DEPARTMENT OF LANGUAGES AND LITERATURES

# English at Work

## The communicative situation of engineers

Licentiate thesis

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# Abstract

In the formation of globally operating European or international business corporations, an increasing number of Swedish companies have been sold to owners abroad in recent years. This often implies that their head office is located abroad and their corporate language has been changed from Swedish to English. The sociolinguistic effects of the language shift and the communicative situation at work when English is used as a lingua-franca in the workplace have, however, been relatively little explored.

The overall aim of this study is to investigate how engineers having Swedish as their mother tongue use English at work. Focusing on written English, specific research questions concern what engineers typically write in English at work, what proficiency level is required for writing tasks in English, what strategies are used to perform writing tasks in English, and whether there are differences between male and female engineers as regards writing tasks in English. A further question dealt with in this study is to what extent courses in English for Specific Purposes (ESP) in engineering programs may prepare engineers better for writing in English at work.

The investigation, carried out in ten large companies and one smaller, representing various business sectors, comprises a survey with 89 respondents, ten interviews performed in five of the companies, and an analysis of different types of documents typically produced in the workplaces and written in English. Two categories of documents, reports and minutes of meetings, have been more thoroughly examined and described by means of a proposed model of document analysis.

The results show that more than half of the respondents write English on a daily basis at work. The most frequently written types of text are e-letters and reports. E-letters were indicated to be the text type that requires the lowest level of English proficiency, whereas instructions and reports were considered to require a very high level of proficiency. The most frequently used strategies mentioned to perform writing tasks in English were to rely on one's own ability, collaborate with a colleague, and consult existing similar documents. Concerning writing tasks in English in relation to gender, the unanimous opinion was that writing tasks were linked to a person's work position rather than gender.

Although containing a relatively large number of grammatical errors, especially involving verbs, the documents analysed in the present study seem to be communicatively effective, most likely due to authors' domain knowledge and ability to apply discourse conventions such as expected thematic structures.

Considering the diversity and variation observed in the nature of writing tasks and documents, it could be argued that authentic texts and data from target workplaces instead of classroom models should be used in teaching to prepare students for the diversity awaiting them in their future professional writing in English.



**Key words:** ESP; English as corporate language**;** engineers writing in English; proficiency level; writing strategies; gendered writing; document analysis; discourse conventions; real-life writing practices.

# Preface

My interest in English for Specific Purposes and workplace language use started in 1996 when I became a lecturer at the Centre for Language and Communication at Chalmers University of Technology. Over the years, teaching English to students of engineering, I often asked myself to what extent the content and direction of the English courses offered in their engineering programmes were relevant for the real-life practices awaiting the students in their future workplaces. With the present study I hope to be able to answer some of my questions, thus illuminating the use of English and the communicative situations of engineers at work.

In the process, there are several people who have paved the way for the completion of the study, without whom this thesis would never have been written. First and foremost, I would like to express my sincere gratitude to my supervisors Professor Sölve Ohlander and Dr Mats Mobärg at the Department of Languages and Literatures, University of Gothenburg, for their invaluable expert advice, for reading and re-reading my manuscript, giving many insightful comments and setting me right on linguistic matters, and for always being there to support and encourage me.

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*Vivianne Apelman*

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*V.A.*

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# 1 Introduction

## 1.1 Background and rationale of study

In recent years an increasing number of Swedish companies have been sold to owners abroad. Akzo Nobel, Marabou, Pressbyrån, Volvo Personvagnar, Saab Automobile, Electrolux and Astra are only a few examples of well-known Swedish companies of different sizes and lines of business that are no longer Swedish-owned (Jakobsson, 2007). Selling out, acquisitions, mergers and the forming of corporations on a European or international level often imply that a company's head office is moved abroad and the working language is changed from Swedish to, predominantly, English.

The choice of English as corporate language is not surprising. Even if English is no longer the only 'show in town', being challenged especially by Mandarin and Spanish in some regions (Pakir, 2004; Graddol, 2006), Russian in the newer Eastern European nations, and the hybrid blend of Scandinavian languages used in several northern European countries (Lohiala-Salminen, et al., 2005), English has strengthened its position as the world language in the last fifty years. It is now the mother tongue of more than 300 million people and used as a lingua franca by people of different nationalities all over the world. This development can above all be explained by former British colonisation and the current political, cultural and economic power of the USA. Furthermore, with an ever increasing demand for English skills the position of English as the world language is unlikely to be seriously challenged for years to come. A report from the British Council in 2006 (Graddol, 2006) points to the fact that within a decade 2 billion people will be studying English and half of the world's population (about 3 billion people by then) will speak it to one degree or another. That the English language today is regarded as a high-status language and the gateway to success and power is undeniable (Skutnabb-Kangas & Phillipsson, 2001; Svartvik, 2005).

In view of the strong position of English in the world, it is only natural that large, multinational enterprises in Sweden should use English as company language and have done so for decades. Ericsson and Volvo are examples of Swedish firms that gave English official status as their company language more than twenty years ago, the Volvo group as far back as 1975. Obvious reasons for the language choice are related to

handling communication, knowledge transfer, and reporting within the international business group as well as communicating outwards with customers worldwide. An additional reason for presenting important information regarding company finances, production and policy in English is to give shareholders and their representatives full transparency.

Similarly, Swedish-owned, international operative companies increasingly decide to establish English as their official language, and even among companies located and primarily operative in Sweden, the number of firms using English as company language is continually rising (Gunnarsson, 2001; Falk, 2001; Johansson, 2006). In most cases this development can probably be explained by factors involving market-orientation, competition and business image.

However, the fact that English is the official company language rarely means that it is the working language in all communicative situations or at all levels in a company. The use of English varies considerably among companies. It can be anything from just translating policy documents and important information into English, to having practically all oral and written communication in English (Höglin, 2002; Josephsson, 2004a; Johansson, 2005). In any case, there is no doubt that the language shift demands increased communication skills in English and that this has consequences for most employees in a company.

Given that language is the key to communication, it is surprising that the imposition of English as a lingua franca, as well as its effects on the communicative situation at work, has not been more thoroughly explored. The lack of knowledge in this area has long been noted, resulting in growing attention among scholars, both in Sweden and internationally, regarding the language factor in multinational business, for instance in studies by Marschan et al. (1997), Höglin (2002), Andersen & Rasmussen (2004), Josephson & Jämtelid (2004), Welch, et al. (2005), and Johansson (2006).

A central question in this connection is whether company management and employees are adequately prepared for the new challenges that adopting English as corporate language might involve. For instance, are the company's language resources fully known? Is the language impact on information flows and knowledge transfer fully explored? Have possible effects of language dominance as regards structural and personal power in an organisation been elucidated? Is the risk that the language factor might become a barrier, or perhaps lead to exclusion, taken into account? Such and related questions, being of vital importance for business management, seem long to have

been more or less ignored but are now increasingly discussed and investigated, for instance by Skutnabb & Phillipson (2001), Birkinshaw & Arvidsson (2004), and Andersen & Rasmussen (2004).

Another area of interest is how higher education meets the increasing demands for English proficiency. In major universities in Sweden, English is used to a greater or lesser extent within practically all disciplines and at nearly every level (Teleman, 1992; Gunnarsson & Öhman, 1997; Falk, 2001; Berg, et al., 2001). Moreover, with growing internationalisation the tendency is that an increasing number of English language programmes and courses at various levels are being offered by most institutions of higher education (see ESTIA Sweden).

In a narrower context, an attendant question is how the training of engineers and courses in English for Specific Purposes (ESP), pedagogically and methodically, can be customised to best prepare students of technology for the English skills required in the workplace. Clearly, to be able to answer this question, it is essential to gain a thorough knowledge of the oral and written communicative situations occurring at work. For instance, it is important to map in what situations English is used and establish the language proficiency level required by the various communicative situations. Types of texts and documents read and/or written in English at work need to be described and analysed. Likewise, it is of interest to get a clear picture of typical language tools available in the workplace, methods and strategies used to accomplish work tasks in English, and possible needs of further training. From the perspective of employability and competitive factors in the labour market, both nationally and internationally, it is also of vital importance for higher education to get increased insight into company language policies and requirements.

## 1.2 Aims

The overall aim of this study is to throw light upon the communicative situations of engineers using English in the workplace. From both a quantitative and qualitative perspective, the goal of the study is to obtain knowledge about and describe activities performed in English in the workplace, especially the writing of English.

Research undertaken in different business sectors has shown that employees spend nearly one third of their time on writing (cf. Kreth, 2000; Schneider & Andre, 2005), and this activity seems to increase as employees are promoted to higher positions (Gunnarsson, 1997; Kreth, 2000). A study by Hållsten (2008) indicates that Swedish engineers write every day in their profession, a task their higher education does not seem to prepare them for. Furthermore, since good writing skills are commonly considered to be crucial for effective communication, both within and between organizations (cf. Angouri & Harwood, 2008), it is of great interest to investigate how engineers, having Swedish as their mother tongue, cope when English becomes their working language. This question raises further questions, specifically dealt with in this study:

- What writing tasks are typically performed in English?
- What English language proficiency is required to perform writing tasks in English?
- What tools and strategies are used to perform these tasks?
- What specific difficulties and problems, if any, are there when writing in English?

Another aspect, relating to gender, which has been considered in this study is whether there are differences concerning writing tasks in English between male and female engineers; therefore, the following questions are asked:

- Do males and females have the same types of writing tasks?
- Is there a difference in competence regarding writing in English between males and females?

An additional aim of the study is to describe the linguistic characteristics of documents written in English in the workplace, taking into account both the nature of linguistic structures and the way these structures are used to fulfil the texts' communicative goals. Questions specifically dealt with in the present study, concerning documents written by non-native speakers of English, are:

- What typical grammatical errors occur in documents written in English?

To what extent do grammatical errors give rise to impaired communication in these documents?

Further, in relation to recurring discussions about curricula development and internationalisation in higher education (cf. National Agency for Higher Education, 2005) the following question will be investigated:

- To what extent may courses in English for Specific Purposes (ESP) prepare engineers for writing in English at work?

To investigate the questions outlined above, the methods used in this study (for a detailed account, see chapter 3) comprise a questionnaire survey, company visits, interviews and document analysis.

## 1.3 Plan of study

This work is divided into six chapters. Chapter 1 describes the background and goals of the investigation. The next chapter (chapter 2) accounts for previous research. It starts out with an overview of Swedish studies, followed by a presentation of different internationally performed studies within the field of study.

Chapter 3 is focused on the method and procedure employed. The various quantitative and qualitative methodological approaches of the study are described and discussed, including questionnaire, interviews and document analysis.

Chapter 4 presents the results of the questionnaire, including statistical analyses, and an account of interview findings.

Chapter 5 focuses on the analysis of documents from a linguistic point of view and the results of the document examination are presented and discussed.

Finally, chapter 6 summarises the study, together with some concluding remarks, including pedagogical implications and suggestions for future research.

