 1994:25). Such a perspective requires that the teacher, in some way, considering the way in which texts are analysed in class will allow students to become aware of a **situation of communication** that they will be required to operate in.

At the level of higher education, and in the case of my students, depending uniquely on the learners' ability to identify personal needs, wants and lacks in the target situation would provide incomplete information since the target situation is new to them.

Considering the approach adopted in this work, given the relevance of the pedagogical context students were learning in, and bearing in mind the number of hours dedicated to the studying of English, NA became of major relevance in assisting me in the choices that had to be made.

At the beginning of my work, I mentioned that one of the questions which led me to focus on this area of research was the fact that students and professionals had spoken to me of their difficulty in communicating in specific situations, even when they had a solid GE background. This was one of the reasons which led me to bring together Genre Theory and Systemic-Functional Linguistics, since most students had addressed language out of context and their knowledge of professional genres, or even daily routine genres, was either extremely limited or non-existent. They lacked a framework which might assist them in finding meaning in different situations.

Given the theoretical framework chosen, I had a clear idea of what I needed to find out from the target community, which is where I chose to centre my source of information as to how students would be required to use English in order to get things done.

3.2.1 Advantages of Needs Analysis

In the case of my work, NA was clearly an advantage given that I am not a specialist in any of the students' content subjects nor in their future professional areas. Therefore, the only way in which I could gain a clearer perspective of how language is used and which genres are generated by the communities' specific communicative needs, was to question and interact with the professional community.

NA allows the teacher to understand the specificity of a certain community's discursive practices. The electromechanical and electrical sectors are highly specific fields and the genres used in these environments are not usually part of a teacher's training in Portugal (nor is it usual to start from within the professional community and work towards the learner), and they are not found in any textbook, hence my opinion that EBP, for example, is too general when addressing the specificity of sectors such as the ones being focused on here, and many available Technical English courses are based on what was traditionally perceived to be ESP, i.e. the listing of technical vocabulary.

NA does have its limitations and some of them have already been mentioned.

All forms of acquiring data for research purposes have limitations, but that does not mean that such tools are less useful or less valid. Each methodology has to be used for the purposes it is better designed for. This applies to NA. NA is not a process that is over and done with once findings have been analysed and discussed. It is an ongoing process which has to be periodically implemented in order to provide teacher and student with feedback. This is obviously a demanding process which, in my opinion, is why many people carry it out a single time and then make adaptations or not to their findings.

This ongoing process was more focused on the students' progress than on the professional community in the case of my research. Although I started off with the needs of the target community, these needs later became my guidelines to assessing the students' developments and progress throughout the year. Students were constantly encouraged to discuss their progress and difficulties at the end of each module so that classroom strategies could be adjusted to the students' learning needs.¹²

3.2.2 Limitations of needs analysis

The main constraints and limitations of implementing NA have to do with the way in which the findings are used as an input afterwards and how classroom activities are changed and adapted. NA requires a learning-centred approach to language which is

¹² This year I have decided to hand out a questionnaire at the end of each written exam so that students are able to identify their progress and difficulties, and take them into account during the following sessions.

based on encouraging students to become aware of how language is used and for what purposes. It is therefore essential for the teacher to learn how to take advantage of the results collated from NA, for the usefulness of such a tool lies in what is done with the findings.

Another limitation to a more frequent use of NA has to do with time constraints. It is not always easy to make the collation of results coincide with the time which is necessary to prepare materials and start the semester. This is, I believe, why many teachers find this method too time consuming to be implemented as traditional approaches to language allow for.

3.3 Needs analysis and evaluation

The advantages of NA are not however limited to the information regarding the choices that the teacher makes when selecting and designing materials.

Any teaching process requires the singling out of objectives and competences which students are expected to attain and these competences are then checked through the process of evaluation.

Evaluation is always a very complex process and students often find it difficult to prepare themselves for language tests. The development of study skills was another concern in all lessons and NA helped me provide students with workable objectives, which was also possible by adopting a genre-approach to language teaching. Students could contextualise what they were learning and by becoming more aware of the concepts of context of culture and of situation, found it easier to put doubts forward, to study vocabulary, and to contextualise grammatical and lexical choices.

3.4 Context, communicative needs and NA

(...) authentic language may not be what you assume it to be, so don't trust your intuition or the intuition of the ESP textbook writer. Analyze and teach the language in use in the particular situation relevant to your students.

(REBECCA SMOAK)¹³

Needs analysis is essentially about contextualizing communicative needs, which is possible given the way in which language is organised and recognised as being legitimate within certain discourse communities.

In the case of my work, NA was of the greatest importance in identifying the 'language in use' in situations which are and will be of the greatest relevance to my students. Unlike

¹³ See footnote 11

many situations in which target needs were identified, my students' target situation was already part of their training. However, it was not enough to question teachers and project supervisors.

Specialists and teachers who were in the field were vital to the reconstruction of contexts in the classroom.

3.5 What is the teacher's role in NA?

(...) needs analysis is good, but it should never be unilateral. Simply asking the professors or supervisors what kind of English their students or employees need probably won't result in a very accurate picture of the students' actual needs. After all, medical professors and department heads at universities and supervisors in the corporate world are not trained linguists. People typically focus on the messages conveyed by language, not the language itself, and therefore their assessment of language needs may not be correct. Observation and analysis are essential to find out what the real language needs are.

(REBECCA SMOAK)¹⁴

As Smoak points out, a closer relationship with the target community should allow the teacher to observe the professionals while they working because a linguistic observation of what is being meant and how it is being meant will escape the professional who has not been taught to perceive the mechanisms which are activated when bringing about meaning. It is therefore important for teacher and professional to understand the type of contribution that each is giving.

NA is a tool that the English teacher can resort to as long as s/he knows what to look for when carrying out NA, and on who to carry out NA.

My role was to establish a link between the genres generated by the community (target needs) and the students' learning needs, by helping them develop a greater awareness of genres and their dynamics. This was especially the case when focusing on the linguistic competences which had to be developed in order to make genre-awareness an active skill which would allow students to produce meaningful and acceptable texts

This was the case when focusing on the imperative in procedural texts (instruction manuals), the simple present and present perfect in commercial correspondence, reports and memorandums, conditional sentences when looking at precautions to be taken when working with machines. In this case, and in order to make the relationship and dynamics of genres clearer to students, they would produce texts according to the genres they were interacting with at that point. An example of such an activity had to do with a catalogue providing technical specifications for pneumatic materials, a fax requesting further

¹⁴ See footnote 11

information and an order form. Another example was the case of a job advertisement a covering letter and a CV. Genres were always approached from the point of view of what they were doing and what they required in order to get things done. (see Chapter IV Theory into Practice)

3.6 ESP and NA

(...) reading or writing about a profession is not the same as reading or writing texts actually used in that profession.

(REBECCA SMOAK)¹⁵

I found it relevant to include a section in which I could argue in favour of an approach which some have considered irrelevant given that providing learners with specific competences does not guarantee that the learner will be successful in all the different areas and situations which they will encounter.

The fact that the working place has changed and individuals are required to be less specialised and more multi-functional would, at first, make the recent reflowering of ESP a contradiction, especially when many still view ESP as the teaching of lists of specialised vocabulary. Nothing could be more in favour of the development of ESP, especially when associated with a solid theoretical background which does not aim at teaching lists of technical vocabulary, but at providing learners with tools and strategies which allow them to become autonomous.

Supported by GT and SFL, needs analysis provides the teacher with what the students need to know and how to go about teaching it.

From my point of view, and without rejecting a learner-centred approach to language learning, needs analysis has to focus on two communities: students and professionals. And the higher objective of an ESP course should be to teach students how to become autonomous, using specific content subjects for that purpose and considering the communicative needs of a specific professional group.

The specificity of my context made my ESP course quite different from those I read about, for the following reasons:

- the subject was not an option;
- students had heterogeneous language backgrounds;

¹⁵ See footnote 11

- they were not familiar with the target communities;
- for institutional reasons, evaluation could not be different for different students (what I did was try and provide as many different situations as possible so as to allow students to have equal opportunities);
- the course was made up of twenty-four lessons which made the time necessary to carrying out needs analysis extremely limited;

Any teacher who has prepared an ESP course and not just pulled one out of the drawer knows that needs analysis is the only way in which we are able to teach students what they need, and they do not need to focus excessively on technical vocabulary. Technical vocabulary is acquired in daily routines.

Overview

In this chapter I have discussed the reasons for choosing Systemic-Functional Linguistics and Genre Theory as the theoretical perspectives to support this work. The importance of having analysis tools such as the concepts of register and the variables field, tenor and mode, alongside the interpersonal, ideational and textual dimensions of language which allows for the analysis of the genres generated by professional discourse communities. Having such tools of analysis is essential from the point of view of language teaching and learning because they provide ESP with the necessary context in which specific needs can be addressed. An appropriate choice of professional genres was also possible due to the fact that Needs Analysis had been carried out in the target communities, which allowed me to establish realistic working objectives.

Chapter III

Methodology

In the previous chapter, I discussed the importance of needs analysis for the development of my research. In this chapter I will be presenting the findings and discussing their importance in the selection and designing of materials, classroom strategies and methodologies. Assessing needs in order to assist materials and course designers goes back a long way due to the belief that understanding what people need and expect is vital to the appropriateness of the choices made when addressing specific learning needs, from a teacher and student point of view.

Questionnaires are important tools when a researcher needs to gather qualitative and statistical data in any field of study. However, when questionnaires are used to gather information about language skills and competences, as well as classroom practices, some tend to be sceptical about the data collected. Although there are aspects which might jeopardise the results, namely the lack of control which the researcher has over the way each respondent approaches the questionnaire, this does not make the instrument less valuable, nor the data less valid because the possible problems may be overcome by the careful preparation of the questions which should be clear enough to avoid misinterpretations.

Most NA relies on questionnaires in order to be able to identify, as objectively and clearly as possible, what a specific linguistic community's communicative needs are. However, as I have mentioned in previous chapters, such questionnaires have focused primarily on the learning and target needs of the academic community. Work in the areas of different professional communities has been sparser and the necessary discussion of such teaching and learning experiences has only recently started to gain more relevance in the case of Portugal.

Considering the aim of this work, which is to verify the applicability of a genre-approach to ESP, it was important that I gain a deeper and clearer insight of the communicative needs of the electromechanical and electrical sectors of the city of Águeda, as well as find out what genres these communities generate in order to accomplish and achieve their communicative and social aims. I then intended to confront the target communities' needs with those of the students'. My choice of these communities had to do with the fact that some graduates from the courses have already been employed by these companies, or may be employed by these in the future. I chose these companies, first of all, in the hope that their experience with an international clientele, as well as their expertise in the field, and their need to employ engineers within these fields, would allow me to collect important data regarding the genres that these professionals should be familiar with for professional reasons. Secondly, I would also be able to assess the expectations that such companies have concerning the qualification of the graduates from these specific engineering courses.

By adopting this methodology, the task of deciding upon the skills which had to be developed became more objective and better adapted to the students' future professional needs and current academic demands. Another advantage was the development of a course syllabus which would be more productive for the students considering the time constraints we had.

This approach to the designing of an ESP course is one of the contributions I hope my work will give to the area of English for Specific Purposes in Portugal which, as I have repeatedly mentioned, should consider the highly specific needs of students such as those being focused on throughout this work from a different perspective.

Assessing the target communities' needs in order to address the students' needs should not be interpreted as excluding the importance of the students' personal expectations and needs from my research. This top down approach is also an attempt to provide some answers to the problem that researchers have pointed out and which Anthony¹⁶ has stressed:

Rather ironically, while many General English teachers can be described as using an ESP approach, basing their syllabi on a learner needs analysis and their own specialist knowledge of using English for real communication, it is the majority of so-called ESP teachers that are using an approach furthest from that described above. Instead of conducting interviews with specialists in the field, analysing the language that is required in the profession, or even conducting students' needs analysis, many ESP teachers have become

¹⁶ ANTHONY, Laurence, "English for Specific Purposes: What does it mean? Why is it different?", Dept. of Information and Computer Engineering, Faculty of engineering Okayama University of Science, 15 Jan. 04, «<http://www.antlab.sci.waseda.ac.jp/abstracts/ESParticle.html>».

slaves of the published textbooks available, unable to evaluate their suitability based on personal experience, and unwilling to do the necessary analysis of difficult specialist texts to verify their content.

I have mentioned in Chapter II that it is not enough to analyse the professional genres that a specific community uses. It is necessary to understand the way in which such genres are used and for what purposes they are generated. By adopting a genre-based approach and analysing language in context, besides learning a language, it is possible to become acquainted with the social contexts and contexts of situation which determine ways of doing things.

Considering that I aimed at acquiring this type of insight, I shall discuss the methodology adopted to support my work.

1. Defining a methodology

Given the specificity of the data I needed to collate, handing out a questionnaire seemed to be the most appropriate choice.

Deciding on how to organise the questionnaire was not an easy task because I knew that my knowledge of the sectors might limit the questions asked and therefore the feedback given. The theoretical framework chosen was essential to defining priorities, and deciding on what needed to be unveiled, as regards the usage of genres by these specialists.

In order to test the validity of the theoretical framework which would support my work, the questionnaire aimed at:

- a) identifying the electromechanical and electrical sectors' communicative needs;
- b) assessing the contexts and situations which generate oral and/or written genres;
- c) identifying the genres that these professional communities generate within their particular context of situation and culture in order to get things done;
- d) identifying the oral genres that these communities generate in specific communicative contexts;
- e) identifying the written genres which are more frequent and relevant within these professional communities;
- f) identifying the genres that require reading and comprehension skills;

e) developing a clearer understanding about these discourse communities' expectations regarding the future engineers' qualifications and communicative competence in English contexts.

These aims would provide me with:

a) the answers and information which would allow me carry out the most important part of my research: to decide upon the appropriate classroom methodologies and practices in order to assist the future engineers in developing new skills and competences. By furnishing students with the tools that would make them more autonomous when confronted with specific communicative requirements, I aimed at developing an appreciation of the importance of life-long learning;

b) the information which would allow me to select appropriate materials to be used in the English sessions and in this way implement an approach based on genre analysis.

I also included three open-ended questions which allowed respondents to give their opinion about the importance of ESP in the curriculum of the engineering courses. These allowed me to check the consistency of the information given in previous questions, and to understand what individual problems had been experienced by respondents when adapting to a professional context.

In order to achieve these aims, my questionnaire was designed according to guidelines which would guarantee the validity of the respondents' answers. Deciding on the questions to ask was not an easy process, given the specificity of the information I wanted to collate.. The organisation of the questionnaire was divided into four main phases: (1) deciding on the aim of the questionnaire; (2) the designing of the questionnaire; (3) deciding on the sample community; (4) carrying out the questionnaire.

1.1 Organisation of the questionnaire

Phase 1 – Deciding on the aim of the questionnaire

Aware of the fact that people are not usually very keen on answering questionnaires, I tried to be as brief and consistent as possible and, at the same time, collect the information needed.

The main aim of the questionnaire was therefore to gain a more precise insight of the companies and find answers to questions which are essential when choosing a genre-approach to ESP.

This information would allow me to organise the ESP sessions in such a way that the target needs identified would be linked and developed alongside the students' learning needs. These answers would also assist me in the process of making choices at the level of classroom strategies and activities, as well as in establishing realistic goals from a teacher and student point of view.

Phase 2 – The designing of the questionnaire

The method used in this questionnaire was quantitative (structured questionnaire) and complemented with qualitative data of the last three questions and collected during informal conversations with the respondents.

The questionnaire was divided into three sections:

Part A – Contextualisation of the company.

Part B – Use of English for Specific Purposes in a professional context

Part C – Other considerations

Part A - Contextualisation of the sector of the company

In order to collate valid information, it was essential to follow guidelines when selecting the companies, considering that the sample chosen should be representative of the communicative contexts of the sectors in general. Although the detailed description of what micro, small and medium-sized enterprises (SME) is not within the scope of this work, it was nonetheless important to have an idea of the size of the companies in order to collect data that could be considered representative.

For this purpose I sought access to the Commission Recommendation of 6 May 2003 concerning the definition of micro, small and medium sized enterprises to decide on the criterion to assess the number of workers.

It was important to get a clear profile of the companies in order to be able to focus on adequate terminology and explore the lexico-grammatical choices in specific professional genres according to the communities' perspective of the world.

In this section the questions were aimed at finding out the following information:

- a) sector to which the company belongs;
- b) number of workers employed.
- c) position that the respondent held within the company.

Part B - Use of English for Specific Purposes in a professional context

This section was the most important one since it would supply the data which is more relevant from the point of view of adopting a genre-approach to ESP. Considering the

theoretical framework chosen, the questions I wanted to find answers to were the following:

- a) How often do the companies use English in oral and written contexts?
- b) With regard to oral contexts, what situations are more frequent in the company?
- c) With regard to written contexts, what genres does the company generate more frequently?
- d) What genres require reading and comprehension skills?
- e) What English skills and competences are the engineers required to have in order to carry out their professional obligations?
- f) How important is English in the curricula of these engineering courses'?
- g) To what degree can an ESP approach improve professional competency/autonomy?

These answers would provide me with the specialist's perspective of what genres are more relevant within a professional context of communication, and at the same time give information about the social organisation of each company. As I shall discuss further on, this part of the questionnaire supplied interesting and surprising information which allowed me to glean the social context in which the future engineers would be working in.

Part C – Other considerations

This part of the questionnaire aimed at collecting information which might not have been addressed in previous questions, and provided respondents with the opportunity to give me supplementary information which I, as a non-specialist in that sector, may not have requested, but which is relevant from the point of view of English skills and competences. I included the following three open-ended questions:

- a) How important is an ESP approach in the engineers' curriculum?
- b) What contributions can ESP give to the future engineers' autonomy by being more aware of the target community's communicative needs?
- c) What else would you like to highlight with regard to the importance of English in the engineering courses' curriculum?

Phase 3 – Sampling

I chose a group of twenty-one companies in Águeda, believing that they are representative of the communicative needs of the electromechanical and electrical sectors in general. I also felt the need to get a different input from NA than that provided by the first year students. Most of my readings discussed the results of NA carried out with

students, but I felt that by addressing the target community, I would gain a more realistic perspective of what students are expected to know in professional communities other than the academic one. I also felt that many of the textbooks, which cater for the needs of engineering students, lacked some feedback from specialists, especially when applied locally.

Phase 4 – Carrying out the questionnaire

The questionnaires were handed out to twenty-one companies during the months of November and December of 2003 and January of 2004, in the city of Águeda. These companies were chosen with the help of the information provided by the Industrial Association of Águeda (*Associação Industrial de Águeda – AIA*), and with the precious assistance of fellow colleagues who collaborate closely with such industries.

2. Discussion of findings

2.1 Profile of the companies

As I have already mentioned, a detailed description of the companies according to the European classification of micro, small and medium-sized enterprises (SME) is not within the scope of this work. However, specific guidelines were taken into consideration, namely the following criteria which organise companies into specific categories for different purposes, namely for financial reasons and for the implementation of industrial policies:

Table 2 – European classification of micro, small and medium-sized enterprises (SME) (Adapted from the data provided by IAPMEI based on the Commission Recommendation of 6 May 2003)

Category	Nº. workers	Turnover	Balance sheet total
Medium sized company	< 250	<= 50 million euros	<= 43 million euros
Small company	< 50	<= 10 million euros	<= 10 million euros
Micro company	< 10	<= 2 million euros	< 2 million euros

Although I started out by choosing companies which employ or had already employed graduates from the Electrotechnical and Electromechanical Engineering courses, staff numbers were considered important in order to get an idea of the dimension of the company, as well as of the perspective that such communities have of their workers' qualifications. Although some companies employed few workers, it was curious to find out that most companies export their products.

Throughout this work, when referring to companies, I chose to adopt the definition given by the Commission Recommendation of 6 May 2003, namely that,

(...) an enterprise should be considered an entity, regardless of its legal form, engaged in economic activities, including in particular entities engaged in a craft activity and other activities on an individual or family basis, partnerships or associations regularly engaged in economic activities.

(Official Journal L 124, 20/05/2003 P.0036-0041).

Despite the different parameters which are taken into consideration when discussing the size of companies, namely the number of workers, the turnover, the balance sheet total, etc., for the purpose of my research I focused only on the number of workers in order to decide on the degree to which these respondents could be representative of the whole of the sectors' needs.

The twenty-one companies chosen were distributed throughout the following sub-sectors: 43% belonged to the electromechanical sector, 14% to the metal sector, 14% to the automobile industry and 29% to other industries such as the chemical industry, the sub-sector of low voltage electrical material, the manufacture of electrical ovens for the research and development of new materials, and to the refrigeration sector.

It was interesting to note that all of the companies included in this research, regardless of their size, are manufacturing for the foreign market, and such trade has a significant value on the companies balance sheet total. In the case of some companies with less than 50 workers, the production was exclusively for the foreign market and such trade has a significant value on the companies' balance-sheet. When discussing foreign business relationships with the respondents, the three most important foreign languages mentioned were English, German and Chinese. I found this information extremely important and wondered about the options which students are given at university. Spanish was also mentioned. However, given that most Portuguese people understand Spanish, it was not placed alongside the other three languages.

Considering the criteria presented in Table 2 the companies questioned fit essentially into the SME domain, which is not irrelevant in the case of Portugal. According to figures presented by *Instituto Nacional de Estatística* (INE) in 1998, small and medium-sized companies represented 99.5% of industry in Portugal, generated 74.7% of employment, and were responsible for 59.8% of national trade. (<http://www.iapmei.pt/iapmei-faq-02.php?tema=7#97>). In the case of the companies questioned, 33% employ less than 50 individuals, 43% have less than 149 workers; and 24% of the respondents are part of companies with more than 150 workers.

When questioned about the position occupied within the company, and through the questions and informal interviews with the respondents, I was able to glean that many of the managerial personnel did not have a higher education qualification. Professional expertise had been acquired through experience which meant that their perspective of what higher education should and could provide was slightly different from the answers given by those who had been through the higher education system. This issue is relevant in so far that the need to integrate trained personnel in professional environments, where most of the workers have not completed their basic schooling, has made the adaptation of young graduates a complex process. However, specific higher education has become more important since Portugal became a member of the European Union, as well as with the growing importance of ISO norms (namely ISO 9000:2000) which require that companies have specialised personnel in order to meet quality standards. Therefore, most companies have been forced to provide workers with training in certain fields which, in most cases, has been given by *Associação Industrial de Águeda* or by sellers of equipment, which makes companies more vulnerable to making autonomous decisions, which is why ESP should take place in higher education and not depend on industrial interests as some respondents mentioned.

The concern with company autonomy, namely when companies have to make choices regarding equipment, the establishment of a relationship with foreign counterparts, exploring the advantages of foreign markets, requires professionals who are able to respond appropriately to the challenges of unexpected foreign professional contexts of communication. As I have mentioned at the beginning of this work, learning a language in the present international context means acquiring the skills and competences to be able to function and communicate in an environment which is no longer ascribed to national boundaries. The ability to communicate in a foreign language is part of what a competitive professional is assumed to be.

Such professionals will allow the companies to be in control of what they assume is best for them, instead of being forced to conform to situations which are the result of limitations at the level of professionals' communicative competence.

When handing out the questionnaires, I requested that the respondent be a person with a managerial role within the company, or at least someone who was familiar with the companies' needs concerning the use of English. All respondents had managerial or departmental responsibilities.

2.2 English for Specific Purposes

It is essential to highlight that for the purpose of the questionnaire, the concepts of ESP and genre were explained. Although respondents were not familiar with either one, they could relate to them given their clarity and functional nature and the awareness employers had of their employees' needs when placed within an English communicative context.

Respondents were asked to rank the questions in Part B of the questionnaire according to the following scale: *very frequently, frequently, rarely and never*.

The information in this part of the questionnaire was the most important, as I hoped it would provide me with the necessary insight into the genres generated by the communities, as well as the importance of oral and written competences and the type of transversal skills that could be developed in order to allow students to become more flexible and autonomous so as to face specific professional challenges.

The first question in Part B of the questionnaire aimed at identifying the frequency with which the companies use oral and written English in their daily routine, and the results were the following:

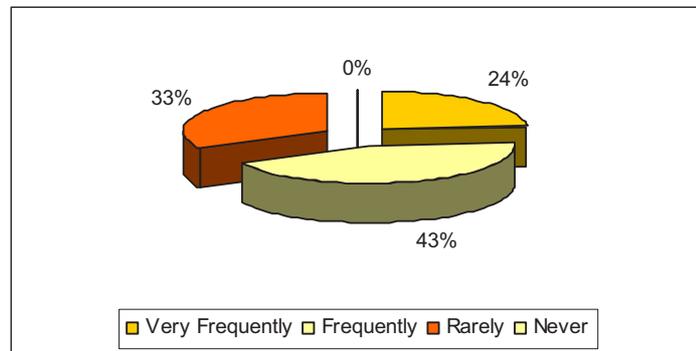


Figure 4 – Frequency with which companies use English oral genres

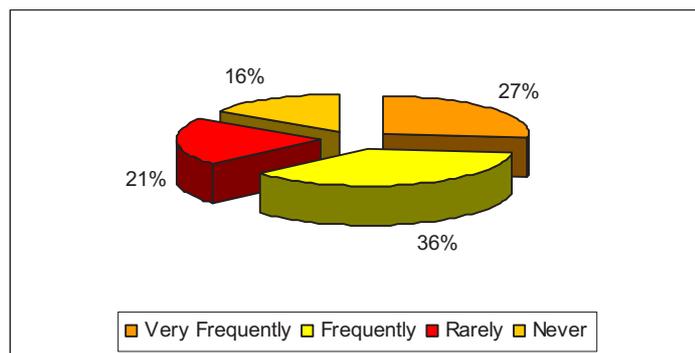


Figure 5 – Frequency with which companies use written genres

The results in figure 4 show that 67% of the respondents answered that oral competences are called upon more frequently than written skills, as the 57% of respondents in figure 5 show. Although oral skills are considered more important by the respondents, the contexts which require oral skills are less specific, and call upon a better General English background. It is important that the ESP classes take this sort of finding into consideration. As figure 4 indicates, regardless of the frequency with which oral competences are called upon, all the companies use English in oral contexts, which is not the case in written contexts of communication.

As other questions and answers reveal, the skills related to writing competences are more important to the company than these first results illustrate, because the latter require a more specific genre knowledge. In further sections, I shall divide and discuss in detail the competences related to writing skills in order to distinguish the learning needs which have to be taken into consideration when addressing the target needs highlighted by the specialists.

The second question, *For what purposes does the company resort to oral texts?*, aimed at identifying the situations students were more likely to encounter in the course of their professional lives. Considering the genre approach adopted, providing specific contexts of situation in class was essential in defining aims and objectives and provided real parameters which allowed students to self-assess their progress. Students were made aware of the concept of register and, consequently, of the ideational, interpersonal and textual dimensions which determine the lexico-grammatical choices we make when communicating. How to do this appropriately was what this question, along with the others about contexts of written texts, would hopefully provide.

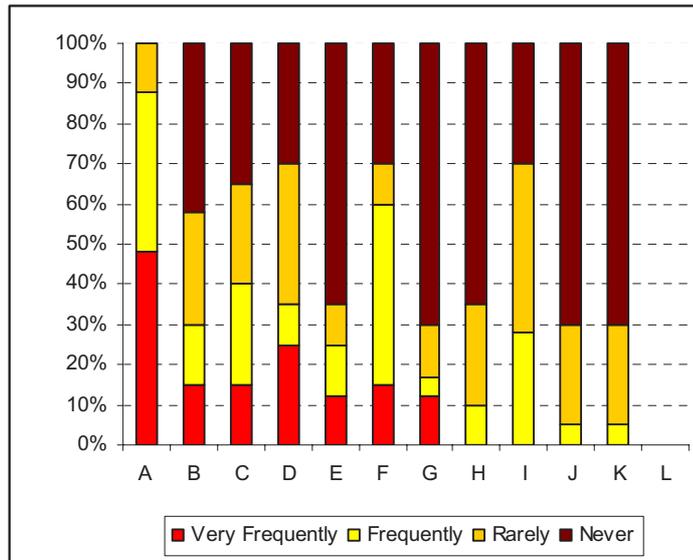


Figure 6 – Contexts which require oral genres

Explanatory caption – Qualitative variables referred to in figure 6

- A – Telephone calls
- B – Taking part in meetings
- C – Taking part in trade/industrial fairs to present products and to carry out the prospection of clients
- D – Taking part in exhibitions/trade fairs and congresses to collect information and establish informal business relationships
- E – Solving technical problems with other workers within the same company.
- F – Solving technical problems with workers from other companies.
- G – Taking part in videoconferences.
- H – Providing professional training.
- I – Giving technical information about machines.
- J – Giving explanations about working conditions.
- K – Solving problems of interpersonal relations.
- L – Other situations.

As I mentioned previously, the results regarding the contexts of oral communication are those which are least demanding from an ESP point of view. I found these results quite surprising, which is proof of the invaluable role that NA plays in the designing of an ESP course and choice of materials. Before carrying out my NA, I had presumed that students would be required to have other specific oral skills which would allow them to present information, take part in meetings, and play a much more active role in decision making processes. The results proved that this was not the case. With the exception of the need to solve technical problems with workers from other companies, students would be expected to have a more General English background in order to face the challenges of oral situations. This was also revealing as to the role that these engineers have within the social structure of the companies.

Another important finding was that although respondents were not familiar with the concepts of genre and target and learning needs, they were able to distinguish the contexts of communication that were more relevant for future engineers, which means that measures can be taken throughout the students' training which can improve their ability to deal with specific communicative demands.

It is my belief that if students become genre aware, they will find it easier to deal with the constant overlapping of genres which takes place in a professional working context. From this point of view, they will become more competent and better evaluators of the appropriate choices to make when interacting within a professional context.

By drawing respondents' attention to the concepts of genre, ESP and discourse community, they quickly communicated with me in an understandable 'genre language' when pointing out specific problems they had. The concepts were usable and made sense to the specialists because they are intuitive, and that means that genre awareness may not be a common premise today, but the ESP teacher might be able to make the difference by providing future specialists with this genre awareness and consequently, with a more flexible learning attitude.

Most respondents agreed that oral skills were important. However, it was curious to note that despite the fact that most employers would prefer to have fluent speakers with them, they all agreed that it was more important to have workers who know how to get their message across, in spite of mistakes, because most of the clients they communicate with also use English as a foreign language, and are therefore not puristic about correction standards. This was important for students as most of them consider their future counterparts as being native speakers. Considering the role of English as a *lingua franca*, there will be a number of unpredictable situations brought about by the percentage of non-native speakers who interact in business contexts.

The fact that English is the language that individuals use for business purposes as a *lingua franca* can no longer be denied. English has become a tool that serves functional purposes and generates a 'culture' of its own which has little to do with the British or American culture that students learn about during their basic schooling. This business language is where different cultures come together and where the focus is to get things done, and not on the culture of English speaking cultures, as my respondents referred. Therefore, students were encouraged to talk about Portuguese culture, using a foreign language which is what they shall find themselves doing more often. This approach is fundamental to language learning. Learning to talk about where one comes from and referring to their country's individuality also develops students' cultural awareness.

Making students aware of the fact that they would be communicating with other professionals who also use English for specific purposes in order to 'get things done' was important when establishing collective and personal learning objectives. Overcoming the constraints of a not too successful relationship with English in the past was, to a great extent, due to the fact that real goals could be established. I have revisited the issue of establishing realistic goals throughout this work because most students stated and continue to refer that their greatest difficulty regarding English has to do with not knowing how to go about studying for the subject. The reasons for choosing a genre-approach are related to this issue. Showing students what they have to do with language and how things get done provides them with guidelines which allow them to self-assess their progress, to put forward specific doubts which develop their ability to communicate more appropriately.

The fact that most students struggle with functional texts in Portuguese and, above all, the fact that a forty-eight hour English course had its limitations, it was essential to focus on study skills. This was a permanent concern of mine throughout the year: to help students establish a number of goals that were attainable, that they could develop in the future by themselves, and make them aware of the importance of learning as a life long experience. I considered this issue to be of great importance because these students had to understand the need for developing methodologies, and that their learning would improve if they developed forms of approaching problems in an organised way. This was another reason for choosing problem solving situations. By using different methodologies throughout the year, and providing practical, hands-on experience in class, students were encouraged to develop and adapt their own working and learning strategies in order to find solutions for practical problems.

Such an approach would contribute undoubtedly to a greater ability to prepare themselves for different interactions.

Question number three aimed at identifying the purposes for which companies use written genres.

It was important to establish a difference between the oral and written competences that the students were required to possess. Defining right from the beginning which genres should be explored and for what purposes is a form of bringing the discussion and possible restaging of authentic situations in the classroom which leads students to become aware not only of their own needs, but also of the context in which such texts are produced, hence a form of providing learners with accomplishable goals, and with a

glimpse into the professional community they will be working in. By adopting a problem solving approach, students were given only the essential theoretical considerations, and confronted authentic problems that they would encounter, and would have to solve, in their professional and academic lives.

The results of Part A of the questionnaire highlighted the importance of oral skills. However, when analysing the results of this third question in Part B, it became clear that ESP should focus on the specificity of the competences required to communicate successfully in contexts of written communication, as the following graph illustrates:

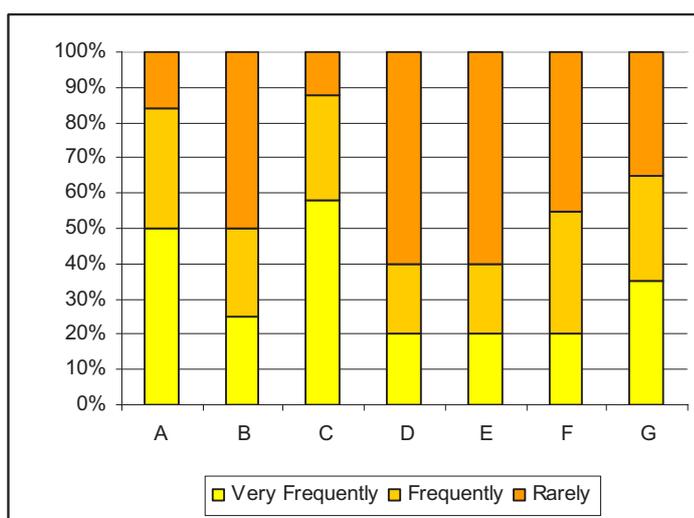


Figure 7 - Genres which require active skills

Explanatory caption – Qualitative variables referred to in figure 7
 A – Commercial correspondence
 B – Reports
 C – Electronic correspondence
 D – Notes
 E – Memorandums
 F – Forms
 G – Promotional material

This information was also invaluable in establishing a difference between what I have chosen to call passive and active skills. As the findings demonstrate, 82% of the companies consider that being able to deal with commercial correspondence is of the greatest importance, alongside the approximately 90% which pointed out the importance of electronic correspondence. Such information shows how ICT has occupied a relevant position within the business world, which could lead one to discuss the issue of where e-mails stand at this point: as a genre or as a medium? I also found it interesting that most respondents did not focus on the importance of directly teaching students how to deal with and maximize ICT potential, because it is assumed that younger generations feel at ease

with such technology. The fact is that students might in fact feel comfortable with different types of gadgets, but that does not mean that they know how to use ICT for purposes other than entertainment/enjoyment. I was able to see that most students do not know how to find valid information online; that they are unaware of the existence of databases in their areas of study; the list could go on.

However, for the purpose of establishing priorities at the level of active skills, this information was invaluable.

The use of the *webct* platform throughout the school year was a form of making students more aware of the role of ICT at the level of life long learning, while developing their awareness of what could be found online to assist them not only in English, but in their content subjects too. The fact that a lot of communication between teacher and students took place by means of electronic correspondence helped students develop a more formal register, as many learners assume that an e-mail invites an informal register. This is another reason why electronic correspondence and its role within the world of commercial correspondence should be reviewed.

The use of the *webct* platform encouraged students to develop transversal skills and competences while consolidating technical competences. This was also complemented with a contextualised use of the genres that had been analysed in class. When doing project work, for example, students were required to send a memo updating individual or group work. By using certain genres to communicate with me, students became more comfortable with such texts and came to use them naturally whenever they were required to send in information.

Bearing in mind the data provided by the questionnaires, the following genres were focused on with the aim of developing active skills:

- a) CVs and covering letters;
- b) faxes;
- c) memorandums;
- d) invoices;
- e) order forms and letters of complaint;
- f) formal letters (requesting information, tenders, etc.);
- g) electronic correspondence.

I chose to focus on CVs because although they were not pointed out as being relevant by the respondents, as they are not in fact part of the professional genres generated by the community, they are nonetheless personal professional genres which need to be

taught, because most students are unable to produce the document which is their stepping stone into a professional community.

In the unit dedicated to writing for specific purposes, and considering the particular pedagogical context of the learners, I decided to include an EAP approach when dealing with reports because although they were not pointed out as a relevant genre by the specialists, the genre was fundamental for students' academic context given that they are required to present reports in all their content subjects. The lack of experience with functional genres in Portuguese made the ESP classes an extra aid in dealing with Portuguese texts.

In order to introduce each unit, students were presented with a variety of faxes, memos, letters, and other genres and led to identify the generic structure of the different genres. By doing so, they were able to identify the accuracy and appropriateness of certain forms of communicating and, at the same time, develop personal text repertoires and methodologies which assisted them in producing different texts for different purposes.

Students were not usually very receptive to activities which required written practice. Most of them associated their difficulties in communicating with the lack of vocabulary and the struggle with syntax in English. They felt at a loss whenever specific vocabulary was not provided, because most of them were unable to read and comprehend a scientific text, for example, or even a job advertisement, and requested vocabulary lists to study. In these cases, students were invited to explore online tools and exercises which allowed them to study at their own pace, while their work was automatically corrected. In order to provide students with a safety net and to introduce vocabulary related to letters of application and CVs, for example, I started all my lessons with spelling and vocabulary recalling tests which derived directly from texts which students were working on. Unlike traditional spelling tests in which vocabulary is studied removed from the communicative context in which it may occur, the aim of my spelling tests was to recall vocabulary from previous lessons and which students would be using in that particular lesson, in the production or reading of a specific genre. The choice of the words was directly related to the schematic structure of the genres. An example of such a vocabulary recall was the case of wording related to personal information, such as name, surname, address, nationality, etc., and their role in the organisation of the schematic structure of a CV, of an application form, and so on. Recalling vocabulary was also a form of bringing about contexts of meaning with which students could relate to. Hence, by providing students with a safety net such as the spelling tests, they were simultaneously being encouraged to associate such wording to contexts of communication which bring about meaning while

language is doing something. Students had very specific difficulties which made certain activities more complicated to carry out because, although they possessed some basic skills, these were not enough, in many cases, to allow them to accomplish the required tasks. This was the case when dealing with company and personal documents.

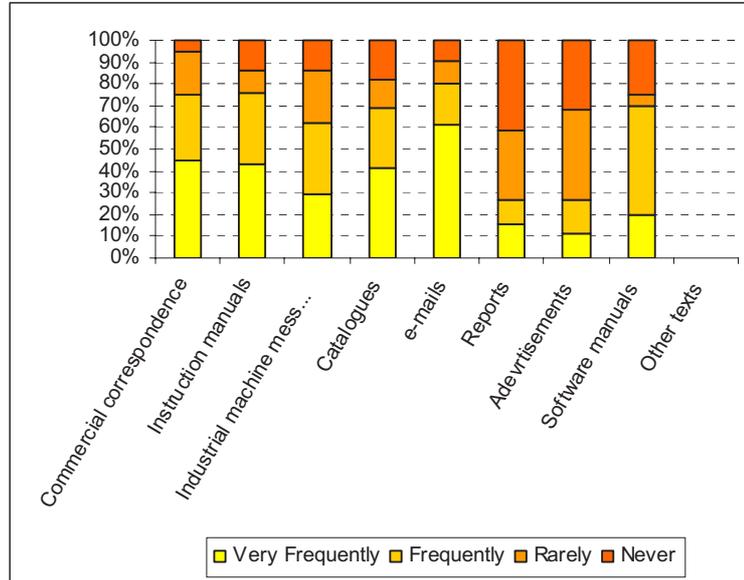


Figure 8 – Genres which require reading and comprehension skills

Explanatory caption – Qualitative variables referred to in figure 8

- A – Commercial correspondence.
- B – Instruction manuals.
- C – Industrial machine messages.
- D – Catalogues.
- E – e-mails.
- F – Reports.
- G – Advertisements.
- H – Software manuals.
- I – Other texts..

As figure 8 illustrates, there is a set of identifiable genres which guarantee the accomplishment of tasks: commercial correspondence (72%), instruction manuals (76%), industrial machine messages – procedural texts – (62%), catalogues (72%), and surprisingly, e-mails are once again considered the most important (81%) which does in fact show that electronic correspondence has come to change the role of traditional correspondence. The development of technology has come to be perceived as a natural outcome of living in a society where ICT has a fundamental role. It would be interesting to learn what sort of changes are taking place in the genres used in the communication between organisations, considering the importance of electronic correspondence.

Given the specificity of these industries and the publication of journals, articles, development of software, etc, there is not enough time for professionals to wait for translations, which means that they have to be able to collect the necessary information from different sources to carry out their jobs. This is where I expected a greater focus on skills related to ICT which, surprisingly, did not happen,

As the graph once again substantiates, reading and comprehension skills require an ESP approach and a genre-based approach. The use of the *webct* platform was once again essential to the development of reading and comprehension skills because most of the communication between teacher and students throughout the year, given the limitations of the two-hour weekly sessions, took place through email and chat sessions.

The other genres identified by the specialists were dealt with in another way. I chose strategies such as text reformulation and textual expansion to make students aware of word order, for example. One of the texts which was not identified by the respondents but considered essential by the teachers of the content subjects of both engineering courses and by the students was the reading and comprehension of data-sheets. I think that this genre would have been pointed out had it been included in the list, as it is also used by professionals whenever a new electrical component is bought. In the case of data-sheets, I chose an electrical component data-sheet for the EET course and a material safety data-sheet (MSDS) on safety procedures for the EEM course. Both courses worked on the generic structure of the data-sheets and were then asked to expand the text. In the case of the EET course the aim was to explain what that specific electrical component is used for, including the necessary technical specifications. The EEM course was asked to reformulate the basic safety procedures so that these could be used as a list of safety precautions in a section of a factory where chemical products are used.

This graph demonstrates that the written competences, apparently less important than oral competences as the first chart illustrated, are in fact those which require greater attention in the ESP class.

In order to check the consistency of the answers given to the previous questions, question number five requested that respondents establish a hierarchy of English skills and competences which are essential in an engineer's daily routine. The scale used for this question was: 1= *essential*; 2= *very important*; 3= *important*; 4= *useful*; 5= *not important*.

This question was basically a form of bringing the previous data together and checking the coherence of the answers given. As specialists are not used to analysing the way in

which language is used in the course of everyday life, I am aware that relevant aspects other than those focused on throughout this questionnaire may have been left out through the process of natural choice, they were not priorities. I have already mentioned the constraints brought about the limited number of English sessions in the curricula of these courses. Considering such constraints, I wanted to gain a better understanding of the most relevant genres generated and used by the particular professional communities being focused on. From this perspective, despite the relevant information that a more detailed listing might provide, I preferred to focus on a text repertoire that, being specific in its communicative intentions, was simultaneously broad enough in its scope of intentionality to allow students to acquire a vaster knowledge of the diverse and overlapping characteristics of real world professional communication. When exploring MS and MSDS, while focusing on the specificity of these genres, students developed other genres, with other communicative intentions, i.e. they started out by playing a passive role with regard to the production of a DS - these require reading and comprehension skills in order to get things done. However, exploring this genre allowed them to generate other genres, namely lists of precautions and instructions which would be taken into consideration in a working environment by fellow colleagues.

The aim of such activities was to make the dynamic and evolutionary nature of genres more apparent to students. I did not want them to acquire static models of communication which could be applied in any professional situation. Such a perspective of genres would lead me to fall back into a technical vocabulary approach to ESP. By establishing a direct relationship between context of situation, communicative intention and genre, students were learning how to deal with the unexpected by becoming more creative in their conscious choice of genres to achieve communicative goals.

Throughout the period I carried out this research I became even more conscious of the need to establish stronger ties between the professional communities and higher education institutions. Sharing pedagogical concerns with specialist communities, namely in the case of the designing of an ESP curriculum, does not mean that the target situation is the only object of concern. However, by having a clearer perspective of the way in which specialists and professional communities interact can bring about many advantages to both the academic and professional world.

One of the most important contributions I believe to have given to my students, considering the specificity and competitiveness of the international context we now find ourselves in, was the development of skills related to ICT. My work has confirmed my

belief that it is no longer possible to teach languages without using ICT intensively, given the extension to which technology has changed working environments and forms of interaction, and with regard to communication in general.