The appendices include the questionnaire (Appendix 1) and more detailed tables of statistical results of the survey than those presented in section 4.1 (Appendix 2). Further,

a presentation of the interview guide (Appendix 3) and detailed accounts from the interviews are provided (Appendix 4).

# 2 Previous work

As was mentioned in the introductory chapter, surprisingly little research has been conducted regarding the role of language at work and the conditions and effects of working in a language other than your mother tongue (e.g. Höglin, 2002; Josephson & Jämtelid, 2004). Nevertheless, an increasing number of discussions and studies within the field reveal a growing interest in language and communication issues in the workplace.

## 2.1 Studies relating to Swedish companies

In Sweden, surveys and investigations of a predominantly sociolinguistic character regarding the role of language have been carried out in various company environments. One of the first studies in the area was presented in a doctoral thesis by Håkan Hollqvist in 1984. Hollqvist investigated the use of English in three large Swedish companies, Handelsbanken, LM Ericsson and Scandinavian Airlines System (SAS). In these firms, English had the status described by Hollqvist as that of 'company language', meaning that its use was required in all written and oral communicative situations involving persons of non-Swedish-speaking origin. The study showed that 27% of respondents used English on a daily basis. English reading comprehension was reported to be the most necessary skill in English at work, and an overall demand among employees was for further training in reading technical literature in English. However, only at LM Ericsson did language training have relatively high priority and was organised through the company.

With similar foci, smaller studies have shed some further light on the Anglicisation in Swedish companies. Johansson (1997) and Jämtelid (1998) chiefly investigated the use of English by persons holding managerial positions. Johansson's investigation was carried out at a company within mechanical industry, where, for two days, she followed the work of a department manager. The manager estimated that he spoke English at least three to ten times per week. In the two days studied, the manager's use of English consisted in reading some texts in English.

Jämtelid studied writing in English at Electrolux. Her findings showed that English was frequently used at management level, both in speech and writing. Moreover, her study indicated that aim, receiver, and topic were decisive for whether a document was written in Swedish or English.

In a survey at a subsidiary in Stockholm with its head office in Brussels, 70% of approximately 100 employees reported that they used English daily, more in written than in oral communication, e.g. in e-letters and reports. Moreover, the survey indicated a positive correlation between position within the company and the use of English – the higher the position, the more frequently English was used (Andersson, 1998).

In a survey comprising 33 employees at five different randomly selected companies, by Berg, et al. (2001), 67% of the respondents, similar to Andersson's study (see above), reported using English on a daily basis.

In another study, Andersson & Nilsson (2000) interviewed employees in the ABB Group. This study also showed that English was more frequently used by managers and employees in higher positions than by other staff. Furthermore, the study revealed a lack of policy and guidance regarding the choice of English as working language. There were no directions as to the communicative situations Swedish or English should be used, or whether the company language was British or American English. Nor did the company arrange language support and further training in English to facilitate the language shift.

On the basis of telephone interviews with three companies that had recently changed their corporate language from Swedish to English, Falk (2001) concluded that practically no analyses regarding possible effects of the language choice had been carried out before the transition to English took place. Examples of effects that interviewees reported after the introduction of the new working language were slower work pace and hampered information access.

In a study on multilingual text production at Electrolux (Jämtelid, 2002), interviews with employees revealed that the corporate English used within the Electrolux group in internal writing and meetings was referred to as "bad English" (p. 44). According to the company's director of corporate communications, the language policy at Electrolux was that it was better to communicate than to remain silent, even if the English used was poor. Thus, difficult words were deliberately avoided, and simplified, "bad" grammar could be used without anyone having to feel ashamed. In external writing, on the other hand, correct English should be used to uphold the professional image of the company.

In a larger study, Josephsson & Jämtelid (2004) aimed at giving a "first, very modest overview of language choice and language policies in Swedish workplaces" (p. 24, translation from Swedish). A survey in 55 large and medium-sized enterprises was conducted. The results of the survey confirmed the tendencies presented in other, smaller studies: the use of English dominated at management level and among employees holding higher positions in the companies. Workers were usually directly affected only to a limited extent. The survey also showed that English was chiefly used in written communication and very little in internal, oral communication. Furthermore, the study indicated that many companies seemed to adopt English without preceding analyses of the consequences and effects of the new communicative conditions.

Similarly, to obtain a clearer view of the use of English in Swedish enterprises and get a picture of people's attitudes towards working in English, Johansson (2006) sent questionnaires to the 200 largest companies in Sweden. The findings of the twofold survey support the results found in previous studies. Managers and higher-ranked staff are primarily those affected by a transition to English, and the transition seems to take place without much reflection on consequences. Even if the predominant attitude among respondents was that the language situation was not felt to be a problem, they also voiced negative views, e.g. that the work took longer, information in English did not always reach all people in the workplace, and it was difficult to express linguistic nuances and use correct technical vocabulary and style in English.

To get an insight into cultural aspects and attitudes towards English, Mobärg (2006) conducted a study in a large, originally Swedish, company that had recently gone through the process of merging with a British company. Mobärg investigated the use of English and also compared employees' self-evaluated and tested English proficiency with their views on the merger concerning cultural differences and attitudes towards Britons and Americans as colleagues after the merger. Results showed that employees who had high self-evaluation of their English writing skills and also obtained high scores on English proficiency tests were most positive to the merger's effect on the company.

Moreover, in a minor study, interviews with six employees at Volvo Car Corporation indicated that there seems to exist a relationship between the choice of company language and company culture (Bengtsson, 2006). Bengtsson concluded that English and American executives cannot understand the Swedish company culture since they do no know the Swedish language, and through their influence the company culture therefore changes.

Gunnarsson (2006) concluded that the disparity as regards English skills between on the one hand, senior executives and experts, and, on the other hand, ordinary employees in companies might not only "create a hierarchical divide between the elite and the workforce, but it can even constitute a democratic problem if texts in English are circulated to employees whose English is poor" (p. 260). Furthermore, Gunnarsson pointed to earlier studies suggesting that the language gap is often felt even wider by immigrants in Sweden who have come from countries where English was not taught at school.

In sum, for the most part the studies carried out in Sweden concern the extent to which English is used at different levels in multinational companies and the sociolinguistic effects of the language situation. Studies focusing on English language skills required in the workplace and how work tasks in English are accomplished are rare. To my knowledge, with the exception of Mobärg's study (2006), none include analyses of language skills and the proficiency level of English used in texts and documents in the workplace.

## 2.2 International studies

As stated earlier, studies and discussions abroad have increasingly recognised the influential role of language in multinational corporate business.

Boiarsky (1995) and Jaeger (1998) pointed to the fact that understanding the relationship between language and culture has become a prerequisite for successful enterprises operating globally. In line with this view, Gertsen, et al. (1998) confirmed that integration problems in international business organisations were often due to language. In an analysis of foreign acquisitions in Denmark, they conclude "that active participation and exchange of views in a discussion … needs a standard of English that is so high that it is mastered by only very few Danish employees" (p. 193).

Likewise, the crucial role of language in intercultural relations was emphasised in Hofstede's major study on international organisation and behaviour (2001). Hofstede suggested that language is a major cause of cultural clashes and misperceptions, not least because native speakers of English, especially when they are themselves monolingual,

assume that "what foreign speakers can express in English words is all that the foreigners have on their minds" (p. 425).

Similarly, Gancel, et al. (2002) pointed to the fact that employees working in another language might be placed at a distinct disadvantage when only being able to express themselves at the most general of levels. Furthermore, their linguistic shortcomings could lead to costly mistakes and misunderstandings (p. 174). To bridge language problems Gancel et al. advocated "Culture Bridging Competencies" (pp.163-179), emphasising that "Leaders who will be working not only across borders, but also across languages, should develop their command of the languages concerned … to facilitate communications with people in their own language…" (p. 174).

Studies by Louhiala-Salminen (2002) and Söderberg & Vaara (2003) on Swedish-Finnish mergers suggest that increased foreign language use (English and Swedish) was the main source of impoverished communication and gave a sense of professional incompetence. The choice of Swedish as corporate language in the merger between Finnish Merita and Swedish Nordbanken led to many Finnish managers and employees feeling inferior and handicapped because of their limited Swedish language proficiency.

In the same way, negative language effects, such as hampered information exchanges in the form of distortion, blockages and filtration, were discussed by Charles & Marschan-Piekkari (2002) and Bargiela-Chiappini & Nickerson (2003).

Other scholars to take a special interest in the language dimension in multinational enterprises are, for example, Bruntse (2003), Lovio, et al. (2003), and Welch, et al. (2005). Bruntse's study of Scandinavian Airlines (SAS) in 2003 showed that SAS employees could be roughly divided into two categories: linguistically strong and linguistically challenged. The linguistically challenged reported comprehension problems and the feeling of 'loss of face' in certain work situations.

Lovio et al., in a study of General Electric's acquisition of the Finnish company Instrumentarium, pointed to the fact that not only did employees of the Finnish unit have to improve their skills in English, but they also had to learn codes and abbreviations used in the new 'company speak'.

Welch et al. illustrated the impact of language in multinational management processes and referred to research revealing how language proficiency gives power to certain individuals, allowing them to control the nature and flow of communication (p.12). Furthermore, the authors highlighted the lack of knowledge in the area and encouraged continuing studies to provide a clearer picture of the language factor in

intercultural business, well aware that “Adopting a common corporate language is an important step but, by itself, is not necessarily a solution and may introduce other problems” (p. 24).

To sum up, the research concerning English as corporate language in multinational companies so far suggests that working in another language than one’s mother tongue may result in impaired knowledge and information flows, cultural clashes, and the feeling of personal linguistic shortcomings. However, there are few studies showing how well, or poorly, employees are prepared for the communicative situation regarding English at work, the strategies and tools they use, how they cope, and what company language policies and attitudes are. Thus, considering the increasingly multinational business world, there is not only need for more studies focusing on the sociolinguistic effects of the language shift but also for studies of a more linguistic character, focusing on the language used and produced at work. It is reasonable to assume that better knowledge of e.g. linguistic problems arising when writing documents in English can be used to better prepare students in higher education for relevant language requirements in the workplace.

# 3 Method and material

With the aim of obtaining both an overall and a more in-depth picture of the communicative situation of engineers concerning the use of English in Swedish companies, various methods of data gathering and analysis were applied in this study. Striving for thoroughness and validity, the research work comprised three stages of investigation. To obtain an overview of the use of English and provide a basis for further analysis, the first step was the distribution of a questionnaire survey (Czaja & Blair, 1996; Trost, 2001; Buchanan & Bryman, 2009). The results of the survey were then followed up and partly cross-checked through triangulation in interviews (Yin, 1984; McCracken, 1988; Svensson & Starrin, 1996; Kvale, 1997; Trost, 1997; Olsson & Sörensen, 2007; Buchanan & Bryman; 2009). Finally, texts were collected in the workplaces, forming a corpus for a linguistic analysis of typical documents written in English at work (Gunnarsson, 1989; Andersson, 1997; Levin, 1997; Bäcklund, 1998; Swales 2004).