The answers to this question brought about some interesting information, namely regarding the role of ICT literacy which has not been directly mentioned in previous questions. 76% of the respondents (bearing in mind the classifications from 1 to 3), considered consulting specialized information on the World Wide Web an aspect that engineers should be familiar with. This substantiates the need to include a conscious effort throughout students' education to improve and develop skills and competences relating to the appropriate usage of ICT. One of the skills greatly focused on throughout the year was the use of online tools when dealing with technical genres. I was pleased to see students switch on their computers as soon as they walked into the English session, because it was a means of developing their knowledge by means of technology. Given the role of standards in the areas of electronics, students quickly became familiar with databases, such as those provided by the European Union, when dealing with specialist knowledge. Recognising the need to find valid scientific and technical information was of a great importance to these students.

The following graph represents the English skills and competences that engineers are required to have in order to carry out their daily tasks competently.

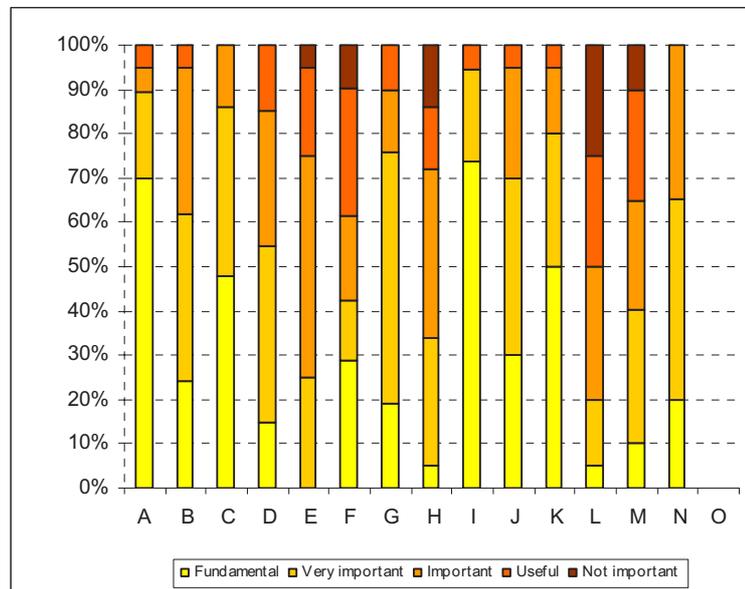


Figure 9 – Skills and competences required in English language required by an engineer in daily professional activities

Explanatory caption - Qualitative variables referred to in figure 9

- A – Read and understand technical texts.
- B – Read and understand software manuals.
- C – Read and understand machine instructions.
- D – Take part in a meeting.
- E – Interact with people with different cultural backgrounds.
- F – Maintain a conversation about the company they work for.
- G – Give information on the telephone.
- H – Write commercial correspondence.
- I – Be familiar with the terminology within the field.
- J – Understand oral instructions.
- K – Understand written instructions.
- L – Take part in videoconferences.
- M – Present facts and figures.
- N – Consult specialised information using the www.
- O – Other situations.

The responses regarding the importance of passive skills do not contrast with earlier information given the importance of the reading and comprehension parameters. These figures also provide a clearer insight into the role that engineers have within these companies. Considering the data in the different sections, I do not think that these professionals are expected to have a very active role within the companies which, from what I was able to perceive during the visits to some of these companies' premises, places them at a level within the company which clashes with the students' expectations regarding their future professional standing. It is also true that in the different companies, there are very different positions which can be occupied by these future graduates. A detailed discussion of this aspect would require an approach which is not within the scope of this work. However, this list of competences did allow me, as a teacher, to encourage students to develop a multi-dimensional approach to their learning, making them aware of the overlapping and sometimes unexpected requirements they might be confronted with in their professional future.

In a growingly competitive market place, qualified workers are vital to the companies' success as most of the respondents stressed, as well as being able to adapt to new situations in a short period of time. However, the idea that workers have to be more qualified and more flexible contrasts dramatically with the results of this questionnaire when considering issues such as the importance of cultural awareness, ICT competences and skills which go beyond the nearly mechanical perspective of English which comes across in the figures.

The recurring evidence that certain transversal skills are required is something to be taken into account seriously in the designing of any course syllabus. Bringing about the opportunity to develop skills which are usually taken for granted by employers, because it is assumed that they have been acquired along the way, is one of the major

responsibilities that higher education in particular, and the Portuguese education system in general, should consider seriously. It is not enough to provide students with technology; they have to be taught to explore such technology to make them more autonomous as life-long learners. Just as it is a mistake to make common sense assumptions about the way in which professional communities use specific genres, it is also a mistake to assume that providing the technology is enough. Not all students feel at ease with technology from a learning point of view. This is a situation which students encounter throughout their higher education and which brings about specific problems which are seldom dealt with directly. Examples are the writing of reports, the use of appropriate bibliographical quotations, adequate forms of giving oral presentations, etc. One should, however, bear in mind that most students have never been taught to develop such skills, nor have they been exposed to a repertoire of genres which allows them to transfer information to new situations. They learn by making mistakes, but these mistakes are penalizing because they are usually part of the final assessment process or, with more damaging consequence, assessed in a professional context.

The companies which employ more than 150 workers were those which considered ICT fundamental to an engineer's performance at a professional and personal level. This might have to do with the fact that such companies have more qualified personnel and are therefore more aware of the importance of a higher education added to the need to satisfy demands brought about by the national and international market places.

2.3 Respondents' considerations

In Part C, respondents were asked three open-ended questions, which aimed at collecting information which might not have been addressed in the previous sections.

The three questions posed were:

1. Is English an important subject area in the Electrotechnical and Electromechanical engineering courses lectured at ESTGA?
2. Could an ESP approach improve engineers' performance within the company?
3. Is there anything else you would like to add to this questionnaire regarding the importance and use/usage of English in the training of the Electrotechnical and Electromechanical engineering students?

Answers to question number one confirmed that English is not just an important foreign language; it is part of what an engineer needs to know in order to carry out and meet professional obligations and requirements. The answer to this question was easy to

foresee. However, in the context of my research, it was important to understand what was considered necessary to be functional and communicatively competent within a specific working environment. The following results were therefore not totally surprising.

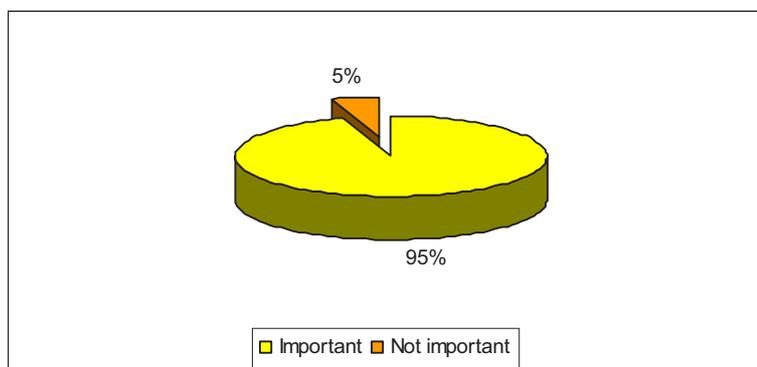


Figure 10 – The importance of English in the courses' curriculum

This information is by no means new unless one decides to adopt NA as a strategy in the designing of an ESP syllabus, and adopting a genre approach in the classroom. The information collated will have to have an impact on traditional classroom methodologies by consciously addressing the functional needs that Portuguese students have when required to deal with the business world in English.

In order to understand the reasons which lead to the answer given to this question, respondents were asked to justify their opinions. Given the similarity between answers, findings can be grouped as follows:

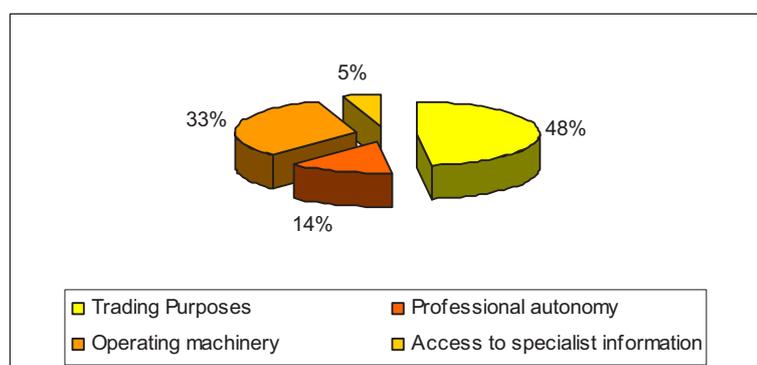


Figure 11 – Reasons for including English in the courses' curriculum

When questioned as to the advantages that an ESP approach might bring about to the company, the answers substantiate the need to bring the real world into the classroom,

and help students understand that language means what it means because of the things it does.

The following chart illustrates the advantages pointed out by the respondents:

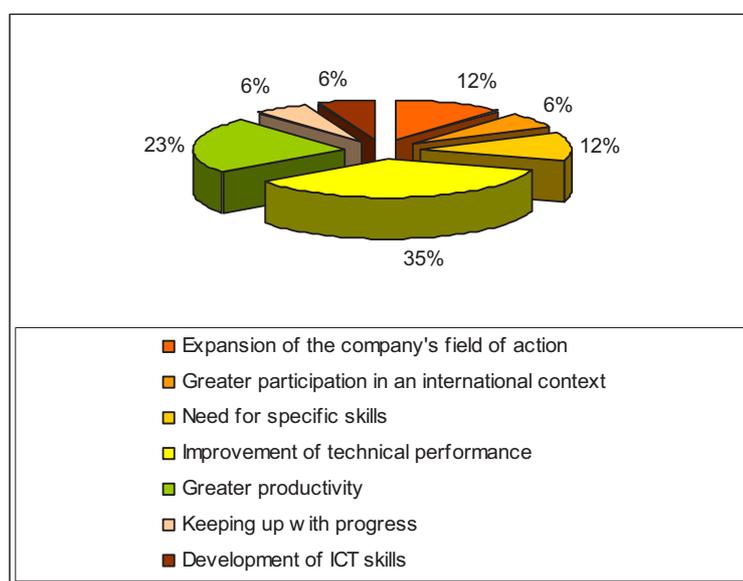


Figure 12 – Advantages of an ESP approach

Only one of the respondents answered that ESP was not relevant, because the foreign language required in the company is French. However, it was interesting to find that another respondent, within the same company, in a different department, with a higher position within the company, considered ESP important to keep up with innovation in the sector.

What came through while analyzing the figures was the importance of being functional and knowing how to go about solving specific problems. Even respondents who were fluent GE speakers considered themselves less competent when communicating within specific contexts, which leads me to reiterate that ESP should complement students' GE background at the level of higher education.

Question number three encouraged respondents to add anything else they considered relevant to the English training that the engineering students were receiving, and the answers confirmed the fact that changes in the approach when teaching English in an ESP environment, namely by developing a genre-based approach, may lead to important changes in the performance of these professionals. Specialists recognized that new challenges have arisen due to the changes brought about by international competitors and client demands. Portuguese industry is faced with the need to update workers'

qualifications if they intend to be competitive. Academic qualifications have never been as relevant as they are now, especially with the growing importance of accreditation systems, namely ISO 9000:2000, which have highlighted the issue of quality management and quality assurance. The 66% figure which represents the needs brought about by market requirements is a sign that the industrial sector and higher education institutions need to establish common goals and mutually contribute to the development of competent professionals.

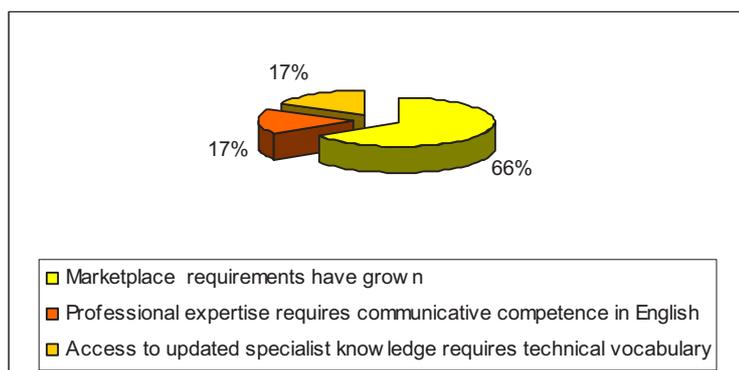


Figure 13 – Extra comments

The fact that it was possible to group respondents' answers to the three open-ended questions into three main groups is a sign that it is possible to identify and focus on common communicative needs in professional communities.

Overview

All respondents ranked English as being very important for professional and personal reasons and considering the approach adopted throughout the questionnaire, I was able to gain a clearer insight into the perspective that specialists have of English and what language is supposed to do within specific contexts.

This questionnaire allowed me to draw the following conclusions regarding the importance of needs analysis in the selection and designing of courses:

- a) the genres identified are related to commercial and administrative procedures and technical genres;
- b) passive skills were considered more important in order to guarantee specific action, namely reading and comprehension of technical texts (instruction manuals, software manuals,...);

c) the ability to perform well as a professional was related to being communicatively competent in English. This information could be gleaned from the answers given in the questionnaire and the informal conversations held with the respondents;

d) the contexts of situation which I discussed allow for specific action to be taken in the development of classroom strategies, materials and activities which will allow students to make more autonomous decisions when communicating in specific contexts.

After analysing the results of the questionnaires and drawing on the informal conversations with the respondents, I found that in fact genre consciousness does not exist for those outside the academic community. However, this does not mean that professionals are unable to relate to specific communicative needs. More than one respondent mentioned that they were unaware of the variety of different communicative situations the company was faced with everyday, although they could identify them when looking at the list presented. Should they have been asked to number them without any listing, they were sure they would have been unable to identify all of them. Developing genre-awareness in future professionals is encouraging the awareness of the factor choice when communicating, and that it is possible to prepare oneself for specific professional interactions by developing a framework that allows a flexible and creative approach to the use of language for specific purposes.

More than one respondent also mentioned that languages were increasingly important for the companies' daily dynamics. Some companies have actually made their needs known to the Industrial Association they belong to which has in turn organised a number of intensive courses in various areas ranging from languages to computer programming, in order to overcome problems related to the lack of qualifications of many workers in several companies in the city of Águeda.

After having been through this process of NA, I am aware of the fact that different questions could have been asked in order to collect statistical information concerning the employers' academic training, workers' qualifications, whether the companies are accredited and have implemented ISO 9000:2000 norms, and the implications that that might have had on reviewing workers' qualifications. However, I managed to collect the most important data and that had to do with solving the problem that most ESP teachers are faced with when designing a syllabus and that is what to teach?

Having gathered this information and consulted specialists whenever I felt the need to clarify any of the many issues I was obliged to study, I proceeded to collect and select the materials for the course.

After carrying out this first NA, it no longer makes sense to me to think of preparing an ESP course without including the target community's needs. These results have also proved that both parties – industrial and academic community – have a lot more to gain in developing a collaborative attitude towards each another. This allows the academic community not only to prepare better professionals, but also provides students with a framework which they can activate at any moment during their professional lives, encouraging them to acquire a new perspective of learning a language.

This work also made me aware of the fact that being an ESP teacher means developing collaborative practices with content subject teachers and specialists in the field. The classroom is now the pre-professional taste of the business world and it is important that learners feel that there is a relationship between what they are learning and what they will be doing in the real world.

Chapter IV

Theory into Practice

(...) it is that complex and dynamic interaction between an individual in a situation which is new to him or to her, and their attempt to deal with that difference. It is the moment in which individuals experience change, and in that moment change themselves; it is at the same time the moment when they effect a change in the world around them through their making of a new representation –whether as an image, or as a written or spoken text, or as a gesture, or as anyone of a myriad of other meaningful actions.

(KRESS, 1998:6)

In the previous chapters I discussed the importance of taking into consideration the international context, which calls for individuals who are capable of adapting to constant changes and keeping up with the regular update of knowledge made accessible primarily through Information and Communication Technology (ICT). ICT has brought about significant changes in the way people communicate, causing traditional concepts of text and discourse to be questioned, therefore challenging the theories which study the way in which language is used and bringing about demands for a metalanguage which is able to embrace the changes to traditional forms of interaction, and therefore new contexts of situation. The call for new methodologies is related to societal and individual requirements brought about by the way in which working environments have altered relatively stable forms of getting things done. I have also mentioned the importance of the approaches developed by Genre Theory and by Systemic-Functional Linguistics which have aimed at analysing language in action; embracing language in what it does everyday within the constraints and conventions of discourse communities, and providing a theoretical framework which can account for the skills and competences that individuals need to acquire and develop in order to be successfully interact with others in different social spheres.

The aim of this chapter is to present some samples of the materials used throughout the year, applying the theoretical slant discussed in the preceding chapters. The texts presented are short for practical reasons, since a genre-approach requires that the

students be exposed to the complete text in order to understand the lexico-grammatical choices made and the attendant structure. Therefore, when choosing the materials, I focused on texts which could be worked on in that class, considering the time which elapsed between each session. Homework also required the production of complete genres so that language was never removed from its context of situation.

I shall now discuss the materials and classroom methodologies in detail.

1. Tools

The management of the classroom environment was greatly influenced by time constraints as students' exposure to English was limited to a two hour weekly session. Therefore, in order to maximize the sessions I decided to prepare a workbook which provided students with guidelines as to what the aims of the subject were, given that a genre approach is not a methodology which is immediately clear to learners. I also decided to explore the potential of ICT by ascribing an account to each student so that they could access the *webct* and complement the two hour sessions with materials, links, exercises, chat sessions, etc., which were made available.

I did not want English to be considered just another subject in which students worked for two scheduled hours. I wanted my classroom to be a door which students could use to access different learning environments. Two hour sessions within a physical classroom were not enough to help students develop a new approach to language learning. I had to find a way of making them want to take a peek into English from different perspectives. A virtual classroom seemed to be a perfect solution. I could organise the platform according to the students' needs and interests and, at the same time, monitor each students' progress.

The platform aimed at providing long distance learning, with all the advantages associated to this means of communication. Working students who were unable to come to class, or students who for some reason could not see me during office hours found it practical and easier to send in a mail or to go into a chatroom. Besides encouraging learners to organise study hours, the possibility of contacting me without having to be physically presented was, in itself, an opportunity to draw students' attention to the potential of ICT in their learning process. My previous experience with the platform revealed that students feel more motivated to communicate in English and felt less embarrassed and afraid of making mistakes when they can communicate with the teacher in an environment which can be based on one-one communication if necessary. Not only did the platform provide students with the opportunity of developing their writing skills, but

it also encouraged them to explore online tools in an organised manner. Exposing them to different genres and various study tools and resources was a form of developing their computer skills while making the choice of specific lexico-grammatical choices clearer.

Having chosen the tools considered appropriate to the approach I wanted to adopt, I divided the twenty-four lessons into four units:

- a) Unit 0 – Theoretical considerations and contextualisation;
- b) Unit 1 – Personal and Professional Genres: Writing for Specific Purposes;
- c) Unit 2 – From Specialist to Specialist: Reading for Specific Purposes;
- d) Unit 3 – Extensive Reading
- e) Unit 4 – Terminology, Translation and Technology – Project work

The *webct* was organised in a way that would assist an organised approach to each of the units to be studied. Developing study skills was a constant concern because my experience with Portuguese students has led me to understand that the major obstacle to successful learning lies in the lack of a personal methodology. The lack of personal study skills and methodologies is, from my point of view, why so many students feel at loss at the level of higher education. Just as I believe that ICT skills can and should be developed throughout students' basic schooling, and further developed within higher education, I also believe that study skills have to be taught. And nowadays it is essential that study skills be associated to ICT.

The *webct* was therefore a means of expanding the classroom in such a way that students would start using the tips and references as part of their studying habits. The environment was organised in the following sections which provided hyperlinks to more sections:

- a) announcements;
- b) information;
- c) a link which provided my personal information (name; degree; telephone number and e-mail; office hours, etc.)
- d) contents;
- e) assignments;
- f) communication tools;
- g) external links;
- h) other tools.

Each of these links allowed students to access more information. In the case of the Contents hyperlink, students could find links to reference tools (dictionaries, glossaries,

thesauruses, translation tools, terminology databases, etc.); to sites which provided tips to develop study skills; to grammar tools (online exercises); to vocabulary lists and online exercises; to sites which provided reading for specialist information (this information was complemented by content subject teachers); to online short-stories which encouraged extensive reading, namely science fiction and other genres which simultaneously developed specialist vocabulary; and reading and comprehension exercises. Classroom activities and the correction of exercises carried out in class were also made available to the students online.

Besides the reference material, students also had an e-mail account and chat rooms which were used to communicate with me and with other students and which allowed students to become more comfortable when communicating in English. Once again it was also an opportunity to explore genres, using English, to get things done.

With these two tools, the twenty-four lessons throughout the year became quite intense and difficult to manage at a certain point given students' enthusiasm with the *webct* platform. Computer mediated communication has an uninhibiting effect on many students because I think they feel less exposed, which is one of the major obstacles which has to be overcome when working with students at the level of higher education.

It is important to refer that although class ended at the end of the two scheduled hours, a lot of work and communicating was taking place through the *webct*.

Throughout this work I have stressed the importance of ICT in ESP classes. Technology cannot, and should not, be left outside the language classroom. If this happens, as teachers, we are allowing our students to side-step access to knowledge, and to ignore the major changes that technology has brought to our professional lives. It is no longer an option to like or dislike technology. The lack of know-how and confidence with ICT has serious consequences on individuals' social and professional lives (see Chapter III, Methodology, where the genres generated by the World Wide Web have brought about new requirements with regard to communicative competence), and should therefore be embraced as another set of skills to be developed. Language teaching cannot be seen as independent from the forms of communication which are constantly being developed, precisely due to the rapid changes which have taken place in the traditional ways of communicating.

I was fortunate to have all my lessons in a computer laboratory, which allowed students to become familiar with the different tools which can assist them at a number of levels, within an academic and professional environment. I was astounded by the

difficulties that many students had in accessing valid knowledge on the World Wide Web. They did not know how to deal with the overflow of information. This was also part of the ESP class and I know that many students came to feel more confident when they became more comfortable with certain online tools.

The *webct* was also where students were invited to make suggestions and contribute with issues which were of their interest and which could generate more interaction in the classroom.

I shall now discuss the organisation of the workbook and present some samples of the materials used.

2. Organisation of the workbook

There is little in the way of "contextual material". Sentences chosen for exercises are perfectly normal utterances, but they seldom have any relation to one another.

...In addition, almost all responses are complexly controlled, and there is little provision for students to generate any utterances different from controlled responses being practiced.