## 3.1 Data collection

The target population for my study was engineers working in internationally active companies of various trades and specialisations in Sweden, with English as their company language.

Though aspiring to cover as broad a spectrum of trades as possible and reach the intended population for the study, the selection of companies and respondents, depending on availability and accessibility, partly had to resort to the method of convenience sampling (see e.g. Czaja & Blair, 1996; Trost, 2001).

An initial question was how to ‘get inside company gates’ and find people who could be of help with the distribution of questionnaires, collection of texts and documents, and, at a later stage, identification of respondents for interviews. As a first step to find these contacts, I made an inventory of people I knew in various companies and of others who could assist in establishing contacts with companies. These people I contacted by

telephone, briefly presenting my intended study and asking permission to send them an introductory letter with further information and an attached sample of the questionnaire.

### 3.1.1 The companies

By the above-mentioned method of locating company contacts, I managed to establish contact with ten large[1] and one small enterprise, located within visiting distance.

The companies operate in the industry categories of motor vehicles, pulp and paper, chemistry, telecommunications, mechanical, construction, and technology industries. They have been internationally active for several years, and English is their corporate language. Henceforth, for reasons of confidentiality, the companies will be referred to as company A, B, C, D, E, F, G, H, I, J, and K. Further, all names of people have been changed in the present work.

### 3.1.2 Company visits

My aim was not only to establish contact with the companies but also to visit them *in situ*. In seven of the ten companies, I could pay an introductory visit to a person having some kind of managerial position. In the remaining three companies, I contacted the human resources departments and was then directed, either by telephone or by e-mail, to someone in a suitable position for the matter. My choice of trying to visit as many of the companies as possible, handing over the questionnaires in paper form instead of distributing questions and collecting responses electronically, fulfilled multiple purposes. In this way, I hoped to create personal contacts in the companies as well as being given assistance not only in the distribution of questionnaires but also in collecting and checking the return of them. Furthermore, I assumed that this strategy would give me the possibility of raising more interest in my work, thus facilitating the collection of texts

[1] According to The National Swedish Tax Board (2005), the definition of a large company is an enterprise having more than 800 annual employees or annual incomes of 50 million or more.

and documents for a linguistic analysis and finding respondents for interviews. Finally, I wished to experience and observe as much as possible of various working environments in order to become familiar with working conditions and communicative situations in the workplaces.

## 3.2 The questionnaire

As its point of departure my investigation took the traditional model of a sample survey. In the survey, I aimed at addressing male and female engineers and technicians of different ages and with various lengths of employment. For reasons of manageability and availability, the number of respondents was set at approximately ten per company, and the selection of subjects was done by my contact in each company.

One problem regarding the selection of respondents was that in a few cases my contacts in the companies either did not try to actively select respondents, or did not have the possibility of selecting respondents, for an ideal sampling. This means that the sampling was not altogether strategic but can partly also be designated as convenience or accidental sampling (cf. Trost, 2001).

Since a questionnaire is a structured instrument, one disadvantage is that it allows little flexibility for the respondent as regards response format. To partially overcome this disadvantage and obtain information that would have otherwise been lost, the questionnaire used in this study was constructed with plenty of space for comments and additional information in open-ended questions.

Another major disadvantage of written questionnaires is the possibility of low response rates. In order to reduce non-response in the present survey, my contact person in each company was asked if she/he could assist not only in introducing and distributing the questionnaires, together with stamped envelopes for return mail, but also in collecting and checking the return of answered questionnaires. This was done in seven of the ten companies. Respondents in the other three companies sent me their answers directly, either by e-mail or in the pre-stamped return envelopes.

### 3.2.1 Purpose and design of the questionnaire

As mentioned above, in the hope of constructing a sample of the necessary size to be able to generalize to a larger population, my questionnaire was distributed to 95 respondents in ten different companies.

#### 3.2.1.1 Purpose

The overall purpose of the questionnaire was to obtain an overview of respondents' background and their use of English at work, both orally and in writing. In particular, I hoped to obtain knowledge of what types of texts and documents respondents write, strategies they typically use when performing writing tasks, and how they rate skills needed in writing certain documents in English.

Furthermore, I wanted to obtain a picture of respondents' English training in higher education programs. What did they train and what areas of English proficiency do respondents consider should have been practised in their higher education programs? Also, in their current work situation, could they identify areas of knowledge in which they need further training in English?

#### 3.2.1.2 Design

The questionnaire, which was tested by a pilot respondent, took approximately 10-15 minutes to answer and comprised altogether 19 questions, in paper form on 6 pages; see Appendix 1.

It consisted of 16 close-ended and 3 open-ended questions, aiming at giving information about the following areas:

- Respondents' background as regards gender, age, education, continuous stay in English-speaking country, and years of employment (close-ended questions 1-6)
- Degree of use of English at work as regards oral, reading, and writing activities (close-ended questions 7-9)

- Self-assessed proficiency in English as regards oral, reading, and writing skills (close-ended questions 10-12)
- Frequency of types of texts written at work, self-reported proficiency level needed for writing certain texts and documents, and strategies for performing written tasks (close-ended questions 13-16)
- Evaluation of education and Self-reported need of further training (open-ended questions 17-19)

### 3.2.1.3 Discussion of purpose and design

Apart from gender and age, the variables of education, continuous stay in English-speaking country, and employment time, both total employment time and employment time in the present company, were included in the questionnaire to give more exact information about respondents' background in relation to their use of English at work.

One of the aims of the questionnaire survey was to give an overview of the degree to which English is used at work. Respondents were asked to indicate, on a five-point scale, how often they speak, read and write English at work. Furthermore, to see how they assess their oral, reading and writing skills in English, at the same time getting an idea of how they estimate that they cope with using English at work, respondents indicated their self-assessed language performance on a scale with the alternatives *very good, good, acceptable, rather poor*, and *bad*.

Since this study primarily focuses on the writing of English at work, four questions aimed at shedding light on what types of documents and texts are written in English, the frequency of writing these types of documents, requirements of language proficiency for writing them, and methods and strategies for writing in English at work.

The questions regarding different types of documents had five specific alternatives: letter, e-letter, instruction, memo, report. These types of documents were chosen as they are assumed to be typical and ubiquitous in business writing. For instance, in a survey of 120 major American corporations (*Writing: A Ticket to Work*..., 2004) more than half of the 64 responding companies reported that they "frequently" or "almost always" produced technical reports (59 percent), formal reports (62 percent), and memos and

correspondence (70 percent) (p. 4). However, it is obvious that there can be an element of uncertainty about what characterises a report, since there are several types of written documents designated as reports, e.g. test report, lab report, visiting report, customer report, meeting report, and deviation report.

To make it possible for respondents to mention other types of documents apart from the given alternatives, the question had a sixth open-ended alternative: other type of text/document. Respondents were told to indicate all the alternatives applicable to the types of documents/texts they write in English at work.

In addition, with the same types of documents as those mentioned above as variables, respondents were asked to estimate the level of language proficiency required to write these documents. This was done on a six-point scale going from 1= highest requirement to 6= lowest requirement.

With this set of questions I hoped not only to obtain some information about what text types to choose for practising relevant writing for technology students in higher education but also to get an insight into the estimated language proficiency level needed to perform specific writing tasks in English at work.

Another question of interest was what strategies are used to accomplish these writing tasks. In an attempt to get a picture of the methods used and to see what possible help is available, respondents were asked to state how often they made use of the five strategies/methods given as variables in the question: rely on my own ability, co-operate with colleague, consult existing similar documents, use company document models, turn to company language reviewer/translator. Here, it turned out that at least two additional alternatives were overlooked and should have been included in the question, namely: use dictionaries/wordlists, use computer language tools. Moreover, confusion might arise regarding the exact difference between the alternatives ‘consult existing similar documents’ and ‘use company document models’.

In the hope of shedding some further light on how higher education can train students for the use of English at work, I also wanted to find out how respondents evaluate the training of English they had had within their engineering programs in relation to the proficiency needed in their work situations. In an open-ended question they were asked to state what skills in English they thought should have been practised, or practised more in their education. To facilitate answers, some examples of language situations and skills were mentioned in the question, e.g. oral presentations, meetings, argumentation,

reading, report writing, letter writing, and writing practice focusing especially on grammar and linguistic correctness.

An additional item of interest was whether it had been possible for respondents to get further training in English through their companies, thus acquiring or improving the knowledge and skills needed. If there was a positive answer to this question, respondents were told to give a description of the extent in time as well as the main content of the available in-service training in English.

Finally, also in a twofold question, respondents were asked if, in their present work situation, they felt any need of further practice in English and, if so, to identify what areas or skills they needed to practise.

## 3.3 The interviews

To follow up and complement the findings of the survey and further explore writing in English in the workplace, ten interviews in five different companies were carried out.

The interview method in my study is qualitative. In a qualitative interview, which Svensson & Starrin (1996) characterise as "guided conversation", an interview guide without fixed response alternatives serves as guidance. For this purpose, considering both the thematic relevance of the questions and the dynamic interplay between interviewer and interviewee (Kvale 1997, pp.120-122), I constructed an interview guide which was tested in a pilot interview (see Appendix 3).

Further, according to the method of strategic selection (Trost 1997, pp. 107-111) and McCracken's (1988) principle that "less is more", meaning that as few as eight respondents would be perfectly sufficient "to gain access to the cultural categories and assumptions according to which one culture construes the world" (McCracken 1988, p. 17), I aimed at interviewing two respondents in each of five different companies, i.e. ten respondents in all.

### 3.3.1 Participants and procedure

My contact persons in five of the companies I visited when introducing the questionnaire helped me identify and introduce me to interview subjects suitable for the purposes of this study, i.e. male and female engineers of various ages and in different positions in the companies. The participants in the interviews were four women and six men, one comparatively young and one older respondent in each of these five companies. Six of the ten respondents had taken part in the preceding survey and were thus to some degree already informed about the aims of the study.

To create a relaxed atmosphere and maximise both the quality and quantity of the information obtained, all interviews were conducted individually in Swedish, without a tape recorder, in either the informant's personal office or on adjacent company premises chosen by the informant.

Before starting an interview, I explained that my purpose in conducting the interview was to follow up the results of the questionnaire and learn more about writing in English in the workplace. Moreover, I explained that to make sure that I covered the same areas in each interview, I had an interview guide with sets of questions to discuss (see section 3.3.2 and Appendix 3).

During the interviews I took notes of answers and of observations I made of the workplace. Each interview lasted one to one and a half hours, and as soon as possible after an interview I made a fair copy of my notes, adding supplementary text where notes were condensed and fragmentary. With four of the interviewees I also had complementary follow-ups via telephone and email.

### 3.3.2 Instrumentation

The instrument used in the interview sessions was the above mentioned interview guide (see Appendix 3). It was tried out in a pilot interview and after minor alterations set to 63 questions, covering the following nine main areas:

- *Amount and frequency of writing in English*

Questionnaire responses showed that approximately 75% of the respondents frequently write in English at work. In the interviews, I hoped to acquire a more in-depth picture of what is written in English and Swedish, respectively, possible relationships between position and time in the company and writing tasks, and if the informants had

experienced a change over time when it comes to the amount and frequency of writing in English at work.

● *E-letters*

E-letters are rated by the questionnaire respondents as being the most commonly produced document in English at the workplace. Interview questions about the style and structure of e-letters aimed at shedding more light on how these letters are written.

● *Reports*

Reports are mentioned as the second most frequent document written at work. The interview included questions regarding various types of reports, the style and structure of reports, and if it would be different to write reports in Swedish instead of English.

● *Other types of documents*

Apart from the documents dealt with in the questionnaire, I hoped to obtain more information about other types of documents written in English, e.g. regarding language proficiency level and skills required to write these other documents.

● *Language tools and strategies*

Interviewees were asked to describe the strategies, methods and language tools they use when performing their writing tasks in English.

● *Language policy in the companies*

Often in job advertisements, good proficiency in English is mentioned as one of the prerequisites for employment. Questions of interest are how important knowledge of English actually is when it comes to employability, and what proficiency level is required by the companies.

● *English in the engineering programs in higher education*

Informants were asked to reflect on the English training they had in their higher education in relation to writing tasks at work and voice what they consider important to practise in the engineering programs regarding writing in English.

● *Needs and possibilities of further training*

Questions in this area aimed at finding out if there is a 'gap' between proficiency in English acquired before the informant's present work situation and the skills needed in this situation and, in that case, if this gap has led to hindrance or poor results at work. Moreover, I wanted to get a picture of the possibilities of further training in English in the companies.

● *Relationship between gender and writing tasks in English*

The final set of interview questions aimed at investigating whether there is a relationship between gender and writing tasks in English in the workplace.

## 3.4 Documents

In the present study, an attempt is made not only to map the distribution of typical documents written in English in the workplace, but also to obtain a preliminary picture of the structure and language used in these documents. For this purpose, contact persons and informants in the companies participating in the study were asked to submit sample texts and documents in English which are typical of the ones they use and produce in their daily work. From seven companies representing different industrial sectors, various types of documents were in this way provided for the study. The writers of the documents occupy positions at different echelons of their organisations, ranging from staff employed in R&D up to middle and senior levels of management.

### 3.4.1 Text material and subcorpus

As already mentioned, the text material collected for the present study is not the result of a selective process. Instead, documents of their own choice were submitted by the informants. In all, this collection amounts to 96 documents[2].

To illustrate the size of the material, the number of pages has been counted and the number of words estimated in each document. As a basis for the estimation of words, I calculated the number in each document by counting all words on 20% of the pages, representing different layouts in the documents.

The different types of documents submitted are presented in Table 1 on the next page. Table 1 also indicates the number of types, number of pages and number of words (tokens) of each category:

[2] This material is available but for reasons of space not appended to the study.

*Table 1 Number of documents classified by types, distributed according to length (pages and words)*

| **Type of documents** | **Number of documents** | **Average number of pages** | **Average number of words (tokens)** |
|---|---|---|---|
| Report | 20 | 9 | 1254 |
| e-letter | 45 | 1 | 178 |
| Minutes of meeting | 7 | 3 | 565 |
| Memorandum | 1 | 3 | 355 |
| PowerPoint MS | 4 | 31 | 460 |
| Instruction | 1 | 3 | 200 |
| Safety data sheet | 1 | 6 | 800 |
| Specification | 3 | 13 | 300 |
| Application of patent | 4 | 21 | 3586 |
| Other application | 2 | 21 | 290 |
| Technical article | 3 | 10 | 3618 |
| Translation of article | 1 | 7 | 3400 |
| Product catalogue | 2 | 35 | 13500 |
| Homologation document | 1 | 6 | 4800 |
| Question/assumption document | 1 | 2 | 1 200 |
| **Total** | **96** | **7** | **1076** |

In the table, different types of reports have been conflated into just one category ’Report’. The various types of reports submitted will be further described and analysed in chapter 5 below. Similarly, different types of other applications than applications of patents have been gathered under the category ‘Other Application’.

Further, since they do not fit into any other category, the last two types of documents in the list, the ‘Homologation’ document and the ‘Question/assumption’ document, were listed according to the labels the companies themselves had given these documents.

To examine all the documents, or document types, listed above, would be too extensive an undertaking, given the scope of this study. Instead, the text analysis is limited to a smaller number of documents and should be seen as a pilot investigation, possibly initiating further research on the material available.

Thus, since a delimitation of the material to be investigated had to be made, I started by reading through and roughly analysing all the documents submitted. After this first examination, I selected two types of document to form a subcorpus for the document analysis. The types of document chosen were 'Report' and 'Minutes of meeting'. The reason for this selection is not only that these types of documents are, reportedly, frequently written in the companies, but they also contain relatively "genuine" texts, representative of their authors.

Other document types have either the character of fill-in forms, as is typically the case with, e.g., safety data sheets, where vocabulary and sentence structure are limited and repetitive, or they are revised to a higher degree, sometimes by native speakers of English, as is the case with e.g. applications for patents, technical articles and product catalogues. It would have been interesting to use the documents revised by native speakers as a reference corpus for comparisons, but this was not considered to fall within the scope of the present investigation.

As stated earlier, there are different types of reports submitted. These comprise two lab reports, six visit reports, four project reports, and a semi-annual, economic report. The lab reports, visit reports and three of the project reports were all written in company B. The lab reports are similarly structured, as regards both content and language, to the project reports in this company, but shorter, with a smaller number of words.

Thus, from the total report material I have chosen two project reports, one from company B and one from company C, to be analysed. My choice of analysing two project reports is due to the fact that they represent, on the one hand, a typical and frequently written document type in the companies, and, on the other, that they are relatively long texts and from different companies, making comparisons possible.

For the same reason, the minutes of meetings included in the corpus come from different companies, one from company A, one from company C, and three from company B.

### 3.4.2 Analytical approach

To study and analyse the documents, I set up a model of six levels: the *Identification, Thematic, Discourse, Sentence, Grammatical*, and *Punctuation and Spelling levels*,

describing certain aspects of a document from macro to micro level. The study is not, however, intended as an exhaustive, linguistic analysis. The purpose, rather, is to give a preliminary view of the content, format, structure, and language usage in typical documents written in English by Swedish engineers in the workplace.

On the *Identification level*, the documents were classified according to type, form, function, sender, and addressee.

The classification of types is based on the labels that the companies themselves have given their documents (see Table 1 above). This system of classification is in line with models that have commonly been used to describe texts from a communicative point of view and for analysis of LSP texts (cf. Gunnarsson, 1992; Levin, 1997). In addition, as mentioned above, each document was classified according to its form - i.e. length and character, e.g. form/blank or not - and to its function - i.e. the purpose of the document: e.g. to inform, confirm, inquire, propose, request/order, and call. Also, to identify the author/s of a document and the receiver/s, further parameters on this level are sender and addressee (cf. Gunnarsson 1992, p. 49).

The aim on the *Thematic level* was to study the thematic structure, i.e. to identify and describe the purpose and content of the different sections and parts of the text in a document. This level of analysis draws on theories about genre analysis, discourse patterns and the system of "moves" used to write a given section of a text, which have become an important approach to text analysis, especially in the field of English for Specific Purposes (ESP) (cf. Swales, 1990 and 2004; Berkenkotter & Huckin, 1995; Dudley-Evans 1989 and 1994; Yeung, 2007). Swales (2004) defines a "move" as "a discoursal or rhetorical unit that performs a coherent communicative function in a written or spoken discourse" (p. 228); as such it is, according to Swales, "…flexible in terms of its linguistic realization. At one extreme, it can be realized by a clause; at the other by several sentences." (p. 229). As examples of obvious lexical signals indicating the nature of a "move" and function of a section, Swales mentions words and phrases such as *method, result, in conclusion, in summary* (p. 229).

On the *Discourse level,* cohesive devices, including connectives and other markers for signalling relations between sentences or adjacent elements, were identified. For this part of the analysis, a number of grammars (Quirk et al., 1985; Johansson & Lysvåg, 1986; Ljung & Ohlander, 1992; Biber et al., 1999; Estling Vannestål, 2007) and previous analyses of text patterns were consulted (Sager et al., 1980; Halliday, 1994; Matsuda, 1997). The use of metatextual elements to direct the reader's attention in terms of how

the text is organised was also studied (Vande Kopple, 1985; Mauranen,1993; Bäcklund, 1998; Ädel, 2003). An additional focus on this level of analysis was formality and style, including authorial presence, nominalization, and the use of personal pronouns (Jones & Keene, 1981; Hyland, 2000; Spencer & Arbon, 1996).

On the *Sentence level*, the approach was to study sentence structure as regards sentence complexity (main clauses, subordinate clauses, etc.), occurrence of deviant sentence structure, and the use of coordinating and subordinating markers. For this level of analysis, too, the above-mentioned grammars were consulted.

On the *Grammatical level*, some grammatical areas at clause level known as being problematic for writers (and speakers) of English having Swedish as their mother tongue were looked into, e.g. subject-verb agreement, the passive construction, the adjective-adverb distinction, word order, and prepositional phrases. Here, too, the above-mentioned grammars were consulted, as well as several dictionaries, such as *Collins Cobuild English Usage* (1992), *Cambridge Advanced Learner's Dictionary* (2005), *Oxford Advanced Learner's* Dictionary (2005), and *Macmillan English Dictionary for Advanced Learners* (2007).

Finally, the above-mentioned grammars and dictionaries were also consulted for the *Punctuation and Spelling level*.

Table 2 below gives an outline of the model of analysis used:

*Table 2 Outline of model of analysis*

| **Level** | **Focus** |
|---|---|
| ***Identification*** | type, form, function, sender, addressee |
| ***Thematic*** | thematic structure, function of sections |
| ***Discourse*** | cohesive devices, style |
| ***Sentence*** | sentence structure, coordinating and subordinating markers |
| ***Grammatical*** | grammatical features at clause level |
| ***Punctuation and Spelling*** | punctuation, spelling |

While the analysis of documents is primarily qualitative, some statistical counts were made manually to illustrate the distribution of certain linguistic occurrences including

errors, and to identify patterns otherwise not obtainable through a qualitative analysis alone.

# 4 Results of survey and interviews

In this chapter, the results of the survey and interviews will be presented. The analysis of documents and the results of the document analysis will be accounted for in chapter 5.

## 4.1 Results of the survey

As shown in section 3.2, my investigation took the traditional model of a sample survey as its point of departure. The survey addressed male and female engineers and technicians of different ages and with various lengths of employment.

Out of the 96 subjects surveyed, 89 responded, which gives a response rate of more than 90 %. This very good result was made possible by the help of my company contacts, who encouraged subjects to complete the survey and in most cases also collected and checked the return of answered questionnaires. The questionnaires were then manually coded and all data manually processed.