(DARIAN, 1972:94)

Traditionally, learning a language involves a textbook which consists in a selection of texts, followed by reading and comprehension exercises and units of language focus, in which grammatical items are dealt with in an isolated manner, followed by exercises which provide a false idea of the development of communicative competence given that the learner is rarely invited to test the linguistic competence acquired in a context of real world communication. General English has followed this approach, based on institutional and ministerial guidelines. However, when students are faced with specific demands at the level of higher education, or within a professional context, where they are required to produce specific texts within a specialist context, it becomes clear that students fall short in their ability to respond appropriately to such challenges. The lack of experience with a functional text repertoire in their mother tongue becomes obvious when students are requested to hand in reports or prepare oral presentations, or when they need to communicate with companies and suppliers when developing projects in the second and third years. This dysfunctional aspect is therefore transferred to English, making the recognition of the generic structure of genres an entirely new experience, instead of an opportunity to transfer the knowledge of communicative patterns in their mother tongue to a foreign language context. Carrying out a contrastive approach to genre analysis and the

opportunity of exploring cultural differences becomes more complex given the learners' lack of textual repertoire in Portuguese.

Considering the adoption of a genre-based approach to ESP, it was essential to introduce students to basic concepts and signposting techniques which a genre approach depends on. This was the reason why I chose to include Unit 0 which provided learners with the basic notions of genre, schematic structure, register, discourse community, context of situation and culture, and communicative intention, as well as with a brief definition which they could refer to when working with different genres. I did not go into a complex theoretical discussion of these concepts, but I did decide to complement the workbook with a glossary which explained the notions and chose to carry out a few practical exercises in class to make the concepts clear. The main aim of this unit was to develop an awareness of the different interacting dimensions which are brought about when we communicate. The concepts of genre and register were usually brought about when analysing any text so that students became aware of the influence of context of situation and communicative intention in *any* instance of communication. By doing so, students were able to approach the text with a background which allowed them to be critical of the choices made when communicating in specific situations, and allowed them to make more autonomous and appropriate decisions when faced with specific and varied contexts of communication.

Throughout the workbook, students were not only exposed to professional genres because controlling a range of registers is important for individuals to be communicatively competent. This is one of the reasons which makes a GE background important when deciding on an ESP approach, because ESP exposes students to registers which escape the common core references which make up everyday communication. However, the exposure to specific registers and genres will require the awareness of what makes such genres different from the functional genres used in daily interaction. The effort was made to provide a varied text repertoire so that genre-analysis was not confined to specialist materials. The ability to understand the parameter of intertextuality when producing cohesive and coherent texts requires a certain expertise regarding the different ways in which genres interact in specific contexts of situation.

Students were introduced to the analysis tools which helped them to switch registers according to what they wanted to accomplish in their social and professional lives. It is through genre awareness that students become sensitive to the reasons why different lexico-grammatical choices are made, and what consequences certain choices have on

the final outcome of a text, and how much can be said about the context of situation by analysing register.

Although I have mentioned the relevance of corpus linguistics at different moments throughout this work, I did not develop a corpus-based approach to ESP because I think that it is more a complement to different approaches, than a theory which can stand alone in the case of my students.

Although the specific study of register accounts for the shared linguistic features which are related to the number of occurrences of systematic features (such as nouns, pronouns, verbs, adjectives, etc.), the way in which register is viewed within a genre-approach is different in the sense that it focuses on the contexts of situation which bring about certain registers. This is the reason why the variables field, tenor and mode, and the interpersonal, ideational and textual dimension are considered when accounting for the specific communicative needs of a discourse community. By taking considering the way in which semantic networks are representative of these three dimensions, it is possible to discuss the sociality of meanings when learning ESP. This is an important issue because although register may undergo changes within communities which use English as a tool for international communication, or for accessing knowledge, the fact is that genres are less influenced by non-native speaker constraints and limitations. For this reason, a genre-based approach assists and provides a context for the further acquisition and learning of different registers and variations within English.

The fact that the learners are non-native speakers, their ability to develop a critical approach to the use of register variations is a complex task, since even native-speakers have to be introduced to the specificity of professional discourse. This calls for theoretical approaches which assist students in developing a method which can assist them in making their choices when communicating.

Multidimensional analysis, based on corpora and computational techniques are therefore valid tools in the field of ESP.

What I consider the most important aspect to bear in mind at this point, from the point of view of the teacher is that, despite the infinite possibilities that language allows its users, creativity and changes can only take place and can only be meaningful when they relate and stand against or in favour of certain ways of doing and saying, within specific contexts of situation.

This is the perspective adopted throughout the following activities which are samples of the type of activities carried out in class with the students. I should refer at this point that my experience last year has led to significant changes in the way I have developed

my work this year. This, I think, is also one of the advantages and challenging aspects of ESP; the sense that we are growing on something which is the result of an interaction with the students, and feeling that language, in the context of the classroom, is teaching students to do things.

For methodological purposes, I divided the units considering the skills which needed to be addressed and developed, bearing in mind the information which had been provided by NA. The aim was always to make students aware of how language is used in certain contexts, how the materials they encountered in their course subjects can be used as studying material, what role ICT can play in learning, and how the different genres interact and generate other genres. I also led students to understand what and how much they were learning by using a genre approach.

2.1 Practical examples

Unit 0 – Theoretical considerations and contextualisation

The aim of this unit was to explore the way in which *context of situation* and *communicative intention* influence the type of *genres* (oral and written texts), and consequently meaning, that individuals and *discourse communities* generate in their daily routines.¹⁷ It was also a form of drawing students' attention to how much of context is made clear through register choice.

This awareness was brought by exercises such as the following:

Exercise 1

Consider the following texts and take notes regarding:

1. typographical characteristics (printing; layout; positioning of headlines;...)
2. graphic information (symbols; cartoons; ...)
3. contexts in which the texts might be found.

Text 1

:)

:(

;))

:'))

¹⁷ The expressions in italic were explained in the workbook's glossary.

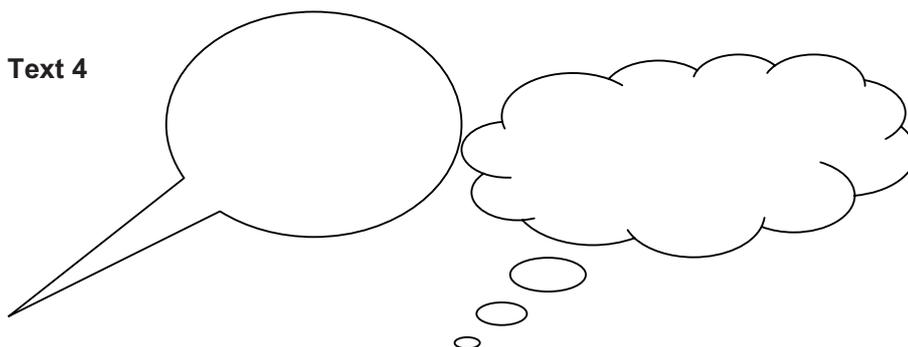
Text 2

- a) "Your lucky colour has faded."
- b) "I'd like to go out with you, but it's my parakeet's bowling night."
- c) "If you're gonna' panic, panic constructively."
- d) "It isn't homework unless it's due tomorrow."
- e) "They keep saying the right person will come along; I think mine got hit by a truck."

Text 3

'Get out, quick!'

Text 4



KEYWORDS: functional genre; register (field, tenor, mode); discourse community, communicative intention; context of situation; lexico-grammar.

The samples chosen were clear enough to lead students to understand that field, tenor and mode are present in even the most unexpected situations, such as the choice of a :-) to finish off a conversation with someone on the MSN, to end an e-mail, or an SMN. Students understood that their ability to relate to the specificity of this genre had to do with the use of mobile phones, e-mails and chat-sessions. Being acquainted with such technology and feeling comfortable to manipulate smilies was intertwined with their knowledge of how emoticons are used.

The importance of context of culture was also made explicit when discussing bumper stickers and humour. The fact that humour is bounded by culture and the fact that in Portugal the use of bumper stickers has its own interpretations allowed us to discuss the way in which the choice of genres was also related to our particular context of culture.

The role of graphic elements was also discussed with regard to the effect that certain choices made produce on interactants. A specific example was given considering content subject teachers' comments to some student reports. The appropriateness of the choice of font, for example when presenting a report on the development of a project would allow

only specific manipulations which students did not seem competent in given their lack of exposure to reports in science and engineering.

Associating a certain genre to a certain context of situation, for example in exercise 1-3, was fundamental to understand how much could be said about the context of situations, namely the power and solidarity between interactants, by considering lexico-grammatical and graphic choices.

Unit 1 – Personal and Professional Genres

In the previous unit, the relationship between context of situation and communicative intention was explored. At this point students had been made aware of the fact that language only has meaning within a context of situation.

In Unit 1, the specificity of professional discourse communities' context of situation was addressed from two perspectives:

a) the individual's perspective by addressing the professional genres which s/he is required to use in order to be admitted into a professional discourse community's practices and activities; (the fact that specific academic qualifications are necessary to be able to become a member of a community require that mediation take place by means of a specific genre, such as a CV)

b) the professional community's perspective which generates specific genres which aim at carrying out specific activities, and which require genre knowledge on behalf of the users in order for them to be active members of that community.

The importance of being familiar with the genres generated by professional communities is intimately related to issues of expertise and professional competence. I often shared the results of the findings of NA with the students so that they might gain a clearer idea of what the real world expected of them. In the case of professional genres, it was assumed by employers that a higher education degree is accompanied by genre competence, i.e., that students would already know how to deal with the genres that that particular company used to get things done. By sharing this information with students, they were able to establish personal objectives according to the following two distinct areas:

a) what genres they needed to be competent with in order to gain access to the professional community;

b) what genres the electromechanical and electrical sectors generated and which they would be required to use appropriately.

Considering these two distinct concerns, this unit was subdivided into:

- a) personal professional genres;
- b) company genres.

From the point of view of personal professional genres, I focused in CVs which had not been mentioned by the target community because it is assumed that students are familiar with CV procedures. This was not the case and therefore some time was spent in analysing CVs and the other genres which generated or were generated by *curriculum vitae*, namely job advertisements, covering letters, request for an interview and a job interview.

At this point, the European Union's website was explored and students were surprised to find that there were European recommendations for CVs (see Appendices). They were even more surprised to find that they had a number of templates available in all the languages of the member countries. This activity was important for three reasons:

1) students became aware of the diversity of languages which are spoken within the European Union, and the care which has been taken to provide templates that allow all individuals to benefit from equal job opportunities by providing a way of presenting personal information which benefits all citizens;

2) they were able to explore the professional mobility which languages contribute to and in this way motivating them to approach English within a broader perspective of its usefulness, other than reading English bibliography;

3) exploring a website that provides validated information encouraged them to use the World Wide Web for a more specific purpose.

In this unit the importance of units which had been studied during basic schooling became evident. The schematic structure of a CV is based on moves which are signposted by vocabulary related to personal information. Given the false beginner's level that many students were at made the activation of basic knowledge a factor of motivation because they were able to produce a text which had a specific purpose in a real word context of situation. The vocabulary which signposted the progression of the moves within the genre was also explored for the purpose of job interviews.

At this point, Beaugrande and Dressler's standards of textuality had been introduced and students were encouraged to identify other genres which might share some of the characteristics of a CV. Students pointed out application forms for passports, newsletter subscriptions, alas, all situations in which they might be required to give personal information.

The evidence of this exercise might be surprising, but it is an extremely concerning sign that should be taken into account from the point of view of civil education. It is essential that individuals be taught to be autonomous when dealing with issues related to basic functional aspects of their lives.

After having established the intentionality which is present from an individual and company perspective, the concepts which had been explored in Unit 0 were called upon when analysing and producing specific genres. The following exercises aimed at developing the learners' critical perspective of choices made within specific contexts of situation.

Personal Professional Genres

Exercise 1

Bearing in mind the notions of *context of situation* and *register*, consider the following texts and then do the activities suggested.

Text 1

16th July 2003

Mrs. M Foster
Graduate Recruitment Manager,
Elsewhere Bank plc,
39 High Street,
Manchester. M2 1RS

Dear Mrs Foster,

My name is John Andrews and I am writing in response to your advertisement for a Graduate Trainee in Prospects Today 2. I enclose my CV for your consideration.

I first became interested in retail banking during an "Insight" course which I attended during my second year at University. Since then, discussion with my careers adviser and my own research have confirmed my belief that this is a career which will enable me to use not only my interest in business and finance but also my skills in working with people, both in an advisory and a managerial capacity.

I am particularly interested in a career with Elsewhere Bank, because of the high reputation of your graduate training scheme, and your commitment to giving new recruits early responsibility.

During my time as a student I have had a variety of part-time and vacation jobs, all of which have required me to work as part of a team and to deal directly with the public. I found my work at the Tourist Information Office particularly valuable in teaching me the importance of ascertaining customers' needs and providing clear and accurate information in response to those needs.

As part of my degree course, I chose to carry out a final-year project which involved a statistical analysis of 150 questionnaires sent to local employers. To process this information, I taught myself to set up and use a database and felt great satisfaction in completing this project well ahead of the end-of-term deadline. Although my overall degree result was a 2.2, this particular piece of work was awarded a high 2.1.

I will be available for interview at any time apart from the 12-24 August when I have arranged a holiday in Italy. I look forward to hearing from you shortly.

Yours sincerely,

John Andrews

John Andrews

Text 2

Fitness First
Lake Road
Littletown
LT1 5MX

12, Kenmore Road
Littletown
LT12 9BH
01456783460

1st December 2001

Dear Mr Sands

Re: Fitness Instructor FF/32

I am writing to apply for the job of Fitness Instructor, as advertised in Thursday's Courant. This is an ideal job for me given my enthusiasm for sport, my related experience and qualifications.

Sport and fitness training have always been important to me, which is why I chose to take a BTEC Diploma in Sports Science. I obtained distinctions in the Sports Anatomy & Physiology and Sports Injuries modules last year and am confident that I will get similar marks in Exercise Physiology, Mechanics of Sport and Sports Supervision & Management this year. I am a confident user of Microsoft Office 2000 and have worked extensively with Fitness Publisher, a program for analysing fitness.

As you can see from my CV, I've taken the opportunity to gain extra qualifications that were on offer at college, which has helped me get part-time work as a pool attendant. I'm called on to provide cover during busy times so am used to working irregular hours at short notice. I've also run a lunchtime aerobics class at college since the start of this year.

I finish college in six weeks and am keen to find a job rather than carry on with further full-time study. I could start any part time work or training sooner as many of my classes are finishing and most of my assignments are done. I look forward to hearing from you.

Yours sincerely

Louis Longford

Task A

1. Take note of the similarities and differences between the two texts (typographical aspects; graphic symbols; lexico-grammatical choices;...), and discuss your conclusions with your classmates. Consider the texts':

- acceptability and appropriateness;
- communicative intention;
- lexico-grammatical choices;
- schematic structure

Here students were expected to identify the moves within the covering letters, namely addresses, dates, opening salutations, establishing credentials, explaining personal interests, referring to CV attached, contact information, closing remarks, etc. The identification of a schematic structure allowed students to create their personal template for this genre, which they could use in an English or Portuguese context. Once again, the role of ICT was important because when in doubt, students searched the web for models and templates which would allow them to achieve their communicative intention. It also provided them with the safety net which is so important to students when studying languages. Instead of studying list of verbs, students were exploring ways of saying things to get things done. While exploring these genres, students were simultaneously exploring the possible variations within the genre, such as job titles.

The following task aimed at making the dynamics and overlapping of genres clearer to students.

Task B

Now, considering the conclusions discussed in the previous activity, prepare your version of the genre by applying for the position advertised in the following job advertisement.

Engineer (Electrical/Mechanical)

Our client is committed to producing high quality products for Major Food Service Operations within the UK. Our client is a leader in global food ingredient markets and a leading consumer food processing and marketing organisation in selected European markets. Due to company expansion they are seeking to recruit a Mechanical and Electrical Engineer.

You will be responsible for attending to site and production breakdowns, including food manufacturing machines, fault finding and troubleshooting. You will undertake repairs and routine maintenance on all mechanical and electrical equipment.

You should have a good mechanical aptitude with the ability to read drawings. You must have

experience or knowledge of PLCs, AC inverter Drivers and packaging machinery.

It is essential that you are at least 16th edition qualified and have an awareness of health and safety.

Additional information

Salary: GBP 22,000.00 to GBP 30,000.00 per year

Company pension

Position Type: Full time, Permanent

Ref Code: KERRY1710

Contact information

Candidate Services

response@web-recruit.net

Roebuck Electronique Ltd

Ph: 01392332842

Exercise 2

Read the following CVs in order to give your opinion as to their effectiveness and appropriateness.

Text 1

CURRICULUM VITAE

DATE OF BIRTH: 25 February 1967

NAME: Carol Brice

PRESENT ADDRESS: 25, Westbound Road, Borehamwood
Herts, WD6 1DX

TELEPHONE NUMBER: 081 953 9914

MARITAL STATUS: Single

EDUCATION AND QUALIFICATIONS:

1980 - 1985	Mayfield School, Henley Road, Borehamwood, Herts, WD6 1DX GCE in English Language; French; History; Geography; and Art.
1985 - 1987	Hilltop Further Education College, Kenwood Road, London NW7 3TH Diploma in Business Studies

WORK EXPERIENCE:

Oct '87 - Dec '88	Johnson Bros. Plc, 59-55 Baker Street, London W1A 1AA Type of company: Retail Chain Stores Post: Junior Secretary Responsibilities: Secretarial work including typing; shorthand; correspondence; copying reports and minutes from shorthand notes; tabulating data; filing; answering customers' calls; mail distribution; and general office duties.
Jan '89 - present	National Auto Importers Ltd., Auto House, Sidmouth Street, London WC1H 4GS Type of company: Car importers Post: Secretary to Assistant Director Responsibilities: Dealing with correspondence; taking minutes at meetings and writing up Assistant Director's reports; receiving customers and suppliers; dealing with home and overseas enquiries; making decisions

on behalf of A.D. in his absence; and representing the company at various business functions.

OTHER INFORMATION:

While working I have attended various evening courses for Italian and French, and have also been on a special Information Technology course at The City College. My interests include tennis, badminton, swimming, and reading.

REFERENCES:

Mr B. Norman, Assistant Director, National Auto Importers Ltd., Auto House, Sidmouth Street, London WC1H 4GJ

Mrs T. R. Bradley, Senior Lecturer, Business Studies Dept., Hilltop Further Education College, Kenwood Road, London NW7 3TH.

CURRENT SALARY:

£ 14,000 per annum

Text 2¹⁸

(See Appendices 2 and 4)

Task A

1. Considering what has been discussed with regard to CVs, prepare your CV which shall accompany the covering letter that you have written applying for a position at Roebuck Electronique Ltd.
2. Can you suggest other genres which may be related to the ones you have analysed and prepared in the previous exercises?

The information provided by the covering letters and the CVs allowed students to identify situations which might occur in a job interview and prepare for them. From this perspective, everyday genres can become study material if individuals are made aware of the roles of genres

Professional Discourse Community Genres

Having discussed the different motivations which are at the core of genres, we proceeded to analyse genres which had been identified as being more relevant for the target communities' perspective.

Despite the title which was given to this sub-section, genres were always analysed from an academic perspective whenever appropriate. This was the case of faxes which students had to prepare during their academic training when communicating with manufacturers and supplies when developing their projects within the PBL context already discussed.

In this section the aim was also to make the relationship between genres apparent.

Exercise 1

- a) Consider the following texts and analyse them according to the guidelines which have been provided in the written document analysis worksheet. (Appendix 1)
- b) Then, make a list of the information which establishes a link between the different documents.

Note: Not all items are applicable to all written genres.

¹⁸ Students were encouraged to explore and use the European Union's site and templates which were available in all the member countries' languages. (See Appendix 2 for template of the European Union CV used in class and for the new version recently proposed.)

Text 1

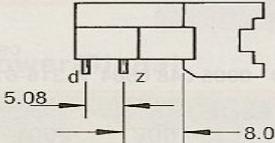
'H' Body Plugs and Sockets

15 Way, Rows d+z Loaded

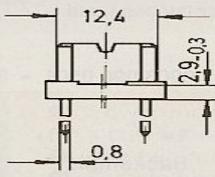




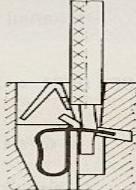
Leading earth pin Z32



5.08
d
z
8.0
PCB hole dia. = 1.0

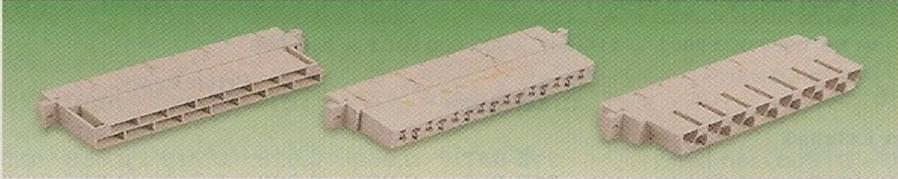


12,4
2,9,03
0,8



Cage clamp
(0.14-1.5mm²)
(015-2813H)

Socket rear views



Horizontal
faston terminals (6.3 x 0.8)

Cage clamp
terminals

Vertical faston terminals
(6.3 x 0.8)

Contact rating	15A @ 20°C	
Working voltage	500 V ac/dc	Contact material
Housing	Polyester (0906 115/215 Series)	Polyester (0906 015 Series) Copper Alloy, Silver plating
Mfrs. List No	0906 015 2931 = 316-520	0906 215 2871 = 240-011
0906 115 2932 = 151-651	0906 015 2813 = 316-556	0906 215 2821 = 463-164
0906 215 2811 = 225-940		

CS148

	Order Code	Price Each				
		1+	10+	50+	100+	250+
Plugs						
90° PCB pins	151-651	9,144	8,253	7,127	6,862	6,408
Faston terminals (horiz)	316-520	9,347	8,409	7,299	7,002	6,533
Sockets						
Faston terminals (horiz)	240-011	16,458	14,817	14,380	14,036	13,176
Faston terminals (vert)	225-940	12,582	11,332	9,816	9,472	8,831
PCB pins	316-556	17,599	15,474	13,723	13,520	11,254
Wire wrap pins	463-164	7,237	6,377	5,439	4,955	4,517

Note: The plugs have a leading earth pin in position Z32. 225-940 will not accept 'H' body backshell

IN : *Material Eléctrico*, Farnell, Jan. 2002, p.421

Task A

Fill in the order form using the information which has been signalled in the catalogue.

Text 3

D&S Charcot Ltd.

Memorandum

To: Team manager
From: Assistant Director
CC:
Date: 14 January 2004
Subject: Delay in delivery of materials

I have just received a phone call from *Farnell* because of our Order N°. 445/A. Despite their usual 24 hour delivery system, they will not be able to deliver the material you need for the project before the 24 January. They wanted to know if we would still be interested in the consignment, but I thought you should be the one to decide on this matter because of your team's deadlines.

Should you still be interested in the material, please send them a fax confirming the order.

Contact information:

Farnell

Tel.: 800 83 40 25

Fax: 800 83 40 18

Thank you

Task B

- a) Prepare the fax which has been referred to in the memorandum.
- b) Write a memo to your team explaining the delay in the project.

The use of a form in Portuguese had to do with the real world situation that occurred frequently for engineers and for the students and which has to do with extracting information in English in order to complete information in Portuguese. Students were also presented with English forms which allowed them to carry out a contrastive exercise with regard to the moves within the same genre, but in different cultures.

In this section general business correspondence was explored, such as letters of complaint, request for budgets, requests for additional information, etc.

KEYWORDS: context of culture (company culture) ; functional genres ; ...

Unit 2 – From Specialist to Specialist – Reading for Specific Purposes

The previous unit explored the way in which professional discourse communities, made up of individuals with different roles and positions within an institution, communicate among themselves and with satellite communities which are essential to a specific sectors' activities. These genres are generated within communities to communicate with other discourse communities, and therefore require sharing a means of communicating that other professional communities accept and recognise as legitimate.

In Unit 2, we analysed and explored the genres generated within discourse communities, and which are based on the communication which takes place between specialists of the same field. This means that a specialist reader is required for the genre to accomplish its functional purpose.

In this unit, the aim was to expose students to specialist texts and lead them to understand the way in which the same content acquires different meanings according to the communicative aim it has to accomplish and according to the genre which is used for that specific purpose.

Bearing this in mind, the materials chosen aimed at:

- a) exposing students to different specialist genres;
- b) dealing with terminology which was and would be part of their content subject bibliographies;
- c) developing reading strategies.

In this unit, students were also provided with objectives that would guide their attention throughout the sessions as well as with the information they needed to study.

Aim: By the end of this lesson you should be able to *describe rules and guidelines for writing an abstract.*

Exercise 1

Task A

1. Read the following texts and take notes bearing in mind the following aspects:
 - a. typographical characteristics (printing; layout; positioning of headlines;...)
 - b. graphic information
 - c. contexts in which the texts might be found.

Text 1

WIRELESS CIRCUIT AND SYSTEM DESIGN:
A NEW UNDERGRADUATE LABORATORY*

Paul G. Flikkema, Lawrence P. Dunleavy, Horace C. Gordon, Rudolf E. Henning and Thomas M. Weller

Department of Electrical Engineering
University of South Florida
Tampa, Florida USA

Abstract – *This paper describes an innovative new integrated lecture/laboratory course for electrical engineering juniors. The course, designed as the second course in a year-long sequence in electromagnetics, brings to life fundamental principles of electromagnetics through study of circuit, signal, and system concepts used in today's wireless communication systems. The course is taught in a new lab whose state-of-the-art fabrication, measurement, and computing facilities provides hands-on-experience in design, measurement, analysis, and simulation of circuits and systems.*

*PARTIAL SUPPORT FOR THIS WORK WAS PROVIDED BY THE NATIONAL SCIENCE FOUNDATION'S DIVISION OF UNDERGRADUATE EDUCATION THROUGH GRANT DUE-9650529 AND A HEWLETT-PACKARD EQUIPMENT GIFT

Text 2

Talk abstract:

Circuit Analysis Problems in High Frequency Digital Designs

Tuyen V. Nguyen, IBM Austin Research Laboratory

In this talk, we will discuss some problems of circuit analysis in the context of high frequency digital designs, especially microprocessor design. In particular, we will discuss the following algorithmic problems: linear model reduction for timing and noise analysis, model reduction for distribution circuits with regular structures like memory or array circuits, computing bounds on the response of general linear systems for noise avoidance.

This is joint work with Eli Chiprout and Anirudh Devgan.

http://www.ima.umn.edu/dynsys/wkshp_abstracts/nguyen.html

Text 3

Bipolar transistor circuit analysis using the Lambert W-function

Banwell, T.C.

UMDNJ, New Brunswick, NJ;

*This paper appears in: **Circuits and Systems I: Fundamental Theory and Applications, IEEE Transactions on [see also Circuits and Systems I: Regular Papers, IEEE Transactions on]***

Publication Date: Nov 2000

On page(s): 1621-1633

Volume: 47, Issue: 11

ISSN: 1057-7122

References Cited: 23

CODEN: ITCAEX

Abstract:

The generalized diode equation describes conduction in a diode with series resistance. An analytical solution for the generalized diode equation has been elusive; however, one was found based on the transcendental equation $w = \ln(x/w)$. The solution of this equation; $w = W(x)$, is traditionally referred to as the Lambert W-function. This function provides a long sought after natural continuity between exponential diode and linear resistor behavior. The W-function also describes more general circuits consisting of a diode or bipolar transistor with local linear negative or positive feedback. The properties of $W(x)$ are reviewed and several iterative methods for its calculation are compared. Three approximations for the W function are derived which can simplify bipolar circuit analysis and design. The practical utility of the proposed solutions are demonstrated in four circuits along with experimental confirmation: a common emitter amplifier with an emitter or collector feedback resistor, Schmitt trigger threshold temperature compensation, bandgap stabilized current source, and a novel current-efficient laser driver

http://ieeexplore.ieee.org/xpl/abs_free.jsp?arNumber=895330

Commentary

If we assume a text belongs to a genre, the assumption tends to concern features such as the following:

- a) a communicative function, often indicated by the operative verbs, giving the text a 'rhetorical purpose'.
- b) a common length
- c) a macrostructure (functions and sub-functions)
- d) a similar discursive mode of developing the macrostructure (narrative, descriptive, imperative, optative), often indicated by the use of personal pronouns.
- e) a common lexical and syntactic arrangement of the material and a common set of functional units and formal features, e.g. in data-sheets, instruction manuals, the use of the imperative, passives and impersonal forms of the verbs.
- f) common socio-pragmatic conventions, e.g. the hierarchical structure of forms of address.
- g) common lexical items.

(adapted from CORNBLEET, S. & CARTER, R.)¹⁹

Task B

- a) Using the above list of genre features, describe the features of a scientific abstract.
- b) Which of these descriptions could be written as rules?
- c) Bearing in mind the characteristics you have just described, prepare the abstract for your oral presentation.

This activity was carried out at a time when students were developing a project which required an abstract. At this point they were already able to establish a link between the usefulness of the abstract when preparing the introduction to their project work.

KEYWORDS: genre awareness; schematic structure; communicative intention; field; tenor; mode

Text extension

In this section, students were presented with a Data-Sheet (DS) (used in Circuit Analysis) and a Material Safety Data-Sheet (MSDS) (see Appendices) and asked to carry out the tasks in the following exercise.

¹⁹ "CORNBLEET, S. & CARTER, R. (2001) *The Language of Speech and Writing*, Routledge, London.

Exercises related to text extension were extremely important to students because they were lead to develop strategies that allowed them to manage the information they came across in different specialist texts.

Exercise 1

Click on the following links and read the texts carefully (Appendices 5 and 6):

- a) «http://www.semiconductors.philips.com/acrobat_download/datasheet/BC857M_SERIES_2.pdf»
- b) «<http://www.betco.com/MSDS%5C193.pdf>»

Task A

In pairs, do the following activities:

- a) The two texts you have been given address different products but have a similar layout. Identify the main sections in each section.
- b) Can you establish a link between the sections of the two texts and the information in each section?
- d) What distinguishes one data-sheet from the other?
- e) How much can be said about the products by reading the data-sheets?
- f) In what situations do you think you might use these texts?

Task B

In pairs, consider the MSDS. Imagine that your company has just received the degreaser and that it has been considered necessary to place a list of safety precautions regarding the use of the product in the factory.

- a) Prepare a list of safety precautions which your co-workers should bear in mind when using Factory Formula HP.

Once again, in the case of this exercise, students activated the linguistic knowledge acquired previously and used it to produce texts with a functional purpose. It is never enough to state that the lack of a real world application to the linguistic knowledge acquired was an obstacle to the successful learning of English as students pointed out throughout the year. In this section we revisited the Imperative, conditional sentences (stating the consequences of the mishandling of products) and discourse markers. Instead of focusing on the grammar, linguistic issues were dealt with always from the point of view of how language means what it does in a specific context.

Task C

You have just received an order of general purpose transistors which are to be used in electronic devices in a life support system. However, after having read the BC857M series data-sheet, limitations to the use of this component have been brought to your attention.

- a) Write a memo to your team explaining that there is going to be a delay because there was a problem with the choice of the transistors, and a new order has to be made.
- b) Write an e-mail to the person who was responsible for making the order and who ignored the inapplicability of these specific PNP transistors to life support applications. This person is under your supervision in the factory and this mistake will not only reflect negatively on the team, but you may also be held responsible by your employer for the delay in production.
- c) Write a fax to Philips placing a new order and requesting their understanding for the mistake in the order.

In this exercise it was interesting to note the way in which tenor was naturally brought about when students were confronted with differences brought about by the hierarchy in a group. At this point students were lead to focus of the way in which a leader's soft skills might determine the outcome of a group's work. In order to create a different dynamics in class, students were divided into three groups. One element from each group was chosen by me and, without the rest of the classes knowledge, they were requested to play the role of an authoritative, democratic or passive leader within their group. Then, each group was given straws and pins and asked to build a functional object. The leader's influence on the group was obvious and the role of communication within a group and among people with different power and solidarity relationships was discussed.

Task D

The company you work for has invented a new piece of equipment which has already been promoted in the company's catalogue. However, in order to guarantee that clients are aware of the full potential of the equipment, you have been asked to prepare a short demonstration.

- a) In pairs, prepare a 10 minute demonstration of the equipment.

Here students were quick to understand that they could resort to the structure of instructions and the organisation of an abstract to prepare their demonstration. As I have already mentioned, a genre-approach is not always clear to learners and requires that the

teacher make explicit a number of moves, stages and inter-relationships in order to make students understand the dynamics of genres.

Task E

The two data sheets you have read were taken from the Internet. In pairs, do the following activities:

a) Highlight the keywords in the text which will allow you to search for these documents on the World Wide Web.

b) Find the meaning of the following acronyms:

1 - PNP

2 - NPN

3 - IEC

4 - WHMIS

5 - CAS#

6 – SOT

In the case of this last exercise, the aim was not to make students avoid the use of abbreviations and acronym, but to check their ability to look for validated information on the World Wide Web.

There were genres, such as textbook material, which I chose not to focus on at this point given its relevance when dealing with specific concepts within content subjects. Given their difficulty in reading and interpreting information from English bibliography, students often resort to translations from Brazil which bring about a number of problems, especially with regard to the validity of the equivalent concepts, i.e., many translations propose equivalents which are not recognised by the scientific community in Portugal and which often do not coincide with equivalents used by specialists in Portugal. For this reason I decided to deal with these materials in Unit 4 – Translation, Terminology and Technology.

Unit 3 – Extensive Reading

My experience with students throughout the last eight years has proved that the lack of reading habits has had serious consequences on learners' ability to meet different challenges at school and later on in their professional lives. If learners do not have certain habits in their mother tongue, the way in which a foreign language is learnt will be

affected. This change in learning habits has been brought about by societal and technological alterations in ways of communicating and relating with others.

Teachers are aware that technological and scientific changes and developments have made information more accessible to young people in much less time. This has caused learners to develop a certain immediacy in the way they perceive knowledge and ultimately the world. Answers have to be given quickly and needs satisfied immediately. This means that reading habits, for example, take up less time. Reading is limited to sports newspapers and magazines and rarely to literature, of a specialist nature or not, which contributes to the development of scientific knowledge. This takes me back to the fact that the lack of an extended and varied textual repertoire throughout basic schooling becomes a functional problem when students enrol in universities, or are required to communicate in specific professional contexts.

For these reasons, I chose to include a unit with two short-stories that were simultaneously study material in the sense that they used scientific terminology and/or were technology bound. The aim was to show students that they could learn English in several manners, one of them being through reading a short story. Once again, with the purpose of encouraging the use of ICT, the short-stories were taken from the World Wide Web. This unit was also a form of avoiding boredom which was a natural consequence at a certain point because students always expected the English lesson to provide them with something new and different from the innovations in their content subjects. I therefore avoided the excessive analysis of technical genres by introducing this unit.

I chose two short stories: *The Shadow and the Flash* by Jack London and *Teddy Bear's Picnic* by Alex Keegan.

The Shadow and the Flash ²⁰, a fourteen page sci-fi short story about the destructive and competitive relationship between two brilliant scientists, was chosen due to the density of issues related to scientific procedures, methodologies, theories and lexical variety.

Teddy Bear's Picnic ²¹, a five minute hyperfiction about the Internet, was chosen for its unusual way of bringing about multiple interpretations of the role of the Internet in the individual's perception of the Other, and how much has been changed by computer-mediated communication (CMC).

The exploration of this texts developed intertextual competences and allowed me to check students' ability to transfer their genre knowledge from the analysis of professional

²⁰ See «<http://www.eastoftheweb.com>»

²¹ See «<http://www.eastoftheweb.com/hyperfiction/small/TeddBear.html>»

genres to situations which would traditionally require GE. However, when reading the story, the technical vocabulary used requires, to a certain point, some familiarity with the scientific perspective of the world. I did not want the short story to become an obstacle to the learners, but I did aim at raising their awareness of the way in which intertextuality contributes to the building of meaning.

***The Shadow and the Flash* by Jack London**

The Shadow and the Flash was explored in various manners as the following exercises and tasks illustrate.

Exercise 1

Task A

Read the following excerpt from *The Shadow and the Flash* carefully:

On the day I have in recollection, Paul Tichlorne had been mooning all morning in my study over a current scientific review. This left me free to my own affairs, and I was out amongst my roses when Lloyd Inwood arrived. Clipping and pruning and tacking the climbers on the porch, with my mouth full of nails, and Lloyd following me about and lending a hand now and again, we fell to discussing the mythical race of invisible people, that strange and vagrant people the traditions of which have come down to us. Lloyd warmed to the talk in his nervous jerky fashion, and was soon interrogating the physical properties and possibilities of invisibility. A perfectly black object, he contended, would elude and defy the acutest vision.

“Color is a sensation,” he was saying. “It has no objective reality. Without light, we can see neither colours nor objects themselves. All objects are black in the dark, and in the dark it is impossible to see them. If no light strikes upon them, then no light is flung back from them to the eye, and so we have no vision-evidence of their being.”

In LONDON, Jack, (1999) *The Shadow and the Flash*, Chapter 3, <<http://www.eastoftheweb.com/short-stories/UBooks/ShaFla.shtml>>

Exercise 2

1. Considering what you have studied regarding the standards of textuality proposed by Beaugrande and Dressler and the notion of register, what context of situation is brought about by the lexico-grammatical choices in the excerpt presented?
2. Identify the interlocking definitions within the definition of colour presented.

3. Considering the register variables field, tenor and mode, in what way does the variable field undergo changes within the excerpt presented? Justify your answer with examples from the text.

Exercise 3

1. Prepare a summary of the *The Shadow and the Flash*.
2. From your point of view, what advantages and/or disadvantages could the experiment described in the short story have within an industrial environment?

Students were encouraged to discuss issues such as industrial spying and the importance of innovation. These issues were then placed within the Portuguese context and the issue of innovation was discussed to a certain depth given its relevance in our present national context in order to meet the requirements imposed by the European Union. This was also an opportunity for students to talk about their own country which is another situation they should be prepared to face in their professional lives.

Teddy Bear's Picnic by Alex Keegan

This short story, written in 2004, was a choice based on the importance of surprising our students and also to discuss the role of ICT in a context which contrasted with the one we had been working with in class. Our discussion took place online with one of the students as a moderator. This activity had the aim of developing a greater familiarity with forums and chatrooms because not all students were familiar with this sort of technology. Once again, the activities allowed for the development of transversal skills while communicating in English. The issues which I hoped students would discuss had to do with the birth of virtual communities, fake identities, online cultures, CMC, the changes in the generation gap brought about by the Internet, new social problems brought about by uncontrolled access to the internet, as well as the evolution of acronyms and e-mail shorthand, smilies and emoticons. Some students were more familiar with CMC than others, which also became a topic of discussion in itself.

The novelty of the medium required for reading the short story – Flash 6 and the fact that it was hyperfiction – and the fact that graphics and animation were present motivated students for this activity. It was interesting to note some students were in fact more motivated to participate in online discussions, despite their difficulty in communicating in English, than in face to face debates.

In the case of this short story, a worksheet was handed out with a list of issues which were to be taken into consideration while reading. This was also a way of helping students prepare themselves for the online discussion.

The discussion of this short story went through several exercises and tasks.

Before being invited to read the story, students were asked to carry out a few tasks which aimed at preparing them for what they would be reading and discussing.

Exercise 1

Task A

Brainstorm the following words/expressions:

- computer mediated communication;
- virtual cultures;
- virtual identities;
- individual vs virtual;
- society and the www.

Exercise 2

Task A

Discuss your opinion about the advantages and disadvantages of CMC with the rest of the class.

Task B

Access the following link: «<http://www.eastoftheweb.com/hyperfiction/small/TeddBear.html>» and read the short story.

Task C

a) What was your first impression of the story?

b) How would you rank the story?

* ** *** **** *****

Why?

c) Who do you think the characters are and why? Justify your answers with an example.

d) Do you think that this story might be representative of any social dangers with seem to be associated to easy access to the World Wide Web?

e) What role does language play in this type of setting?

f) Comment on the use of symbols, capitalisation, spelling and abbreviations.

The fact that language has undergone significant changes because of technology and the cost of resorting to mobile phone messages, for example, or email messages or even the type of interaction which takes place in chatrooms, has forced language to provide answers to new situations. Language has developed in order to allow communication to take place at the lowest cost.

Here the social importance of norms was focused on in order to make students aware of the constant *devir* which is part of any language.

Unit 4 – Terminology, Translation and Technology: Project work

This unit focused on the importance of tools which allow professionals to deal with terminology in their profession and their role in facilitating communication and assisting individuals in carrying out their daily tasks.

Despite the fact that this issue was focused on throughout most English sessions, in this unit students were encouraged to develop their personal language tools according to their specific needs. Learning how to optimize online tools was a form of avoiding the time spent, as many respondents mentioned, in trying to overcome difficulties related to specific terminology.

It is obvious that the number of lessons we had did not allow us to study the terminology of each content subject in detail, but it was possible to carry out a project in which different groups focused on different sub-areas within different content subjects.

In order to motivate students, the project themes were related to the subjects they were studying during the first year which had surprising results in the classroom because students found themselves discussing the content of the subjects, and not linguistic aspects. They were studying for their other subjects while studying English, although they often found themselves asking me questions related to their content subjects.

Before preparing their plans for the project, we focused on textbook genres. The aim was to help students use the framework we had been discussing throughout the year for specific purposes.

This preliminary activity had the following aims:

1) to develop skills related to the search of online tools which deal with technical vocabulary (general dictionaries, general technical dictionaries, glossaries, data-bases, etc.);

2) to identify the way in which concepts are usually introduced in textbooks;

- 3) to establish a relationship between concepts and keywords;
- 4) to understand the importance of defining concepts;
- 5) to understand the role of examples in scientific texts.

In order to achieve these aims, students were presented with the following excerpt, taken from one of the textbooks recommended by my colleague who was teaching Circuit Analysis.

Exercise 1

Read the following text carefully.

Charge

Our next task is to introduce and provide some preliminary definitions of the basic electrical quantities. We begin with *electric charge*, a concept often introduced by visualizing the following simple experiment.

Suppose that we take a small piece of some light material such as pith and suspend it by a thin thread. If we now rub a hard rubber comb with a woolen cloth and then touch the pith ball with the comb, we find that the pith ball tends to swing away from it; a force of repulsion exists between the comb and the pith ball. After laying down the comb and then approaching the pith ball with the woolen cloth, we can see that there is a force of attraction present between the pith ball and the woolen cloth.

We explain the existence of these forces on the pith ball by saying that they are *electrical forces* caused by the presence of *electric charges* on the pith ball, the comb, and the woolen cloth. Our experiment shows clearly that the electrical force may be one of either attraction or repulsion.

We explain the existence of electrical forces of both attraction and repulsion by the hypothesis that there are two kinds of charge, and that like charges repel and unlike charges attract. The two kinds of charge are called positive and negative, although we might have called them gold and black, or vitreous and resinous (as they were termed many years ago). Arbitrarily, the type of charge originally present on the comb was called negative by Benjamin Franklin, and that on the woolen cloth, positive.

We may now describe our experiment in these new terms. By rubbing the comb with the cloth, a negative charge is produced on the comb and a positive charge on the cloth. Touching the pith ball with the comb transfers some of its negative charge to the pith ball, and the force of repulsion between the like kinds of charge on the pith ball and comb

causes the ball to move away. As we bring the positively charged woolen cloth near the negatively charged pith ball, a force of attraction between the two different kinds of charge is evident.

We also know that all matter is made up of fundamental building blocks called atoms and that the atoms, in turn, are composed of different kinds of fundamental particles. The three most important particles are the electron, the proton, and the neutron. The electron possesses a negative charge, the proton possesses an equal-magnitude positive charge, and the neutron is neutral, or has no charge at all. As we rub the rubber comb with the woolen cloth, the comb acquires its negative charge because some of the electrons on the wool are rubbed off onto the comb; the cloth then has an insufficient number of electrons to maintain its electrical neutrality and thus behaves as a positive charge.

The mass of each of the three particles just named has been determined experimentally: $9.109\ 56 \times 10^{-31}$ kg for the electron and about 1840 times as large for the proton and the neutron.

Now we are ready to define the fundamental unit of charge, called the *coulomb* after Charles Coulomb, the first person to make careful quantitative measurements of the force between two charges. The coulomb can, of course, be defined in any way we wish as long as the definition is convenient, universally accepted, and permanent and does not contradict any previous definition. Again, this leaves us no freedom at all, because the definition which is already universally accepted is as follows: two small, identically charged particles which are separated by one meter in a vacuum and repel each other with a force of $10^{-7}c^2$ N possess an identical charge of either plus or minus one coulomb (C). The symbol c represents the velocity of light, $2.997\ 925 \times 10^8$ m/s. In terms of this unit, the charge of an electron is minus $1.602\ 18 \times 10^{-19}$ C, and 1 C (negative) therefore represents the combined charge of about 6.24×10^{18} electrons.