In the following sections, 4.1.1 – 4.1.4, I summarise the results of the questionnaire answers. For a full account of the survey in statistical terms, see Tables 1-19 in Appendix 2.

### 4.1.1 Respondents: background information

As pointed out above, I aimed at a strategic selection/sampling of respondents to include both males and females. However, 80% of the respondents were men. The relatively small number of female respondents is not very surprising, though. It gives an indication of and reflects the ratio of men to women in Swedish industry as a whole. In the year 2005 the number of employees in industry was 707 827 people, 529 936 of whom were men and 180 891 women (Directory of trades, SCB). In 2006 the number of male and female engineers and technicians within the production of chemicals, machines, and motor vehicles, construction and building enterprises, and computer and technology

enterprises was 47 348 (84%) and 9 207 (16%), respectively (Directory of trades, SCB). Even if, in some of the companies, there was little variation of age among respondents, the distribution as a whole for this study was good. Respondents' years of birth span between 1942-1976, with the largest category (35 respondents) born in the 1970s.

Not unexpectedly, the survey showed clear correlation between age and overall employment time, mostly also between age and employment time in the present company. An exception could be seen in company C, where all but one respondent were born before 1950, had more than 25 years of overall work experience, but (as shown in Appendix 3, table 6) had relatively short employment time in the present company. This can probably be explained by the fact that the present company was formed as late as 1976, to become an independent consulting subsidiary of an already long established corporate enterprise, and that employees had simply 'moved over' to the newly formed company.

Considering that one of the aims of the present study is to investigate to what extent engineering programs provide students with the kind of English language proficiency required at work, it is satisfactory to note that the survey reached the target population: approximately 75% of respondents have university degrees in engineering.

As regards the variable 'Continuous stay in English-speaking country ', this has been interpreted by respondents as ranging from anything from ten days up to months and years. A couple of subjects mention that they have worked abroad in English-speaking environments for continuous periods. However, in the presentation of results only time spent in an English-speaking country has been accounted for. The results show that slightly less than one third of the subjects have spent from a couple of months up to a year or more in an English-speaking country, while the majority, 67%, state that they have no such experience at all.

### 4.1.2 Extent of use of English

The survey confirmed earlier indications of increasing Anglicisation in Swedish workplaces. As can be seen in Table 3, more than 70% replied that they speak and write English frequently at work, i.e. several times a day – a few times per week, and more than 80% that they read English frequently at work. Further, the data in Table 3 reveals

that as large a proportion as 74% (56% + 18%) report that they read, and more than half (33% + 21%) that they write English on a daily basis.

*Table 3 Extent of use of English at work (absolute numbers in brackets)*

| | **Several times per day** | **A few times per day** | **A few times per week** | **Total "frequently"** |
|---|---|---|---|---|
| **Speak** | 24% (21) | 18% (16) | 29% (26) | 71% (63) |
| **Read** | 56% (50) | 18% (16) | 10% (9) | 84% (75) |
| **Write** | 33% (29) | 21% (19) | 21% (19) | 75% (67) |

These findings accord well with earlier studies in Swedish companies, pointing to a gradual change from Swedish to English language use. For instance, in Berg et al's study (2001) of the use of English in Swedish workplaces, their results are compared with those of Hollqvist's (1984). In Hollqvist's study, 27% of the respondents reported using English at work on a daily basis, whereas Berg et al's survey shows a result of 67%. Berg et al. conclude: "This difference in use of English on a daily basis from the mid-1980s to year 2000 *might* suggest a shift in language use." (p. 313).

### 4.1.3 Self-assessed language performance and needs of further training

Strikingly, more than 90% of the respondents consider their English language skills in speaking, reading and writing English adequate for their work tasks. As is evident from Table 4, slightly more than 55% answer that their proficiency as regards speaking and writing in English is good/very good, and more than 35% that it is acceptable. For reading in English, the figures are 81% good/very good and 17% acceptable, i.e. 98 % claim that their reading skills are adequate in their present work situation.

*Table 4 Self-assessed language performance (absolute numbers in brackets)*

| | Very good/good | Acceptable | Total "adequate" |
|---|---|---|---|
| **Speak** | 56% (49) | 38% (33) | 94% (82) |
| **Read** | 81% (71) | 17% (15) | 98% (86) |
| **Write** | 57% (50) | 36% (32) | 93% (82) |

These results differ from the findings in Hollqvist's (1984) study of the use of English in three large companies in Sweden, where most respondents stated that they had the greatest difficulties in reading technical literature (ESP). A probable explanation for this difference could be that employees today, in education and at work, have been more subjected to texts in English than they were twenty years ago and, thus, better trained in reading technical English.

Further, judging from Hollqvist's study, lack of fluency in speaking also seemed to be regretted by most respondents, contrary to the results of self-assessment in the present study.

However, since the question of competence in the workplace is a sensitive issue, the results of self-assessed language performance need to be interpreted with some caution. To admit that you have communication problems in English would mean that you also admit that you are not competent for part of your work. It is tempting to assume that this reluctance to reveal deficiencies regarding English language skills may explain why the majority of respondents had not taken the opportunity of obtaining further training in English offered by the companies. This assumption is not confirmed in the present study, however. Lack of time could very well be another possible explanation.

When comparing the answers concerning, on the one hand skills stated as adequate, and, on the other, needs of further training, the results present a somewhat contradictory picture. Nearly half of the respondents, 47%, state that they need further training in English in their present work situation. The skills they feel the need to improve involve speaking and writing, of about an equal degree. Furthermore, when evaluating the training of English in engineering programmes (see Appendix 2, table 17), the majority of respondents voice a wish for more English practice in writing and speaking in these programmes.

This picture, suggesting a need for further training in English, is well in accordance with the findings in Josephson & Jämtelid (2004), where the dominant wish among,

above all, salaried employees and executives, regarding further training in the workplace was training in English.

The present study exhibits no clear correlation between education and self-assessed performance. Of the relatively few subjects, 25 %, who have no higher education, four respondents consider their oral skills in English rather poor (reading and writing acceptable, though). The rest of these 25% with no higher education regard their reading, writing and oral skills as adequate or even good, in line with the 75% who have higher education.

On the other hand, similarly to Mobärg's study (2006) the present study indicates a clear correlation between continuous stay in an English-speaking country and positive self-evaluation. With one exception, those respondents with the longest residence in an English-speaking country consider their skills in all proficiency types in English good or very good.

### 4.1.4 Writing in English at work

Since the present study is primarily focused on writing in English at work, a set of questions in the survey aimed at illuminating different aspects of writing in the workplace (see Appendix 2, Tables 12-16).

Consistent with the findings of previous studies (Hållsten, 2002; *Writing: A Ticket to Work…*, 2004), the answers show that the most common types of texts written at work are e-letters and reports. Instructions, memos and 'other types of texts' are also indicated as fairly common written documents. An open-ended question made identification of 'other types of texts' possible. The types mentioned are, e.g. specifications, manuals, safety data sheets, and text in PowerPoint presentations.

The charts below illustrate the frequency of the typical text types written in English at work (Figure 1), respondents' estimation of the proficiency level required for writing these types of texts (Figure 2), and strategies used when performing writing tasks at work (Figure 3).

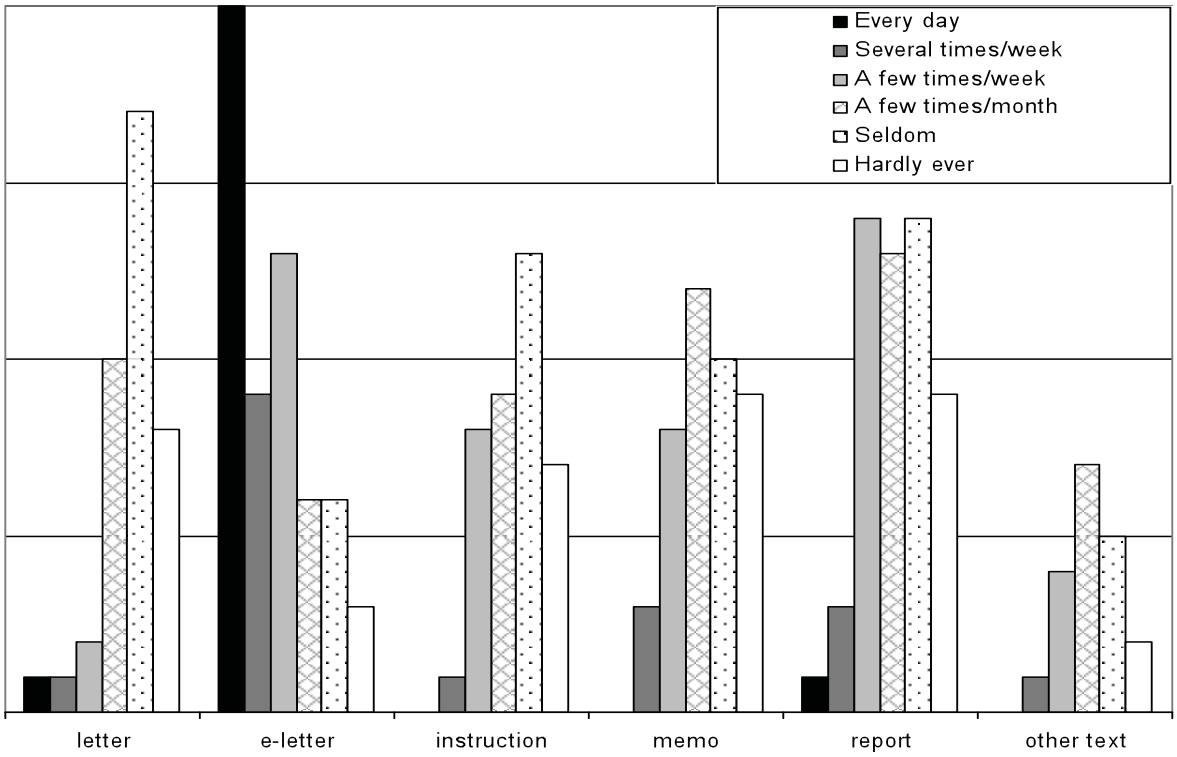


*Figure 1 Frequency of text types*

Not unexpectedly, the results show that the most frequently written type of text in English in the workplace is the e-letter, written on a daily basis. That English is the language commonly used in e-letters in companies with English as working language has been confirmed in earlier studies by Andersson (1998) and Josephson & Jämtelid (2004).

Further, as can be seen from Figure 1, and likewise not unexpectedly, in view of the different types of reports used in the business community (Barbara et al., 1996; Yeung, 2007), reports are a type of document frequently written by the majority of respondents.