We shall symbolize charge by Q or q , the capital letter being reserved for a charge which does not change with time, or is constant, and the lowercase letter representing the general case of a charge that may vary with time. We often call this latter case the *instantaneous* value of the charge and may emphasize its time dependence by writing it as $q(t)$. Note that $q(t)$ might represent a constant as a special case. This same use of capital and lowercase letters will be carried over to all other electrical quantities as well.

In their handwriting, many students do not distinguish between uppercase and lowercase letters. This can have serious consequences, very few of them beneficial. For example, in electronics these four collector currents all mean different things: i_c , I_C , I_c and I_C . Confusion is obviously ready to strike.

Task A

Now, carry out the following activities:

- a) What is the aim of the text? Justify your answer.
- b) Identify the concepts and keywords in the text, and then establish a relationship between them. This should be done in diagram form.
- c) Identify the definitions in the text.
- d) Identify a process.
- e) Translate the sentences underlined in the text.

After having being made aware of the way in which semantic networks are established in textbooks (and having already analysed scientific articles too), students were given four lessons to carry out a small project which consisted in:

- 1) choosing a section within a content subject to focus on;
- 2) select the technical terms which were most relevant in that section;
- 3) build a bilingual data-base which was to be used as a tool.

A worksheet with a set of guidelines was handed out, and students were requested to report back on the group's progress at the end of each session. Once again the *webct* was used and students sent in memorandums with attached documents for me to correct and check on their work; they communicated with the members of the group in order to organise tasks and put the work together. This was also an activity which aimed at testing the students' autonomy when dealing with specialist information, as well as their ability to work as a team and overcome interpersonal problems which might have interfered with the outcome of the project. This was not the case as students considered this project an opportunity to study. I intentionally focused on this unit at the end of the year because it was close to the students' exam period and they therefore took advantage of the lessons to study. Motivation was therefore high.

Throughout this unit students became more aware of the way in which terminology was used in other lessons and were from this point of view more able to understand issues such as word formation. It was also important to make them aware of the way in which language is changed and becomes more or less operational according to the discourse community's use of coherent terminology. The importance of terminology as a

form of conceptualising the knowledge within a certain field was also explained and explored in exercises which made the role of nominalisations and conceptualisation clearer to students.

Overview

In this chapter I have presented some sample genres and activities which were proposed in the classroom with the aim of substantiating my claims with regard to applicability of a theoretical framework based on a functional perspective of language: of language doing what it does in the real world in order to get things done. The genre-approach implemented in class is, from my point of view, a valid choice since Genre Theory provides the theoretical assumptions which sustain the reasons for specific choices in an ESP context. Both these theoretical approaches are flexible enough to allow varied approaches to address the multiple meanings which are brought about by the unlimited and unexpected situations which make up the communicative interactions between individuals in different discourse communities. The varied text repertoire presented allows such a conclusion to be drawn.

Practices and meanings: what choices?

With the aim of developing a new approach to teaching ESP to students with highly specific needs, this work has proposed and discussed a theoretical framework based on Systemic Functional Linguistics and Genre Theory, which support a genre-approach in specific contexts of teaching and learning English; it has presented and discussed a methodology, based on Needs Analysis, which substantiates the choices made with regard to classroom practices and choice of materials, as well as the inclusion of new participants in the designing of ESP courses; it has provided samples of the materials chosen within the specific context of learning and defined, explored and tested the applicability of SFL and GT in an ESP approach.

The title of the chapter chosen for the closing remarks and conclusions of this work has to do precisely with one of the many conclusions I arrived at: there will always be an unlimited number of practices to deal with the unlimited number of meanings brought about by the societal requirements made on language. However, as I hope my work has demonstrated, new theories and new practices should be developed within the spirit that has been discussed here. New methods and practices in teaching English for Specific Purposes need to embrace the needs of the real world and the real world has introduced a participant whose presence has had visible consequences on the way people communicate and interact: Technology. Being that language is the bonding element among individuals who are social beings, technology should be taken into consideration in

any theory, methodology or practice related to language teaching and learning. Whatever choice is made in a classroom, technology should be a part of it.

The central aims of this work were the following:

- 1) to define a theoretical framework of support to the ESP approach adopted and test the applicability of a genre-approach to ESP within a SFL perspective of language;
- 2) to adjust the target communities' language needs to the language teaching strategies to be implemented in the English sessions;
- 3) to refine the choice of materials considering the aims of the ESP course;
- 4) to motivate and to sustain motivation throughout the year.

In the light of the results obtained from my research, and for methodological purposes, I shall present my conclusions in the order in which the aims of this work were introduced

With regard to the role that the theoretical framework played throughout this work in setting guidelines and substantiating choices at the level of methodologies, syllabus design, selection of materials, implementation of classroom strategies and practices, my research revealed that a significant change has to take place in a very specific sector of higher education: teacher training.

Since most teacher training traditionally focuses on General English, the ESP teacher needs to develop a new sense of what language is expected to do in specific contexts. And this support can be found in theories, which have been tested and changed to fit the specific needs of learners, and in the expertise of target professional communities. Without this theoretical support, which sets ESP aside as a theoretically sustained approach, every teacher who sets out to cater for specific needs finds themselves at loss, unsure of where to start from, who to seek collaboration with, and ends up making decisions which have more to do with GE – given its theoretical validity-, and less to do with highly specific needs. The definition of a theory for ESP is therefore of the utmost importance, along with the active debate and exchange of ideas among those who have carried out their practice and research in this field. Providing a theoretical framework is the first step to avoid the constant inventing of the wheel by inexperienced teachers in the field of ESP.

In the light of the context brought about by our European membership, any theoretical framework in the field of ESP should consider the demands made on the specific professional discourse communities and be able to include technology in the process of

communication and language learning. I cannot stress enough the importance of proposing theories and practices which integrate Information and Communication Technology and which focus on the transversal skills. Transversal skills and competences should be taken into consideration, avoiding top to bottom lists mechanical agility which do not guarantee autonomous and functional individuals. A learner centred approach is therefore essential to a socially constructive perspective of language which becomes more relevant in the sense that students are constantly invited to integrate their knowledge from other fields in their language learning process.

I believe that the theoretical framework proposed in this work is a valid option for any ESP teacher. Bringing together SFL and GT allowed me to establish a set of realistic and attainable aims; it provided students with a tool which can assist them in their daily academic and professional lives; it approached language from the perspective of how things get done through language. It is essential to furnish students with life-long learning skills which is why any theory should include the advantages of ICT.

The methodological choices made in this work are based on the belief that by including the needs of the target community, it is possible to make adjustments to language teaching strategies. These include exposing students to a text repertoire, which provides them with an informed insight into the professional communities' communicative needs, which in turn becomes an empowerment tool for students.

Needs Analysis was a crucial and invaluable tool in that it allowed common sense perceptions of the genres generated by business communities to be replaced with a clearer understanding of the way in which professionals use language in order to get things done. Any ESP course which is based on unsubstantiated assumptions regarding professional genres risks falling into a category of GE for general business purposes.

The fact that NA is an ongoing process requires a continuous contact between institutions of higher education and industry. If our professional communities are to become innovative and competitive, and if institutions of higher education want to provide professionals who are sought for for their ability to meet challenges, then there have to be more incentives for partnerships. Languages need this relationship just as engineering does. Language teaching is an integral part of any professional, and if languages do not keep up with the changes and needs of professional communities, then we are failing our mission of promoting intercultural harmony, of providing tools which assist individuals in their professional mobility and intellectual development. Language is out there, allowing people to do what they need to do, even if they are not aware that part of their success is

due to their communicative competence and ability to manipulate the genres of the community they belong to.

This research has made me more aware of the importance of taking a risk: abandoning the secure port of traditional language teaching theories, and working alongside professionals of other fields. If language only means what it means because of what it is doing; then language teaching is only meaningful if placed within a particular context of situation.

The concern with refining my choice of materials was assisted by the theoretical framework proposed and with the findings which resulted from NA. In this way, when confronted with time constraints and heterogeneous class profiles, I was prepared to make choices which addressed learning needs and always provided learners with tools.

The issue of motivating and sustaining motivation throughout the year was also of great importance to me. Considering the specificity of the students I worked with, it was essential to make them feel that there was something they could do about their difficulties in English.

The European context Portugal is part of brings about new concerns regarding the teaching of foreign languages and the conservation of Portuguese. I am concerned with the fact that Portuguese students already use English concepts in Portuguese contexts of communication because there is no equivalent in their mother tongue. It is revealing of the drastic consequences that the lack of Portuguese equivalents for scientific terms has on the Portuguese student who needs to access specialist knowledge and who needs to rely on his/her English competence in order to become a competent engineer. The production of scientific research in Portuguese is essential to safeguard the power to negotiate at an international level. A country's power is also related to its scientific production and the consequence for any country which limits its scientific production to English is placing itself in a very vulnerable position. I believe that as an ESP teacher, I have the responsibility of assisting individuals in their learning of a foreign language, but reminding them constantly of the importance of bring scientific and technological development into Portuguese. And as Portuguese researchers, we should recognise the validity of our own language in scientific and technological development.

Although there are always issues that one would like to further after the sort of research I have carried out, I feel that this work has broadened my perception of the importance of English in making our industry more competitive and innovative, and that teaching language for specific purposes requires stepping into the unknown and developing strategies to assist our students, in this case Portuguese students, to become more autonomous, more motivated to learn foreign languages and prouder of their cultural and linguistic heritage as well.

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discourse community – 13-18, 27, **46**, 53, **58-73**, 117, 130

linguistic competence – 31, 48, 56, 81, 116

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Bibliography

- AIJMER, K.** (2002) *English discourse particles, Evidence from a corpus*, studies in Corpus linguistics, John Benjamins Publishing Company.
- ARGYLE, M.** (1975) *Bodily Communication*, International Universities Press, London.
- BAKHTIN, M.M.** (1986) *Speech genres and other late essays*, University of Texas Press, Austin
- BERRY, Margaret**, "Systemic linguistics and discourse analysis: a multi-layered approach to exchange structure" In: COULTHARD, M. & MONTGOMERY, M. (1981) *Studies in Discourse Analysis*, Routledge & Kegan Paul, London, p. 120-145.
- BEX, T.** (1996). "Cohesion, coherence and register" IN *Variety in Written English: Texts in Society – Societies in Texts*, Routledge, New York.
- BHATIA, V.K.**(2004). *Worlds of Written Discourse. A genre-based view*, Continuum, London.
- BIBER, D. et al** (1998) *Corpus Linguistics: investigating language structure and use*, University Press, Cambridge.
- BROWN, G. et al.** (1996). *Performance and Competence in Second Language Acquisition*, University Press, Cambridge.
- BROWN, G. & YULE, G.** (1983) *Discourse Analysis*, Cambridge Textbooks in Linguistics, University Press, Cambridge.
- BURNS, A. & COFFIN, C.** (2001) *Analysing English in a Global Context*, The Open University, London.

- BURNS, A.** (2001) "Genre-based approaches to writing and beginning adult ESL learners" IN *English Language Teaching in its Social Context*, The Open University, London.
- CAVELL, S.** *Must we mean what we say?: a book of essays*, University Press, Cambridge.
- CONRAD, Susan & BIBER, Douglas** (2001) *Variation in English – Multidimensional Studies*, Longman, England.
- CORNBLEET, S. & CARTER, R.** (2001) *The Language of Speech and Writing*, Routledge, United Kingdom.
- Council of Europe** (2001), *Common European framework of Reference for Languages: Learning, teaching, assessing*, University Press, Cambridge.
- DUDLEY-EVANS, T. & ST JOHN, M.J.** (1998). *Developments in English for Specific Purposes – A multidisciplinary approach*, University Press, Cambridge.
- DURANTI, A & GOODWIN, C.** (1992). *Rethinking Context – Language as an interactive phenomenon*, Studies in the Social and Cultural Foundations of Language, University Press, Cambridge.
- EGGINS, S.** (1994). *An Introduction to Systemic-Functional Linguistics*, Pinter, London.
- FINE, J.** (1994). *How Language Works: Cohesion in Normal and Nonstandard Communication*, Vol. LI in the series *Advances in Discourse Processes*, Ablex Publishing Corporation, New Jersey.
- FLOWERDEW, J. & PEACOCK, M.** (2001) *Research Perspectives in English for Academic Purposes*, series editors, Michael H. Long & Jack C. Richards, Cambridge Applied Linguistics, United Kingdom.
- FREEDMAN, A. & MEDWAY, P.** (1994). *Genre and the New Rhetoric*, Taylor & Francis, London.
- GOODMAN, Sharon & GRADDOL, David** (1996) *Redesigning English, new texts, new identities*, Routledge, London.
- GÖRLACH, Manfred** (2002) *Still More Englishes*, series *Varieties of English Around the world*, John Benjamins Publishing Company.
- GUNNARSSON, B. et al** (1997). *The Construction of Professional Discourse*, Longman, London.

- HALLIDAY, M.A.K. & HASAN, R.** (1976). *Cohesion in English*, English Language Series, 12th edition, Longman, United States of America.
- HALLIDAY, M.A.K. & MARTIN J.R.** (1993). *Writing Science. Literacy and Discursive Power*. The Falmer Press, London.
- HALLIDAY, M.A.K.** (1985). *An introduction to Functional Grammar*, Edward Arnold, Amsterdam.
- HARRIS, S. & MORGAN, R.** (1976) *Language Projects: An introduction to the study of languages*, Edward Arnold, Great Britain.
- HASAN, R.** (1996) *Ways of saying, ways of meaning*, Cassell, London.
- HAYASHI, R.** (1996). *Cognition, Empathy, and Interaction: Floor Management of English and Japanese Conversation*, Vol. LIV, series Advances in Discourse Processes, Ablex Publishing Corporation, New Jersey.
- HILARY, H.** (2004) *Analysing Real Texts: research studies in modern English language*, Palgrave Macmillan, Basingstoke.
- HUTCHINSON, T. & WATERS, A.** (1987). *English for Specific Purposes – A learning-centred approach*, New Directions in language Teaching, Cambridge University Press, Cambridge.
- ISAAC, DAN et al** (1996). *Social interaction, social context, and language – essays in honor of Susan Ervin-Tripp*, Lawrence Erlbaum Associates, Publishers, Mahwah, New Jersey.
- JACKSON, H. & AMVELA, E.Z.** (2000) *Words, Meaning and Vocabulary – An Introduction to Modern English Lexicology*, Continuum, London
- JOHNS, A.** (2002). *Genre in the Classroom – Multiple Perspectives*, Lawrence Erlbaum Associates, London.
- JORDAN, R.R.** (1997) *English for Academic Purposes – A guide and resource book for teachers*, Cambridge Language Teaching Library, Cambridge University Press, United Kingdom.
- KENNEDY, C. & BOLITHO, R.** (1985). *English for Specific Purposes*, Essential Language Teaching Series, Macmillan, Hong-Kong.
- KRESS, G.**, “Meaning at work: individuals, society and the production of representational resources” In: SÁNCHEZ-MACARRO, A. & CARTER, R. (1998), *Linguistic choice across*

genres: variation in spoken and written English: based on the papers of VII International Systemic Functional Workshop, (1995), John Benjamins Publishing Company, Amsterdam.

LEPPER, G. (2000) *Categories in Text and Talk – A Practical Introduction to Categorization Analysis*, series Introducing Qualitative Methods, Sage Publications, London.

MARTIN, J.R. & VEEL, R. (1998). *Reading Science – Critical and Functional Perspectives on Discourses of Science*, Routledge, London.

MARTIN, J.R. et al (1997) *Working with Functional Grammar*, Arnold, Great Britain.

McARTHUR, Tom (2003) *Oxford Guide to World English*, University Press, Oxford.

MEINHOF, Ulrike H, (1998). *Language Learning in the Age of Satellite Television*, Oxford University Press, Oxford.

MEY, J.L. (1993). *Pragmatics – An Introduction*, Blackwell, Oxford.

MOWITT, John (2002) “What is a text today?” in *PMLA*, October 2002, vol. 117, n°. 5, Publications of the Modern Language Association of America.

PARRETT, Herman (1971) *Language and Discourse*, Mouton, The Hague, Paris

PARTINGTON, Alan (1998) *Patterns and Meanings – Using Corpora for English Language Research and Teaching*, studies in corpus Linguistics, John Benjamins Publishing Company.

PEARSON, J. (1998) *Terms in Context*. John Benjamins Publishing Company, Amsterdam.

QUIRKE, R. (1982) “International Communication and the Concept of Nuclear English” In: *Style and Communication in the English Language*, Edward Arnold, London, p. 37-53.

RAIMES, Ann (1998) *How English works – A grammar handbook with readings*, Cambridge University Press, United Kingdom.

READ, John (2000) “The nature of vocabulary” In: *Assessing Vocabulary*, Series editors J. Charles Alderson & Lyle F. Bachman, University Press, Cambridge.

READ, John (2000) “The place of vocabulary in language assessment” In: *Assessing Vocabulary*, Series editors J. Charles Alderson & Lyle F. Bachman, University Press, Cambridge.

- RICHARDS, Jack C.** (2001) *Curriculum Development in Language Teaching*, series editor Jack C. Richards, Cambridge Language Education, United Kingdom.
- SCOLLON, R. & SCOLLON, S.W.** (2004). *Nexus Analysis – discourse and the emerging internet*, Routledge, London.
- SEELY, John** (2002) *Writing Reports*, Oxford University Press, Oxford.
- SEMINO, E. & SHORT, M.** (2004) *Corpus Stylistics – speech, writing and thought presentation in a corpus of English writing*, Routledge Advances in Corpus Linguistics, Routledge, London.
- SINCLAIR, J. McH. & COULTHARD, R.M.** (1975) *Towards an Analysis of Discourse – The English used by Teachers and Pupils*, University Press, Oxford.
- SMOAK, R.** “What is English for Specific Purposes?”, Bureau of Educational and Cultural Affairs, U.S. Department of State, 6 Sept.
 «<http://exchanges.state.gov/forum/vols/vol41/no2/p.22.html>».
- STILLAR, G.F.** (1998). *Analyzing Everyday Texts: Discourse, Rhetoric and Social Perspectives*, in series Rhetoric & Society, SAGE Publications, London.
- SWALES, J.** (1990). *Genre Analysis – English in Academic Settings*, Cambridge Applied Linguistics, Cambridge.
- TEMMERMAN, R.** (2000) *Towards New Ways of Terminology Description – the sociocognitive approach*, series Terminology and Lexicography Research and Practice, John Benjamins Publishing Company.
- VAN DIJK, T.** (1985) *Handbook of Discourse Analysis*, Vol. 4, Discourse Analysis in Society, Academic Press, London.
- WARDHAUGH, R.** (1991). *How Conversation Works*, Basil Blackwell, Oxford.
- WILKS, Yorick A.** (1996) *Electric words: dictionaries, computers and meaning*, MIT Press, Cambridge.

Appendix 1

Written document analysis worksheet

1. Type of document (tick one):

- | | | |
|------------------------------------|--|--|
| <input type="checkbox"/> Newspaper | <input type="checkbox"/> Map | <input type="checkbox"/> Advertisement |
| <input type="checkbox"/> Letter | <input type="checkbox"/> Telegram | <input type="checkbox"/> Official report |
| <input type="checkbox"/> Patent | <input type="checkbox"/> Press release | <input type="checkbox"/> Memorandum |
| <input type="checkbox"/> Report | <input type="checkbox"/> Census report | <input type="checkbox"/> Other |

2. Unique graphic qualities of the document (tick one or more):

- | | |
|---|---|
| <input type="checkbox"/> Interesting letterhead | <input type="checkbox"/> Notations |
| <input type="checkbox"/> Handwritten | <input type="checkbox"/> "Received" stamp |
| <input type="checkbox"/> Typed | <input type="checkbox"/> Other |

3. Date(s) of document:

4. Author (or creator) of the document:

Position (Title)

5. For what audience was the document written?

6. Document information (There can be many possible answers to A-E)

A. List three things the author said that **you** think were important.

.....
.....

B. Why do you think this document was written?

.....
.....

C. What evidence in the document helps you know why it was written? Quote from the document.

.....

D. List two things the document tells you about the topic being focused on.

.....

E. Write a question to the author that is left unanswered by the text.

.....

(Adapted from the U.S. National Archives and Records Administration)

Appendix 2

**EUROPEAN
CURRICULUM VITAE
FORMAT**



PERSONAL INFORMATION

Name	Betty HOBKINS
Address	32 Reading rd, Birmingham, B26 3QJ, United Kingdom
Telephone	(44-1189) 12 34 56
E-mail	bettyhobkins@hotmail.com
Nationality	British
Date of birth	07.10.1974

WORK EXPERIENCE

- Dates August 2002 onwards
- Name and address of employer British Council, 123, Bd Ney, F-75023 Paris
- Occupation or position held Independant consultant
- Main activities and responsibilities Evaluation of European Commission youth training support measures for youth national agencies and young people.

- Dates March – July 2002
- Name and address of employer Youth Unit, DG Education and Culture, European Commission
200, Rue de la Loi, B-1049 Brussels
- Occupation or position held Internship
- Main activities and responsibilities
 - Evaluating youth training programmes for SALTO UK and the Partnership between the Council of Europe and European Commission
 - Organizing and running a 2 day workshop on non-formal education for Action 5 large scale projects focusing on quality, assessment and recognition
 - Contributing to the Steering Group on training and developing action plans on training for the next 3 years. Working on the Users Guide for training and the Support Measures

- Dates January - February 2002
- Name and address of employer Partnership between the Youth Unit, DG Education and Culture, European Commission and the Council of Europe, Strasbourg
- Occupation or position held Researcher
- Main activities and responsibilities Working in a research team carrying out in-depth qualitative evaluation of the 2 year Advanced Training of Trainers in Europe using participant observations, in-depth interviews and focus groups. Work carried out in training courses in Strasbourg, Slovenia and Budapest.

- Dates October 2001 - December 2002
- Name and address of employer Council of Europe, Budapest
- Occupation or position held Researcher / Independent Consultant
- Main activities and responsibilities Part of an Expert Working Group to develop youth policy indicators for comparisons between different countries across Europe.

EDUCATION AND TRAINING

- Dates 1997-2001
- Name and type of organization providing education and training Brunel University, London, UK
- Title of qualification awarded PhD
- Principal subjects/occupational skills covered Thesis Title: '*Young People in the Construction of the Virtual University*', Empirical research that directly contributes to debates on e-learning.
- Dates 1993- 1997
- Name and type of organization providing education and training Brunel University, London, UK.
- Title of qualification awarded 2(i) Bachelor of Science in Sociology and Psychology.
- Principal subjects/occupational skills covered Sociology of Risk, Sociology of Scientific Knowledge/ Information Society, E-learning and Psychology, Research Methods.