As regards language proficiency level required for writing different text types in English, Figure 2 illustrates respondents' estimates:

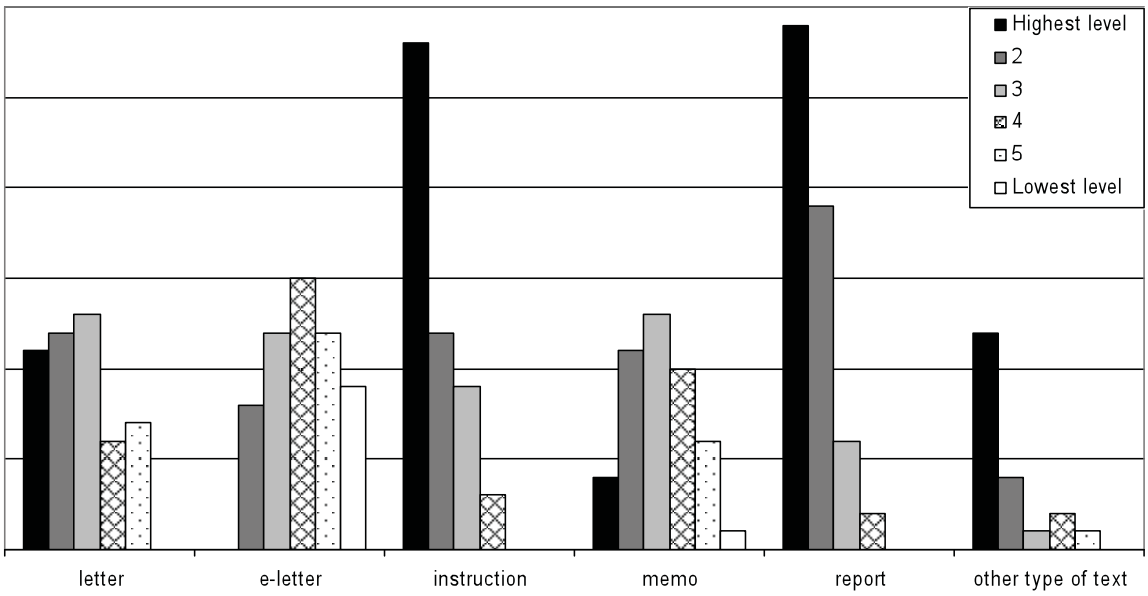


*Figure 2 Proficiency level required*

As is evident from Figure 2, e-letters are indicated to be the text type that requires the lowest level of language proficiency. This is not surprising, considering that the direct, personal link between writer and recipient has brought changes in language use: business correspondence has become more informal in tone (Fairclough, 1992, pp. 200-225; Hård af Segerstad, 2002; Kankaanranta, 2005) with a tendency towards more speech-like language and personalisation of communication (Louhiala-Salminen, 1995, pp. 102-103).

Further, not surprisingly, respondents' answers reflect the idea that exact wording, accuracy, and clarity are needed in instructions, thus requiring a high language proficiency level.

It is also interesting to note that the writing of reports is felt to require a very high level of English proficiency. This attitude accords well with the findings of the American survey of major corporations (*Writing: A Ticket to Work…*, 2004). This survey shows that reports are a form of communication that is "frequently" or "almost always" required in companies and "whatever the form of communication, it is clear that respondents expect written materials to be accurate, clear, and grammatically correct" (p. 11). In the same way, respondents in Hållsten's (2002) study stressed the importance of producing correctly written work reports in English.

As regards strategies used in the writing of reports and other documents in English, respondents report the following to be the most common and, roughly equally frequent

strategies: “rely on my own ability”, “collaborate with colleague”, and “consult existing similar documents” (see Figure 3).

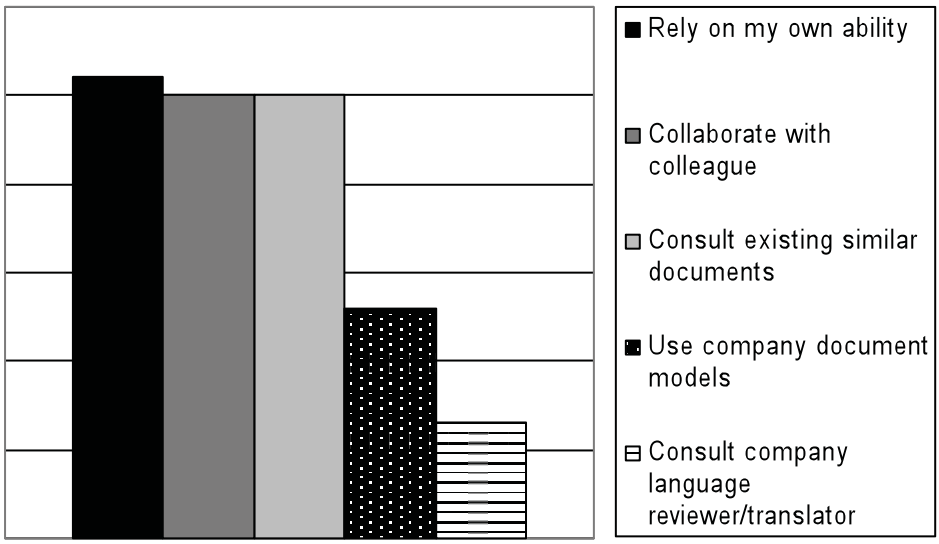


*Figure 3 Strategies of writing*

Since the least used strategy is reported to be ‘consult company language reviewer/translator’, as shown in Figure 3, it seems reasonable to assume that this service/possibility is rarely available in the companies surveyed, or at least not available for the subjects in this study.

### 4.1.5 Summary

This section has presented the results of the questionnaires. Not surprisingly, considering the relatively small number of females in industry, only one fifth of the respondents were females. Nevertheless, the sought-after target population of the survey was reached: approximately 75% of the respondents had university degrees from engineering programmes.

In the questionnaire, following the initial questions about respondents’ background, were questions concerning the use of English at work. In terms of frequency, it was shown that more than 70% of the respondents read, and more than half write English on a

daily basis at work. These figures confirm indications from earlier studies pointing to increasing use of English in Swedish workplaces (cf. Hollqvist, 1984; Berg et al., 2001).

Next followed questions concerning self-assessment and needs of further training in English. Although more than 90 percent of the respondents consider their English language skills adequate for their work tasks, nearly half of the subjects, in another question, reported a need for further training in English, especially in writing and speech. These language skills were also pointed out as those which should be more practised in engineering programmes in higher education.

The survey showed no clear correlation between education and self-assessed language performance. A clear correlation, however, could be seen between positive self-assessment and continuous stay in an English-speaking country.

Writing in English at work was especially looked into. The results show that the most common types of texts written in English at work are e-letters and different kinds of reports. E-letters in English were reported to be written on a daily basis. Other fairly common written documents in English are instructions, memos, specifications, manuals, safety data sheets, minutes of meetings, and text in PowerPoint presentations.

The text types indicated to require the highest level of English proficiency were reports and instructions. Other text types, such as memos, manuals etc., identified in an open-ended question, were likewise mentioned as requiring a high level of language proficiency. Not surprisingly, e-letters were considered to be the type of text requiring the lowest level of language proficiency.

Finally, the survey showed that the most frequently used strategies to perform writing tasks in English are to rely on one's own ability, collaborate with a colleague, and consult existing similar documents. The least used strategy indicated is to consult a company language reviewer/translator.

## 4. 2 Interview findings

To follow up and complement the findings of the survey and further explore writing in English in the workplace, ten interviews in five different companies were carried out during October–December, 2005.

As already mentioned, during the interviews notes of answers and observations were taken down rather hastily and fragmentarily. After that, as soon as possible after each interview, these sometimes barely legible field notes were fleshed out and transferred into more detailed accounts. In this process, the writing took not only the interview guide, but also a timeline, as its points of departure. The method of also using a timeline as an organising factor of the texts, helped recall details and observations. Furthermore, it gave the texts a narrative character. In the accounts from the interviews (see Appendix 4), this narrative, essentially descriptive style has been maintained.

As the interviews were conducted in Swedish, all quotations have been translated from Swedish into English. In addition, as mentioned above, all names have been changed to observe confidentiality.

In the following sections (4.2.1-4.2.10), interview findings are summarised and structured into the nine main areas of questions forming the interview guide, described above in section 3.3.2 and Appendix 3.

### 4.2.1 Amount and frequency of writing in English

All interviewees reported that they wrote in English every day and most of them several times a day. Their responses are well in accordance with the result of the sample survey conducted in this study and with studies by, e.g., Berg et al. (2001). The majority of documents produced at work were written in English and very little in Swedish; one respondent mentioned "only 10% in Swedish". When Swedish was used, it was, as two respondents stated, "only used for personal notes and minutes of meetings not intended to be spread outside the building" and, "my own notes when doing laboratory tests, but actually the company wants us to write even these in English." Another respondent reported to use Swedish "sometimes when writing to people within the house" and "to Swedish customers and suppliers". One woman reported that she frequently translated articles both from English into Swedish and from Swedish into English.

As regards a possible connection between work tasks in English and employment, interview data showed that writing tasks performed in English were clearly linked to work position rather than time in the company or educational background. Not surprisingly, since the companies in which the interviews were performed have been

internationally active for decades, most respondents reported that they had written in English from the day they started their - at that time not very high-level - employments. For some, the number of tasks in English had increased when they were given new areas of responsibility or new posts in the company. Long-time employees had seen a steady general increase in the use of English over the years and three informants reported "a dramatic change to almost 100% English when the company was sold out and changed its official language to English" (cf. Berg et. al., 2001, p.312; Vollstedt, 2002, p. 103).

### 4.2.2 E-letters

As one of the informants observed, with practically no secretaries left in the business community, business professionals write their own texts. This picture is confirmed in the present study, in which both fairly formal and informal e-letters were reported to be written for various kinds of business correspondence. The majority of these letters were written in English, and, as mentioned above, only letters "within the house" or to Swedish clients/suppliers were written in Swedish. In an e-letter, as the majority of respondents noted, the complete message was generally included but sometimes documents were attached to the letters as well.

All interviewees stressed that the most important, and also most difficult thing, when writing e-letters, was to achieve clarity and to avoid misunderstanding. This was, by most respondents rated as more important than linguistic correctness. For instance, two respondents argued that clarity was especially crucial when corresponding with Asians: "Since they often mistake a question for a statement and vice versa, point-by-point has to be confirmed" and "sometimes when corresponding with Chinese people you have to use simple, even incorrect language structure." Similarly, Marriott (1995), who examined business negotiations in English between an Australian and a Japanese, notes differences in cultural norms, resulting in marred communication. As indicated also by, among others, Thrush (1993), Bosley (1993) and Boiarsky (1995), it might be assumed that differences in cultural and rhetorical conventions affect not only the content of a business letter but also the organisational pattern and sequence of information, which can result in the above mentioned difficulties in language communication. For instance, Boiarsky points to findings showing that the organisation and sequence of information in which

information is presented in an Asian business letter is often the reverse of that used in the U.S. (p. 247).

In the same way, other interviewees related that sometimes they deliberately had to use incomplete and incorrect language structure to make a message clear. Among comments were: “when the recipient’s English is poor, actually strange, or even incorrect English has to be used to avoid misunderstandings”; “with some I have to write so a child would understand”. These observations accord well with the ones made by Crystal (2001, pp. 106-107) who argues that people tend to adjust their norms of writing depending on the recipient. Similarly, Danet (2001, p. 65) suggests that the social/psychological relationship between sender and recipient influences the style and composition of an e-letter. A tendency that also the purpose of communication is of importance for style and level of linguistic correctness is observed by Hård af Segerstad (2002, pp. 121 and 245). She draws the conclusion that if the purpose is to obtain help or information, there is a tendency towards more politeness and minding one’s language than if the purpose of the e-letter is to complain or make adverse remarks (p. 121). This tendency, however, is not borne out in the findings in the present study.

In the present investigation, one interviewee in a managing position argued that “since time is money in the business world, why spend time and effort to avoid incorrect grammar or misspelling as long as content and meaning are clear”. A similar line of argument is expressed by Crystal (2001) who points to the fact that if someone leaves out punctuation or makes language mistakes in an e-letter, people do not automatically draw the conclusion that this person does not know his/her grammar but rather that he/she was in a hurry when writing the letter (pp.111-112). Interviewees in the present study emphasised that the ability to avoid words that could lead to ambiguity, be misinterpreted, or reveal business secrets was more vital than language accuracy.

Further, respondents pointed out that the degree of formality, tone and linguistic correctness in e-letters were adjusted to the recipient. For instance, when writing an introductory letter to a new business contact, both fairly high level of formality and linguistic correctness were considered important features. In such a letter the most common salutation reported was “Dear Mr…” and the complimentary close “Best regards”. In general, after the first exchange of letters, the tone became less formal and often set by the initial recipient. The salutation was then usually “Hi/Hello” and the complimentary close “Best regards/Best wishes/Kind Regards/Regards”. Only one informant related that she frequently wrote e-letters in which the salutation was the more

formal “Dear Sirs” and the complimentary close “Yours sincerely”. None of the informants reported that they used to omit salutation or complimentary close. This contrasts to the findings of Herring’s study of 136 email messages (1996). She concludes that surprisingly few (13%) had a salutation and even fewer a complimentary close (p. 87). On the other hand, the features of salutations and complimentary closes in e-letters revealed in the present study are well in line with those presented in Kankaanranta’s (2005) analysis of 282 internal e-letters written in English by Swedish and Finnish employees of Stora Enso, a globally operating paper company. In the corpus of her study, over 80% of the messages contain salutations, and complimentary closes are a standard feature (pp. 51- 52).

### 4.2.3 Reports

From the answers in the questionnaires it became clear that there are several types of documents that are designated as reports (cf. 4.1.3 and 4.2.4). This was also verified in the interviews, where the following documents were mentioned and defined as different types of reports: meeting reports, confirmations of meetings, minutes of meetings, monthly reports, deviation reports, applications for certificates, safety information sheets, project proposals, visit reports, client reports, sales reports, project reports, trial reports, and lab reports.

Generally, the technical vocabulary and standardized expressions and formulations in these documents were felt as easy to learn and use. According to most informants, it was more difficult to formulate clear, logical sentences and express oneself explicitly enough in English to avoid misunderstanding.

In contrast to e-letters, the general view regarding reports was that a high level of proficiency and linguistic accuracy was required when writing reports. The reason cited was that reports were official documents, usually circulated in the whole business group. These views agree with the findings of the survey in this study (see section 4.2.4) and also reflect findings in previous studies (e.g. Hållsten, 2002), regarding reports requiring very good writing skills in English.

A male interviewee writing reports for legal proceedings stressed the necessity of being well up in genre conventions and able to use/find appropriate wording. This

awareness of genre text characteristics seems to verify the approach of genre theory (Bargiela-Chiappini & Nickerson, 1999, Bhatia, 2004, Swales, 2004, Yeung, 2007), in that a particular discourse community evolves its own style and pattern of communication.

As to the question whether it would be easier to write reports in Swedish instead of English, most informants said that they preferred to write these documents in English. Their comments in the interviews, e.g. "This feels natural as all the technical terms we use are in English", indicate a tendency towards domain losses in Swedish with regard to technical writing in the workplaces, similar to the diglossic situation arising in elite domains such as science and research (Berg et al., 2001; Gunnarsson, 2001, pp. 306-7; Josephson, 2004a, pp. 14 and 19; Swales, 2004, p. 58). This situation has given rise to a parliamentary investigation into the status of the Swedish language (*Mål i Mun*, 2002) and also caused the Swedish Language Council to take steps to protect and promote Swedish (cf. Josephson, 2004b).

Only two informants expressed divergent opinions. They argued that it would be easier to write reports in Swedish since Swedish is their mother tongue; therefore, a report in Swedish would probably be more voluminous than if written in English.

One rather surprising and contrasting observation came from a young male engineer, who said that a report in Swedish would take longer to write since there would then be higher demands on language accuracy and linguistic correctness than if written in English.

As regards language correctness, the recipient of a document seems to decide the level of language accuracy, shown by the following quotations from the interviews: "all reports should have the same good language level since they are passed round in the company" ; "if the recipient is important, then I make an extra effort to write correctly"; "reports for people in the house are less important as regards language than if written to clients"; "certain adaptations depending on recipient are needed" (cf. e-letters, section 4.2.2).

### 4.2.4 Other types of documents

Apart from e-mails and reports, accounted for above, the following text types written in English at work by respondents were mentioned and discussed during interviews: catalogues, brochures, marketing text, advertising copy, specifications, instructions, manuals, education and presentation material (mostly PowerPoint), applications for patents, letters to delegates of patents, and translations of articles. Echoing the findings from the questionnaires (see 4.2.4), interview data confirmed that these types of documents were perceived to require high linguistic skills at all levels. Interviewees emphasized clarity and correctness of language and style as key characteristics of these types of documents. However, as ESL writers, they often found these features difficult to achieve (cf. Matsuda, 1997; Johansson, 2005).

In one of the companies, composing of advertising copy for catalogues and brochures was cited as the most difficult and demanding kind of writing in English. One informant mentioned expressing the message in a few words and finding the right words and language structure as being especially arduous. This awareness of the complexity involved in 'getting the message across' also seems to indicate a certain awareness of the difficulty of creating a 'shared social reality', in which the writer and reader meet each other (Brandt, 1986; Kaplan, 1987,1991). According to the same informant, clarity, simplicity and logical sequence were features that presupposed high linguistic skills also in instructions and manuals.

In another company, an informant whose main task was to write applications for patents voiced the challenge and difficulty of describing and emphasising advantages of an innovation. In these application texts, she had to master not only prescribed document patterns and genre conventions but also be able to attain excellent clarity of language. She pointed to the fact that the value of each word was extremely important. As an example she mentioned the slight difference in meaning between synonyms such as *consist of*' and *comprise* (cf. Anderman & Rogers, 2005; Altenberg & Granger, 2002).

Similarly, an informant primarily working with translations mentioned the problem of being able to transfer what she understands as the intended and exact meaning of a textual concept. "It is a real challenge to me and requires very good English competence," she observed. Furthermore, she had to be aware of genre conventions triggered by the EU language policy.

It is not surprising that this informant experiences translation work as difficult and challenging. Studies in contrastive linguistics (CL) confirm that complete equivalence between words and expressions is rather unusual since languages divide up semantic space in different ways. This lack of cross-linguistic correspondence is not only a problem for language learners but also a problem in all translation work (Altenberg & Granger, 2002, pp. 21-22; Weston, 2003).

### 4.2.5 Language tools and strategies

As noted in previous sections, interviewees reported that they usually sought to produce as linguistically correct, highly qualitative and effective documents in English as possible. Only when writing e-letters did respondents indicate a more lenient attitude towards language correctness.

To achieve the linguistic clarity and accuracy aimed at in most documents, interviewees reported that they used dictionaries, both online and in book form, consulted the search engine *Google*, followed set patterns in model documents, asked for response from colleagues, and, more seldom, co-wrote together with colleagues. The indicated relative lack of collaborative writing does not tally with the questionnaire findings in the present study, where this strategy is reported to be frequently used. Neither is it in line with the conclusions that Blåsjö (2006, p.25 and 46) draws from the results of several case studies within literacy research, namely that writing in the workplace is for the most part collaborative. In the present study, the discrepancy between findings can probably be explained by the fact that respondents of the questionnaire and the interviewees have different positions and different types of writing tasks at work. This assumption seems to be confirmed by the results in Gunnarsson (1992). Gunnarsson's study showed that collaborative writing was most common among employees in middle positions in a company, while executives wrote on their own and had someone else reading their texts. Employees in lower positions wrote without any kind of collaboration. This could be explained by the fact that they wrote simpler types of text, e.g. filling in forms.

The informants in the present study were in management, middle management and other positions that involved a relatively high degree of self-produced texts, which were then, as will be seen below, often read by colleagues or reviewers.

The analysis of the questionnaires showed that 72 % of the respondents never or seldom consulted a language reviewer or translator to comment on their writing (see Appendix 2, Table 16). This result could be interpreted as if respondents do not have this resource at hand in the workplace. However, concerning the availability of this type of aid and service, it is interesting to note that the interviews gave a slightly modified picture than the one emerging from the results of the survey questionnaire.

Five of the ten interviewees (see Appendix 4) reported that they frequently turned to a language reviewer/translator to have their documents checked and improved on. For instance, in company B all marketing staff could consult a native English teacher who worked in the company one half-day each week. Furthermore, an employee writing applications for patents in company D reported having a reviewer abroad, reading and commenting on all documents before they went any further. Similarly, a respondent in company K had reports for legal proceedings checked by both a translator in Sweden and a lawyer in the USA before final submission. Further, two respondents in company G composing texts for product advertising sent their drafts to a journalist in England for review before having them printed.

My contact person in company A verified this picture of language assistance being available. Language services in company A provide a helpdesk for language queries, proofread and correct single documents such as theses and articles, help in writing technical documents, web pages and other information, and translate, e.g. reports, instructions, applications, etc.

On the other hand, check-up questions via e-mail to contacts in company H did not confirm the picture of language service being generally available. According to these contacts, no such help was at hand in company H.

### 4.2.6 Company language policy

All interviewees emphasized the importance of knowledge of English for employability. The overall opinion was that, when applying for a job, it is taken for granted that you are able to use English as your working language. However, whether you actually have the skills required is, according to informants' experience, seldom explicitly determined or tested before employment. These observations are well in line with the view of Berg, et

al. (2001, p.301) whose analysis of 434 advertised jobs in the information and computer technology sector showed that even though English competence is regarded as essential by employers, proficiency or fluency in English is relatively seldom explicitly stated as a job requirement[3]. Nevertheless, one of the informants in the present study reported that the job interview preceding his employment was held in English since the manager/interviewer was English. Another informant, himself manager of a company, said that he usually conducted at least part of a job interview in English. However, according to informants, writing skills in English were in general not tested in the employment procedure but were mentioned as being of importance for climbing the corporate ladder.