PERSONAL SKILLS AND COMPETENCES

MOTHER TONGUE

ENGLISH

OTHER LANGUAGES

FRENCH

- Reading skills
- Writing skills
- Verbal skills

Excellent
Good
Excellent

- Reading skills
- Writing skills
- Verbal skills

GERMAN

Excellent
Good
Excellent

SOCIAL SKILLS AND COMPETENCES

- Team work: I have worked in various types of teams from research teams to national league hockey. For 2 years I coached my university hockey team
- Mediating skills: I work on the borders between young people, youth trainers, youth policy and researchers, for example running a 3 day workshop at CoE Symposium 'Youth Actor of Social Change', and my continued work on youth training programmes
- Intercultural skills: I am experienced at working in a European dimension such as being a rapporteur at the CoE Budapest 'youth against violence seminar' and working with refugees organising events.

ORGANISATIONAL SKILLS AND COMPETENCES

- Whilst working for a Brussels based refugee NGO 'Convivial' I organized a 'Civil Dialogue' between refugees and civil servants at the European Commission 20th June 2002.
- During my PhD I organised a seminar series on research methods and I represented PhDs on the staff committee.

TECHNICAL SKILLS AND COMPETENCES

Competent with most Microsoft computer programmes and some experience with HTML.

ADDITIONAL INFORMATION

PUBLICATIONS

- '*Youth Against Violence*', Council of Europe Publication (2002)
- '*How to do Observations: Borrowing techniques from the Social Sciences to help Participants do Observations in Simulation Exercises*' Coyote EU/CoE Partnership Publication, (2002).

PERSONAL INTERESTS

Creating pieces of Art and visiting Modern Art galleries. Enjoy all sports particularly hockey, football and running. Love to travel and experience different cultures.

Appendix 3

**EUROPEAN
CURRICULUM VITAE
FORMAT**



PERSONAL INFORMATION

Name

[SURNAME, other name(s)]

Address

[House number, street name, postcode, city, country]

Telephone

Fax

E-mail

Nationality

Date of birth

[Day, month, year]

WORK EXPERIENCE

- Dates (from – to)
- Name and address of employer
 - Type of business or sector
 - Occupation or position held
- Main activities and responsibilities

[Add separate entries for each relevant post occupied, starting with the most recent.]

EDUCATION AND TRAINING

- Dates (from – to)
- Name and type of organisation providing education and training
- Principal subjects/occupational skills covered
 - Title of qualification awarded
- Level in national classification (if appropriate)

[Add separate entries for each relevant course you have completed, starting with the most recent.]

**PERSONAL SKILLS
AND COMPETENCES**

*Acquired in the course of life and career
but not necessarily covered by formal
certificates and diplomas.*

MOTHER TONGUE

[Specify mother tongue]

OTHER LANGUAGES

[Specify language]

- Reading skills
- Writing skills
- Verbal skills

[Indicate level: excellent, good, basic.]

[Indicate level: excellent, good, basic.]

[Indicate level: excellent, good, basic.]

**SOCIAL SKILLS
AND COMPETENCES**

*Living and working with other people, in
multicultural environments, in positions
where communication is important and
situations where teamwork is essential
(for example culture and sports), etc.*

[Describe these competences and indicate where they were acquired.]

**ORGANISATIONAL SKILLS
AND COMPETENCES**

*Coordination and administration of
people, projects and budgets; at work, in
voluntary work (for example culture and
sports) and at home, etc.*

[Describe these competences and indicate where they were acquired.]

**TECHNICAL SKILLS
AND COMPETENCES**

*With computers, specific kinds of
equipment, machinery, etc.*

[Describe these competences and indicate where they were acquired.]

**ARTISTIC SKILLS
AND COMPETENCES**

Music, writing, design, etc.

[Describe these competences and indicate where they were acquired.]

**OTHER SKILLS
AND COMPETENCES**

Competences not mentioned above.

[Describe these competences and indicate where they were acquired.]

DRIVING LICENCE(S)

ADDITIONAL INFORMATION

[Include here any other information that may be relevant, for example contact persons,
references, etc.]

ANNEXES

[List any attached annexes.]

Appendix 4



Europass curriculum vitae

Personal information

Surname(s) / First name(s)

Farrelly, Danielle

Address(es)

12 Georgian Road, Rathgar, Dublin 6

Telephone(s)

(555) -623458

Mobile: 086 2222222

Fax(es)

(555) 623457

E-mail(s)

danielle@hotmail.com

Nationality(-ies)

Irish

Date of birth

30 August 1980

Gender

Female

Desired employment / Occupational field

Primary School Teacher

Work experience

Dates

September 2003 to present

Occupation or position held

Primary Teacher

Main activities and responsibilities

Taught first and second Class, participated in organising extra-curricular activities

Name and address of employer

Maire Byrne, Terenure Junior School, Terenure Road. Dublin 6w

Type of business or sector

Education Sector

Education and training

Dates

1999-2001

2001-2002

Title of qualification awarded

Bachelor of Arts

Higher Diploma in Education

Name and type of organisation
providing education and training

University College Dublin

Level in national or international
classification

Level 8 in the Irish National Framework of Qualifications

Personal skills and competences

Mother tongue(s)

Other language(s)

Self-assessment

European level ()*

Italian

French

English

Understanding		Speaking		Writing					
Listening		Reading		Spoken interaction		Spoken production			
B1	Independent User	B1	Independent User	B2	Independent User	B2	Independent User	B2	Independent User
A2	Basic User	A2	Basic User	A1	Basic User	A1	Basic User	A2	Basic User

() Common European Framework of Reference (CEF) level*

Social skills and competences

Team Work: I have been involved in various types of team tasks from team leader of a children's summer camp to being a member of Dublin Basketball Team.

Organisational skills and competences

While working as a primary school teacher I organised and supervised extra curricular activities such as Italian classes and I organised school outings to Glendalough in Wicklow and Kilkenny Castle.

Computer skills and competences

Completed an ECDL course

Other skills and competences

Certificate in first aid
Certificate in child development

Driving licence(s)

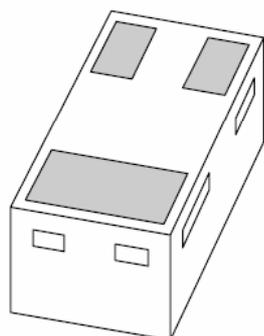
I am a holder of an Irish drivers licence. Category B vehicle.

Additional information

References available upon request

Appendix 5

DATA SHEET



BC857M series **PNP general purpose transistors**

Product specification
Supersedes data of 2003 Jul 15

2004 Mar 10

PNP general purpose transistors

BC857M series

FEATURES

- Leadless ultra small plastic package (1 mm × 0.6 mm × 0.5 mm)
- Board space 1.3 × 0.9 mm
- Power dissipation comparable to SOT23.

APPLICATIONS

- General purpose small signal DC
- Low and medium frequency AC applications
- Mobile communications, digital (still) cameras, PDAs, PCMCIA cards.

DESCRIPTION

PNP general purpose transistor in a SOT883 leadless ultra small plastic package.
 NPN complement: BC847M series.

MARKING

TYPE NUMBER	MARKING CODE
BC857AM	D1
BC857BM	D2
BC857CM	D3

QUICK REFERENCE DATA

SYMBOL	PARAMETER	MAX.	UNIT
V_{CEO}	collector-emitter voltage	-45	V
I_C	collector current (DC)	-100	mA
I_{CM}	peak collector current	-200	mA

PINNING

PIN	DESCRIPTION
1	base
2	emitter
3	collector

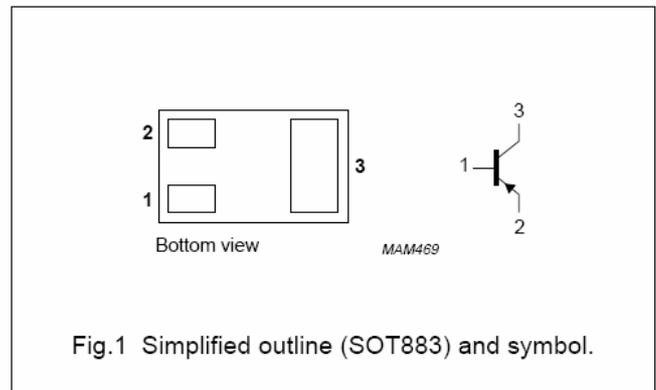


Fig.1 Simplified outline (SOT883) and symbol.

ORDERING INFORMATION

TYPE NUMBER	PACKAGE		
	NAME	DESCRIPTION	VERSION
BC857AM	-	Leadless ultra small plastic package; 3 solder lands; body 1.0 x 0.6 x 0.5 mm	SOT883
BC857BM			
BC857CM			

PNP general purpose transistors

BC857M series

LIMITING VALUES

In accordance with the Absolute Maximum System (IEC 60134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V _{CBO}	collector-base voltage	open emitter	–	–50	V
V _{CEO}	collector-emitter voltage	open base	–	–45	V
V _{EBO}	emitter-base voltage	open collector	–	–5	V
I _C	collector current (DC)		–	–100	mA
I _{CM}	peak collector current		–	–200	mA
I _{BM}	peak base current		–	–100	mA
P _{tot}	total power dissipation	T _{amb} ≤ 25 °C			
		note 1	–	250	mW
		note 2	–	430	mW
T _{stg}	storage temperature		–65	+150	°C
T _j	junction temperature		–	150	°C
T _{amb}	operating ambient temperature		–65	+150	°C

Notes

1. Refer to SOT883 standard mounting conditions (footprint), FR4 with 60 µm copper strip line.
2. Device mounted on a FR4 printed-circuit board, single-sided copper, mounting pad for collector 1 cm².

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
R _{th(j-a)}	thermal resistance from junction to ambient	in free air		
		note 1	500	K/W
		note 2	290	K/W

Notes

1. Refer to SOT883 standard mounting conditions (footprint), FR4 with 60 µm copper strip line.
2. Device mounted on a FR4 printed-circuit board, single-sided copper, mounting pad for collector 1 cm².

PNP general purpose transistors

BC857M series

CHARACTERISTICS

$T_{amb} = 25\text{ }^{\circ}\text{C}$ unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I_{CBO}	collector-base cut-off current	$V_{CB} = -30\text{ V}; I_E = 0$	–	–15	nA
		$V_{CB} = -30\text{ V}; I_E = 0; T_j = 150\text{ }^{\circ}\text{C}$	–	–5	μA
I_{EBO}	emitter-base cut-off current	$V_{EB} = -5\text{ V}; I_C = 0$	–	–100	nA
h_{FE}	DC current gain BC857AM BC857BM BC857CM	$V_{CE} = -5\text{ V}; I_C = -2\text{ mA}$	125	250	
			220	475	
			420	800	
V_{BE}	base-emitter voltage	$I_C = -2\text{ mA}; V_{CE} = -5\text{ V}$	–600	–750	mV
		$I_C = -10\text{ mA}; V_{CE} = -5\text{ V}$	–	–820	mV
V_{CEsat}	collector-emitter saturation voltage	$I_C = -10\text{ mA}; I_B = -0.5\text{ mA}$	–	–200	mV
		$I_C = -100\text{ mA}; I_B = -5\text{ mA}; \text{note 1}$	–	–400	mV
C_c	collector capacitance	$I_E = I_e = 0; V_{CB} = -10\text{ V}; f = 1\text{ MHz}$	–	2.5	pF
f_T	transition frequency	$V_{CE} = -5\text{ V}; I_C = -10\text{ mA};$ $f = 100\text{ MHz}$	100	–	MHz
F	noise figure	$I_C = -200\text{ }\mu\text{A}; V_{CE} = -5\text{ V};$ $R_S = 2\text{ k}\Omega; f = 1\text{ kHz}; B = 200\text{ Hz}$	–	10	dB

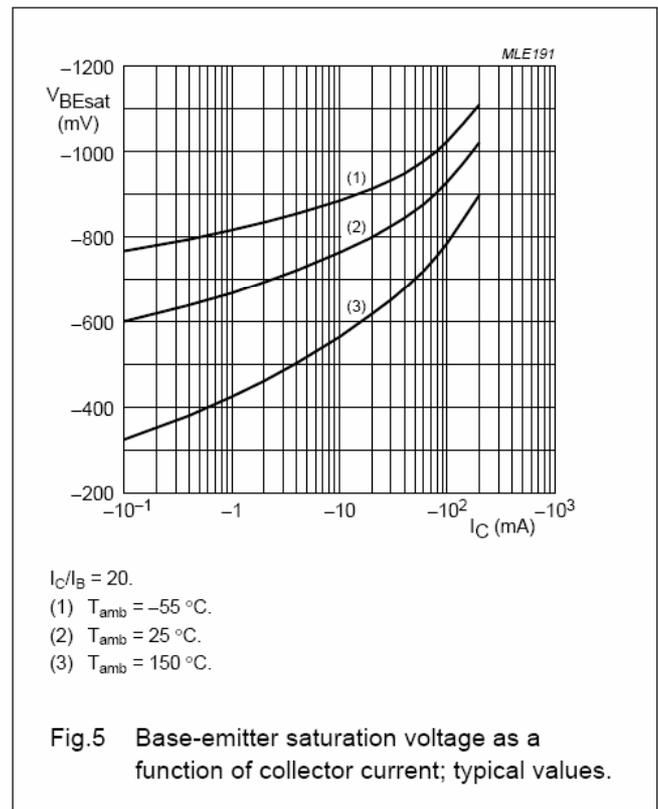
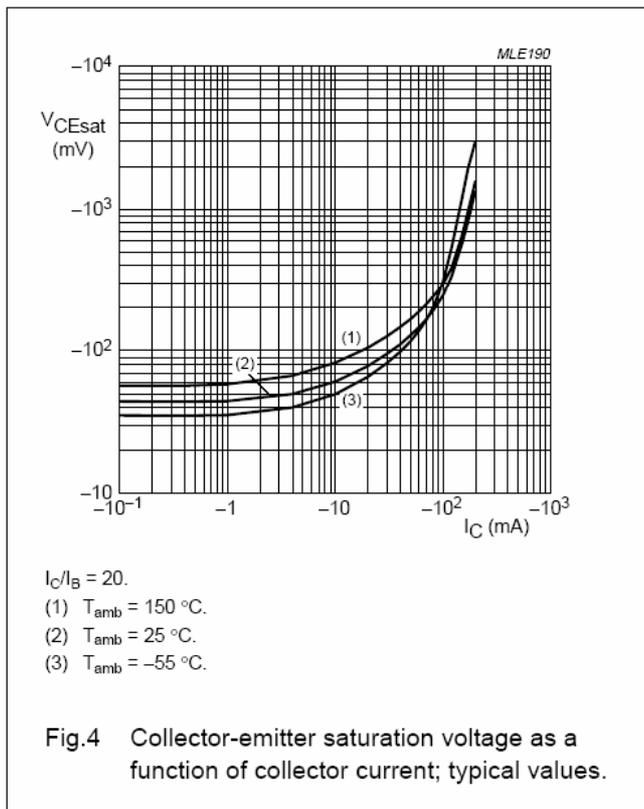
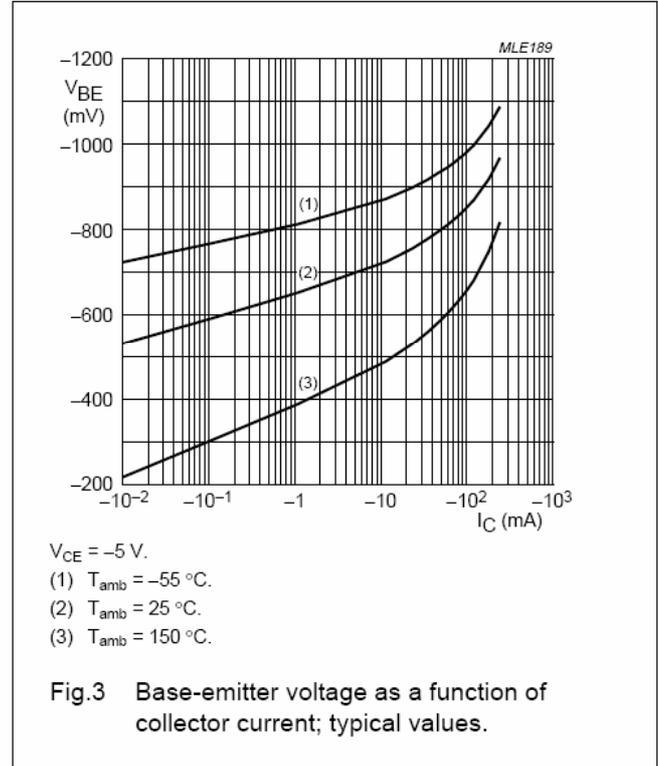
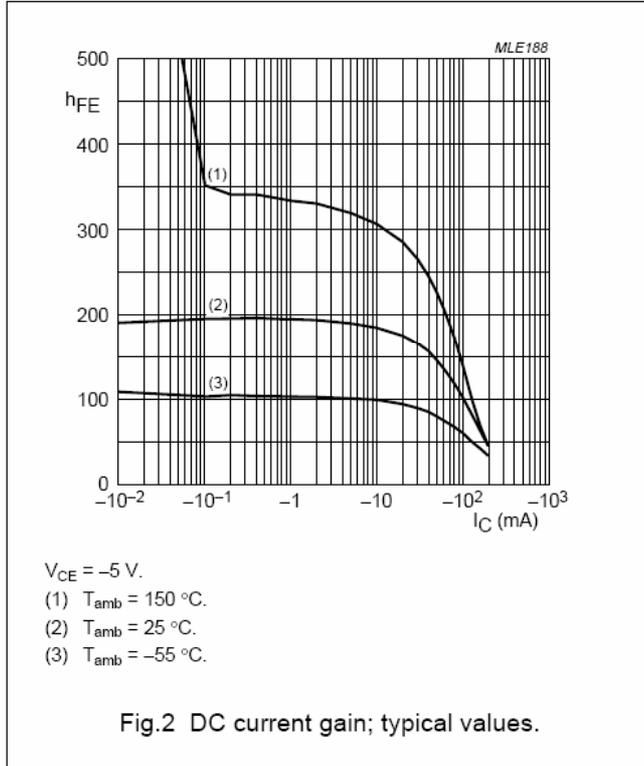
Note

1. Pulse test: $t_p \leq 300\text{ }\mu\text{s}; \delta \leq 0.02$.

PNP general purpose transistors

BC857M series

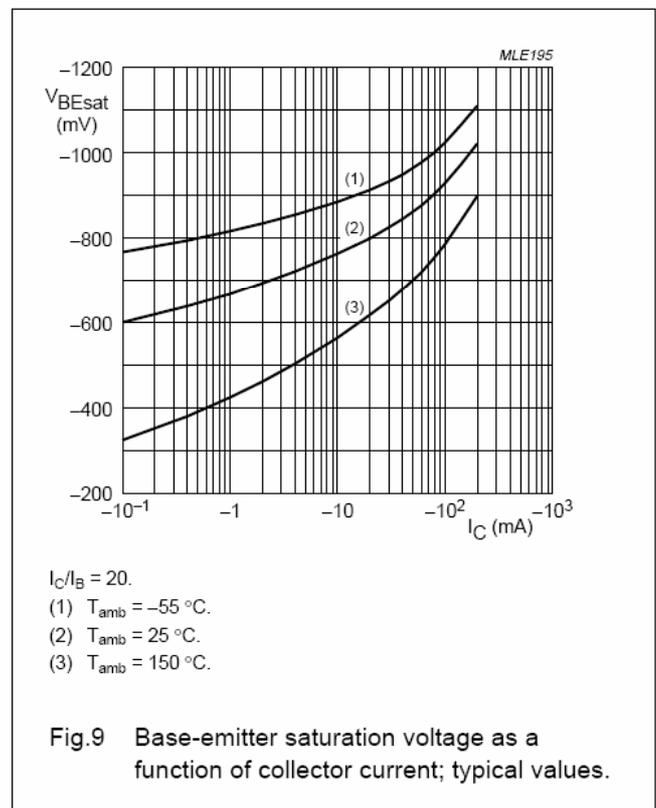
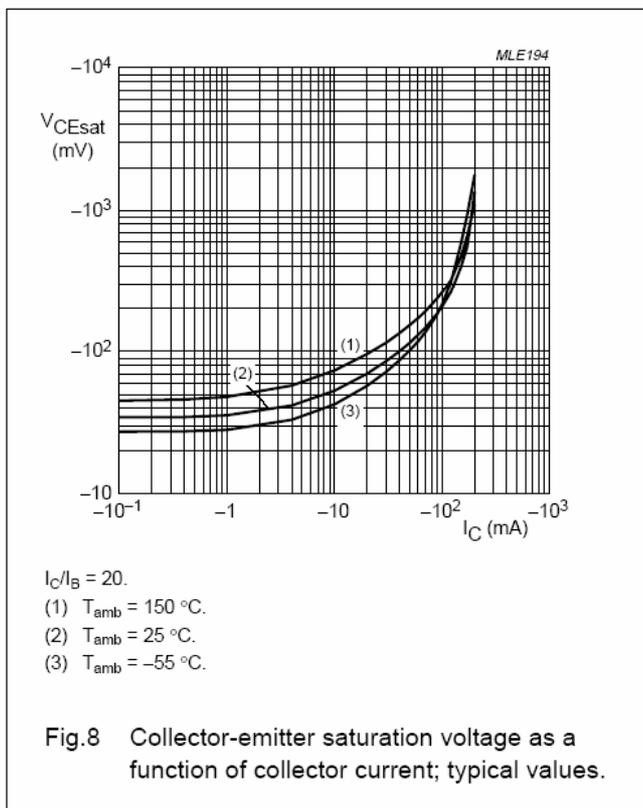
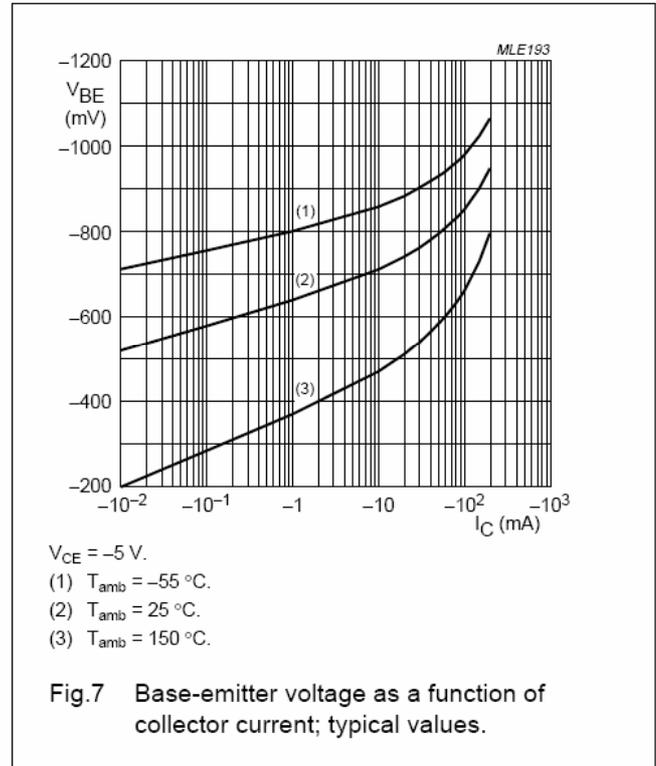
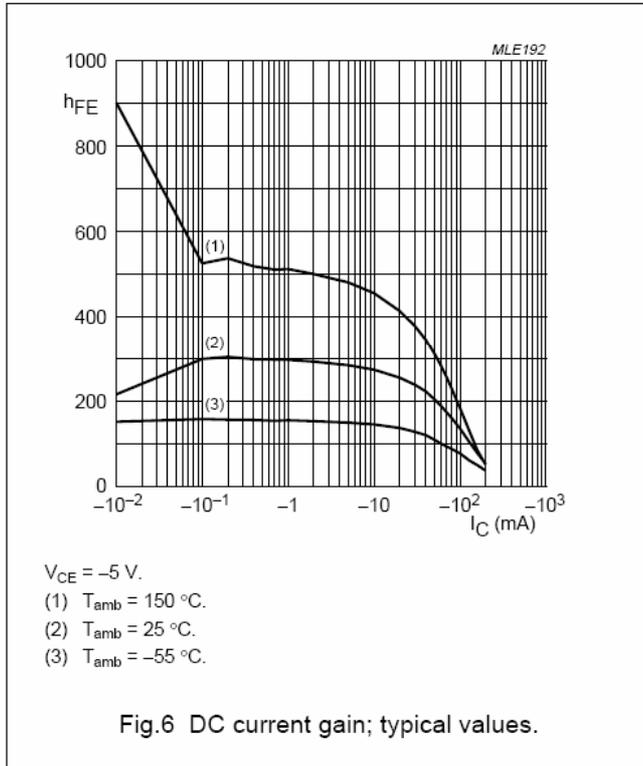
GRAPHICAL INFORMATION BC857AM



PNP general purpose transistors

BC857M series

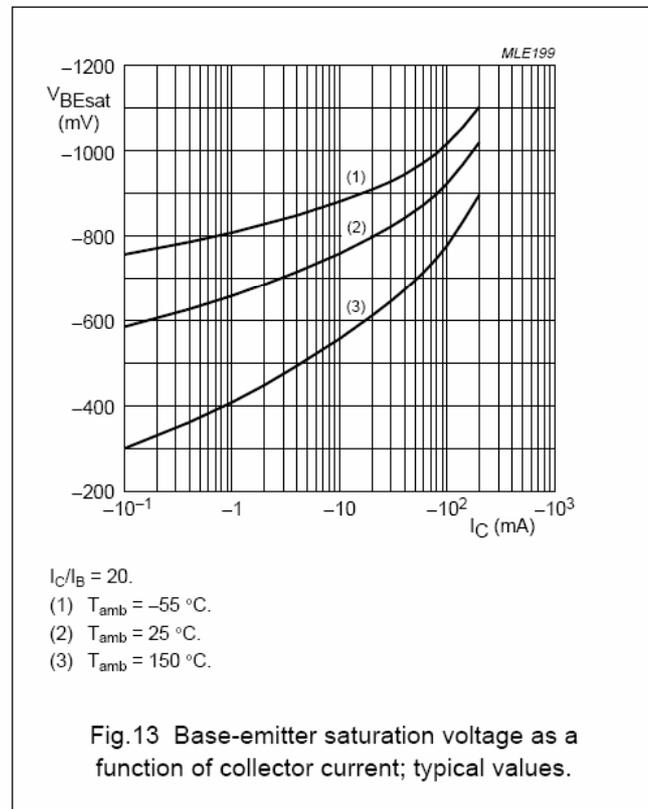
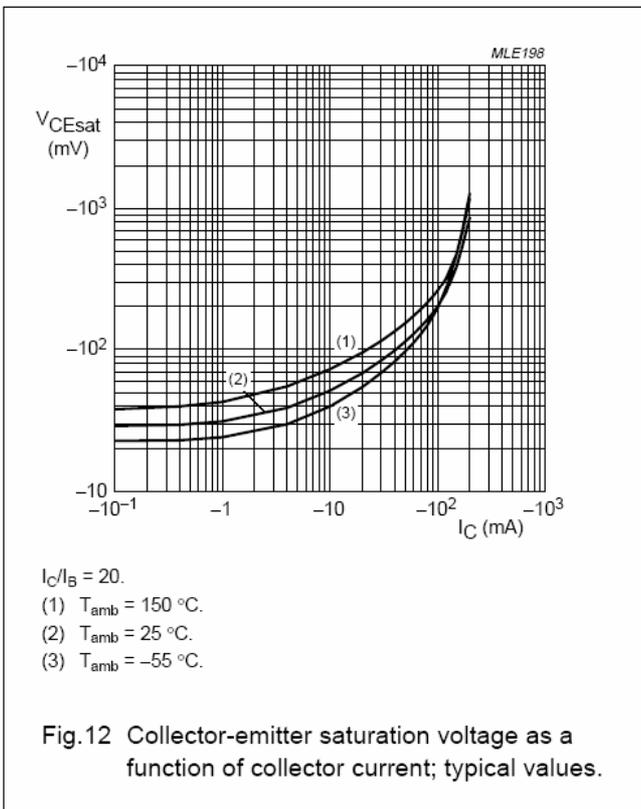
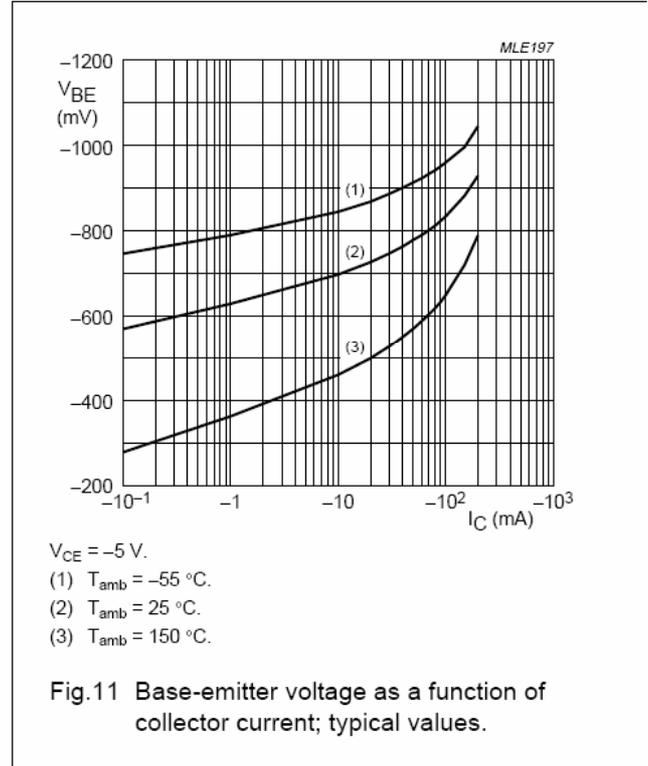
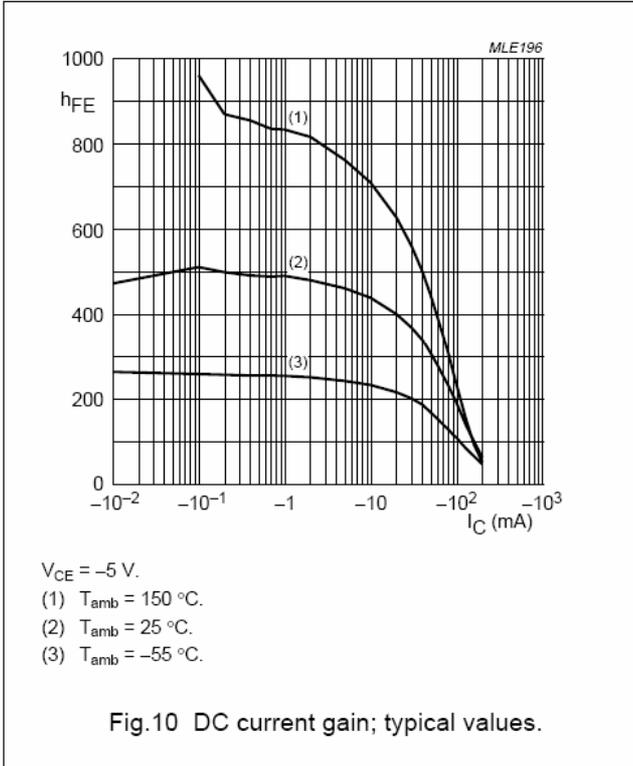
GRAPHICAL INFORMATION BC857BM



PNP general purpose transistors

BC857M series

GRAPHICAL INFORMATION BC857CM



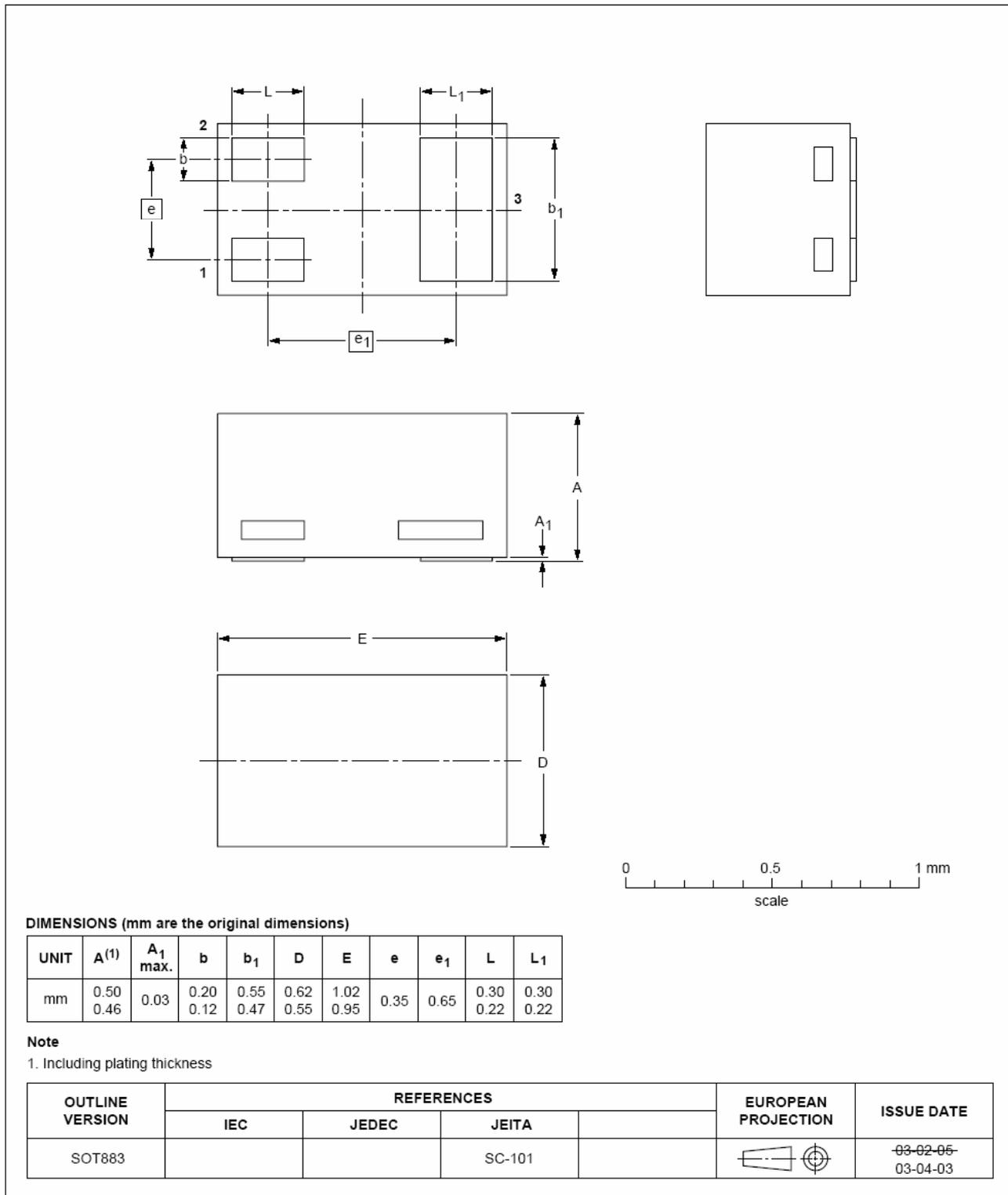
PNP general purpose transistors

BC857M series

PACKAGE OUTLINE

Leadless ultra small plastic package; 3 solder lands; body 1.0 x 0.6 x 0.5 mm

SOT883



PNP general purpose transistors

BC857M series

DATA SHEET STATUS

LEVEL	DATA SHEET STATUS ⁽¹⁾	PRODUCT STATUS ⁽²⁾⁽³⁾	DEFINITION
I	Objective data	Development	This data sheet contains data from the objective specification for product development. Philips Semiconductors reserves the right to change the specification in any manner without notice.
II	Preliminary data	Qualification	This data sheet contains data from the preliminary specification. Supplementary data will be published at a later date. Philips Semiconductors reserves the right to change the specification without notice, in order to improve the design and supply the best possible product.
III	Product data	Production	This data sheet contains data from the product specification. Philips Semiconductors reserves the right to make changes at any time in order to improve the design, manufacturing and supply. Relevant changes will be communicated via a Customer Product/Process Change Notification (CPCN).

Notes

1. Please consult the most recently issued data sheet before initiating or completing a design.
2. The product status of the device(s) described in this data sheet may have changed since this data sheet was published. The latest information is available on the Internet at URL <http://www.semiconductors.philips.com>.
3. For data sheets describing multiple type numbers, the highest-level product status determines the data sheet status.

DEFINITIONS

Short-form specification — The data in a short-form specification is extracted from a full data sheet with the same type number and title. For detailed information see the relevant data sheet or data handbook.

Limiting values definition — Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 60134). Stress above one or more of the limiting values may cause permanent damage to the device. These are stress ratings only and operation of the device at these or at any other conditions above those given in the Characteristics sections of the specification is not implied. Exposure to limiting values for extended periods may affect device reliability.

Application information — Applications that are described herein for any of these products are for illustrative purposes only. Philips Semiconductors make no representation or warranty that such applications will be suitable for the specified use without further testing or modification.

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Appendix 6



Material Safety Data Sheet

This MSDS is prepared in accordance with OSHA 29 CFR 1910.1200

	WHMIS CLASS E: Corrosive liquid.	HCS CLASS: Corrosive liquid.
WHMIS (Pictograms)	WHMIS (Classification)	HCS

Section 1. Chemical Product and Company Identification

Product Name/ Trade name	Factory Formula HP	Code	193
Synonym	Degreaser	CAS #	Not applicable.
Chemical Family	Not available.	Validation Date	3/22/2004
Chemical Formula	Not applicable.	Print Date	3/27/2004
Manufacturer/ Supplier	Betco Corporation 1001 Brown Avenue Toledo, Oh 43607 (419) 241-2156	In Case of Emergency	Chemtrec (800) 424-9300
TSCA	TSCA Inventory: All components listed or are exempt from listing.		
DSL/ NDSL	All components listed unless noted elsewhere on this MSDS		
Protective Clothing 			

Section 2. Composition and Information on Ingredients

Name	CAS #	% by Weight	Exposure Limits	LC ₅₀ /LD ₅₀
1) Nonionic Surfactant	9016-45-9	5-10	Not available.	Not available.
2) Sodium Xylene Sulfonate	1300-72-7	0-5	Not available.	ORAL (LD50): Acute: 650 mg/kg [Rat]. 5939 mg/kg [Mouse].
3) Alcohol Polyether	68551-12-2	1-5	Not available.	Not available.
4) Sodium Metasilicate	6834-92-0	1-5	Not available.	Not available.

Section 3. Hazards Identification

Potential Acute Health Effects	Corrosive to eyes and skin.
Potential Chronic Health Effects	Over-exposure by inhalation may cause respiratory irritation. Prolonged exposure may result in skin burns and ulcerations.
Carcinogenic Effects	Not classified or listed by IARC, NTP, OSHA, EU and ACGIH.

Section 4. First Aid Measures

Eye Contact	Immediately Hold eye open and rinse slowly and thoroughly with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor immediately for treatment advice.
Skin Contact	Rinse skin with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for further treatment advice. Remove contaminated clothing and shoes.
Inhalation	Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration., preferably mouth to mouth if possible. Call a poison control center or doctor for further treatment advice.

Ingestion	Call a poison control center immediately for treatment advice. Have person sip a glass of water if able to swallow. Do NOT induce vomiting unless instructed to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person
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Section 5. Fire Fighting Measures	
Products of Combustion	Not available.
Fire Fighting Media and Instructions	Non-flammable substance.
Special Remarks on Fire Hazards	No additional remark.
Special Remarks on Explosion Hazards	No additional remark.

Section 6. Accidental Release Measures	
Small Spill and Leak	Absorb with an inert material and place in an appropriate waste disposal container.
Large Spill and Leak	Absorb with an inert material and put the spilled material in an appropriate waste disposal.
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Section 7. Handling and Storage	
Precautions	Avoid contact with skin and eyes. DO NOT ingest.
Incompatibility	acids
Storage	Keep out of the reach of children. Not for use or storage in or around the home.

Section 8. Exposure Controls/Personal Protection	
Engineering Controls	Good general ventilation should be sufficient to control airborne levels.
Personal Protection	
<i>Eyes</i>	Splash goggles.
<i>Body</i>	Long Pants and Long Sleeves to avoid skin contact.
<i>Respiratory</i>	Wear appropriate respirator when ventilation is inadequate.
<i>Hands</i>	Gloves (impervious).
Protective Clothing (Pictograms)	
Exposure Limits	Not available.

Section 9. Physical and Chemical Properties			
Physical State and Appearance	Liquid.	Odor	Citrus
Molecular Weight	Not applicable.	Taste	Not available.
pH	12.5 to 13 [Basic.]	Color	Blue.
Boiling/Condensation Point	101.11°C (214°F)		
Melting/Freezing Point	Not available.		
Critical Temperature	Not available.		

Instability Temperature	Not available.
Specific Gravity	1.03 (Water = 1)
Vapor Pressure	20 mm of Hg (@ 20°C)
Vapor Density	>1 (Air = 1)
Volatility	>85% (w/w).
VOC	Not available.
Evaporation Rate	<1
Dispersion Properties	See solubility in water.
Solubility	Easily soluble in cold water, hot water.
The Product is:	May be combustible at high temperature.
Auto-ignition Temperature	Not available.
Flash Points	CLOSED CUP: >98.889°C (210°F).
Flammable Limits	Not available.
Fire Hazards in Presence of Various Substances	.
Explosion Hazards in Presence of Various Substances	Not applicable

Section 10. Stability and Reactivity Data

Stability	The product is stable.
Incompatibility with Various Substances	acids
Hazardous Decomposition Products	Not available.

Section 11. Toxicological Information

Routes of Entry	Absorbed through skin. Eye contact. Inhalation. Ingestion.
Toxicity to Animals	Acute oral toxicity (LD50): 3030 mg/kg [Rat]. (Tetrasodium EDTA).
Acute Effects on Humans	<p><i>Eyes</i> Very hazardous in case of eye contact (corrosive). Inflammation of the eye is characterized by redness, watering, and itching. May cause corneal opacity.</p> <p><i>Skin</i> Very hazardous in case of skin contact (corrosive, irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.</p> <p><i>Inhalation</i> Harmful if inhaled. Irritant.</p> <p><i>Ingestion</i> Very hazardous in case of ingestion. May be fatal if swallowed. May cause burns to mouth, throat, and stomach.</p>
Chronic Effects on Humans	Over-exposure by inhalation may cause respiratory irritation. Prolonged exposure may result in skin burns and ulcerations.
Special Remarks on Toxicity to Animals	No additional remark.

Special Remarks on Chronic Effects on Humans No additional remark.

Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Products of Biodegradation	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation	Not available.
Special Remarks on the Products of Biodegradation	No additional remark.

Section 13. Disposal Considerations

Waste Information	Waste must be disposed of in accordance with federal, state and local environmental control regulations.
Waste Stream	Not available.

Section 14. Transport Information

DOT (U.S.A)
(Pictograms)



TDG Classification 8



PIN UN, Proper Shipping Name, PG Shipping name: Corrosive liquids n.o.s. UNNA: 1760 PG: II

Maritime Transportation Not available.

Special Provisions for Transport Not available.

Section 15. Other Regulatory Information and Pictograms

WHMIS (Classification) WHMIS CLASS E: Corrosive liquid.



Regulatory Lists No products were found.

Other Regulations OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other Classifications

HCS (U.S.A.)

HCS CLASS: Corrosive liquid.

USA Regulatory Lists

California prop. 65: This product contains the following ingredients for which the State of California has found to cause reproductive harm (female) which would require a warning under the statute: Ethylene Oxide < 1 ppm
California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: Ethylene Oxide < 1 ppm

Massachusetts RTK: Ethylene Oxide

SARA 311/312 MSDS distribution - chemical inventory - hazard identification:
Sodium Hydroxide: immediate health hazard

DSD (EEC)

This product is not classified according to the EU regulations.

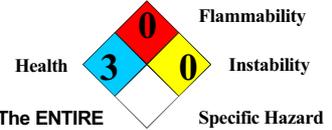
International Regulations Lists

No products were found.

Hazardous Material Information System (U.S.A.)

Health	3
Flammability	0
Physical Hazard	0

National Fire Protection Association (U.S.A.)



The Hazard Ranking systems presented on this MSDS provide only a quick reference for hazard information. The ENTIRE MSDS must be consulted to determine any specific hazards, First Aid measures, and PPE associated with this product.

Section 16. Other Information

Validated by CRushton on 3/22/2004.

Verified by CRushton.

Printed 3/27/2004.

Information Contact **Betco Corporation**
1001 Brown Avenue
Toledo, Ohio 43607

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Validated on 3/22/2004.

Factory Formula HP

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