As a matter of fact, an indication that good proficiency in English is noticed and appreciated by company management, at least in company B, appeared when my contact in this company, a middle manager in the R & D department, some time after my visits and interview sessions in the company sent me a copy of a text that one of my informants had written to show, as the manager expressed it, "how extremely well formulated" the text was, and to emphasise "how important such good writing skills were for the contact with customers abroad".

However, when writing in English at work, the interviews in general showed, in line with the findings in the study of Andersson & Nilsson (2000), that there are usually no clear company directions or guidelines regarding style, linguistic correctness, or whether the company language is British or American English.

For instance, when writing reports, informants said that although they themselves had high demands on linguistic correctness and clarity, there were no guidelines or requirements from the company regarding linguistic level. One informant commented that some reports were difficult to understand because of the language but that no one complained. None of the informants had experienced that his/her language had been criticised or corrected. The unanimous opinion was that, unless you ask for it, there is no feedback about language in a document, only about content.

Without a clear company language policy, personal ideas as to requirements of style and linguistic correctness seem instead to determine the linguistic level of a document.

[3] Similarly, Kenneth Hyltenstam, in personal communication with Berg et al., argues that even if skills in English are frequently assumed by employers, these skills might not be perceived as necessary to mention explicitly as requirements (in Berg, et al., 2001, p. 310).

Generally, recipients were supposed to be in focus, influencing the level of linguistic correctness. For instance, documents written for people 'in the house' were reported to be less important as regards language than if written to clients. This 'self-imposed policy' suggests an awareness of the importance of rhetorical knowledge, by Beaufort (2004) defined as the ability to consider "the specific audience for and purpose of a particular text, and how best to communicate rhetorically in that instance" (p.140).

Similarly, as seen above (in section 4.3.2), Kankaanranta's study (2005) of internal e-mail messages, written in English by Swedish and Finnish employees of the global paper company Stora Enso, showed that, although there were no company guidelines for e-mail communication, over 80% of the messages contain salutations. Kankaanranta concludes that the frequent use of salutations probably serves a particular function in the company's internal communication, for instance the maintenance of amicable social relations, and even though salutations are not a norm, they are encouraged by the community itself (p. 51).

### 4.2.7 English in engineering programs in higher education

Somewhat unexpectedly, considering reports showing an increasing emphasis on English at various levels in higher education in Sweden (cf. Falk, 2001; ESTIA Sweden, 2008), none of the interviewees had experience of English courses or English training in their engineering programs at university level other than some of them having had part of their course literature in English.

Nevertheless, after years of work experience they could identify skills and knowledge areas in English that they wished had been practised in higher education to facilitate the transition from education to work. As to the question what could have been useful to practise in language courses as preparation for writing tasks in English at work, most informants were strongly in favour of report-writing practice, as the writing of reports is seen as an important part of the work of engineers in general.

Furthermore, as shown in the accounts of the interviews (see Appendix 4), company games and business simulation in the form of exchanging different types of business letters to learn conventions, style, and vocabulary were mentioned as useful preparation for writing in English at work. These suggestions for genre-based practice reflect the

views of, for instance, Bhatia (2004), Beaufort (2004), Tardy (2006), and Cheng (2007), who consider genre-based learning as a way for students to develop rhetorical knowledge and the ability to notice and analyse generic features of discipline-specific texts and then recontextualise these features in their writing.

Another common view among interviewees was that the degree project thesis of an engineering program should be written in English. If there were no other English writing tasks during their university studies, the writing of the degree project thesis at the end of their education was recommended as important 'last-minute' practice for students to prepare them for the writing involved in their engineering field at work.

### 4.2.8 Needs and possibilities of further training in English

As questionnaire findings showed, nearly half of the respondents, 47%, expressed the view that they need further training in English in their present work situation. The skills they wished to improve were speaking and writing, to about an equal degree.

In the interviews, however, informants did not express a clear wish for further training in English. All interviewees except one also declared that if they were to ask for it, they would get further training, according to their needs, through the company. Some of the informants had experienced, especially at the beginning of their careers, that their written proficiency had sometimes let them down in their work, occasionally leading to less good results than intended. Two of them had then taken their own initiatives for courses, arranged or paid for by the company. Others said that even if they felt a certain need for further language training, for instance for improving their ability to manage meetings in English, they either did not have the time for it, or they felt that other work-related areas of knowledge were more important.

The majority held that through learning-by-doing, experience, and adaptation, they had acquired the English proficiency level they needed in their work. They also suggested that their own, as well as other employees', writing abilities improved and developed through collaboration in writing and proofreading texts. Their conclusions accord well with the results of several ethnographical studies, indicating that it is possible to attain very good 'workplace-writing' proficiency after some time of socialisation, and

also that the writing culture in a workplace is affected by and develops through its writers (Odell & Goswami, 1985; Winsor, 1996; Parks, 2001; Blåsjö, 2004; Brandt, 2005).

### 4.2.9 Relationship between gender and writing tasks in English

As mentioned above (see section 4.1.1), in 2006, 16% of Swedish engineers and technicians in the production of chemicals, machines, motor vehicles, construction and building, and computer technology were females and 84% males. Furthermore, within the same industries approximately 12% of the corporate officers were women and 88% men (Directory of trades, SCB, 2006). It could therefore be justifiable to assume that male norms infuse the workplace (cf. Ashcraft & Mumby, 2004) and, thus, perhaps also influence the character and distribution of work tasks among men and women. However, on the question if there is a difference between men's and women's writing tasks in English in the workplace, all interviewees declared that there was no difference due to gender regarding writing tasks performed in English at work. If there existed a difference in frequency or character of writing tasks between men and women, the general view was that the difference could be linked to position, experience, and skills, and not to gender.

Five of the informants, though, somewhat tentatively suggested that there might be a connection between confidence and gender, and that this could lead to differences in work tasks. They had seen a tendency that females were less confident about their abilities and therefore sometimes abstained from certain writing tasks in English, or approached such tasks differently to males. The same tendency regarding self-evaluation can be traced in the figures in Mobärg's study (2006), where males evaluate their oral and reading proficiency higher than females.

It is beyond the aim of the present study to seek answers to why females appear to feel less confidence in their abilities than males in certain work situations. However, considering the relatively small number of female engineers in many workplaces in industry, an interesting angle of further research might be the relationship between a relatively small number of women in a workplace and the fact that male norms often characterise the workplace (Ashcraft & Mumby, 2004; Wood, 2007). Further, studies have shown that when there are only one or two women at a particular level in a

company, they tend to be less involved in informal networks. According to Rowling (2002), only when a group reaches a proportion of about 30% does it have sufficient size not to be marginalised.

### 4.2.10 Summary

In this section the interview findings have been structured into main areas concerning different aspects of writing in English in the workplace, English training in engineering programs in higher education, and needs and possibilities of further training in English at work.

In terms of frequency of writing in English at work, the results of the interviews strengthened the picture obtained from the survey. All interviewees reported writing in English on a daily basis. In fact, most written texts produced in the workplace were stated to be in English and very little in Swedish.

Since the survey showed that e-letters and reports were the most commonly written documents at work, special focus was put on these types of texts in the interviews. In e-letters, clarity was emphasised as being more important than linguistic correctness. The degree of linguistic correctness and formality, as well as the choice of salutations and complimentary closes was clearly stated to be dependent on the recipient. None of the informants reported omitting salutation or complimentary close.

The general view of report writing in English was that it required a high level of language proficiency and awareness of genre conventions. Moreover, it was commonly thought that it was easier to write reports in English than in Swedish. The reason stated for preferring English was that the technical terms and vocabulary required were mostly used in English and difficult to express in Swedish.

Echoing the findings of the questionnaires, interview data indicated that other typical types of documents written in English, e.g. instructions, manuals, presentation and translation texts, were also perceived to demand very high linguistic skills. To attain the linguistic standard required, informants mostly relied on their own abilities. Other common strategies mentioned were consulting dictionaries, on-line and in book-form, seeking response from colleagues and reviewers, and, more seldom, collaborative writing.

As regards employability, all interviewees were of the opinion that English proficiency competence is taken for granted today. There were, however, no explicitly identified company proficiency requirements. Instead, discourse conventions and employees' attitudes towards the standard required seem to determine the linguistic levels considered adequate in texts and documents.

None of the informants had practised English in their higher education engineering programs but emphasised the importance of such practice. Suggestions for training included report and company role plays.

In their present work position, interviewees did not feel any immediate need of further training in English but expressed the view that if they were to ask for such training, it would be provided or paid for by the company.

The final question brought up in the interviews analysed the views on writing tasks in English at work in relationship to gender. The unanimous opinion was that writing tasks were linked to a person's work position and skills, not to gender. However, half of the informants indicated having observed that females had a tendency of showing less confidence than males in certain work situations. This, they said, may well be the case also when taking on writing tasks in English.

# 5 Document analysis

As stated, an attempt is made in the present study to investigate and gain insight into the language used in various documents written in English in the workplace. For this investigation, more than 90 documents were collected and studied and a subcorpus of documents was selected for analysis.

As noted earlier (section 3.4.2) the subcorpus comprises two project reports and five minutes of meetings, written in different companies. In the following sections, these documents will be described on six levels, spanning from macro to micro level**:** the *Identification*, *Thematic*, *Discourse*, *Sentence, Grammatical*, and *Punctuation and Spelling levels*.

It should be noted, as pointed out before, that the document analysis performed in the present study should be seen as a pilot investigation concerning a possible model of analysis. Thus, the aim is not to provide exhaustive linguistic analyses of the texts examined.

As also pointed out earlier, although this study is primarily qualitative, some statistical counts were made manually. They will be presented to illustrate the distribution of certain linguistic features in the documents not obtainable through a qualitative analysis alone.

In examples and quotations drawn from the documents, names and specific words and technical terms that could be connected to a certain company have, for reasons of confidentiality, been omitted and are replaced either by NN, X, or by a more general word within square brackets. Otherwise all examples are quoted exactly according the original, including spelling and linguistic errors.

## 5.1 Analysis of reports

As stated above, I have chosen two project reports, one from company B and one from company C, to be included in a subcorpus of documents in order to suggest a method of document analysis that could be applied to a larger material. My choice of describing and analysing two project reports is due to the fact that they represent, on the one hand, a

typical and frequently written document type in most companies, and, on the other, that they are relatively long texts and from different companies, enabling comparison between them.

When the two reports, from companies B and C, were submitted for the study, I was given to understand that the documents were not only typical examples of project reports, but they were chosen for being well-written, well-organised and communicatively clear documents.

Apart from the fact that the report written in company B is considerably longer than the one written in company C, they seem, at a cursory glance, to be rather similar with regard to structural form and linguistic approach. However, closer scrutiny will reveal, as we shall see, not only similarities but also significant differences on most levels of analysis.

In the following sections the two reports will be referred to as *R1* and *R2*. *R1* will be described in greater detail on different levels of analysis than *R2*, whose similarities and differences in comparison with *R1* will be more briefly presented.

### 5.1.1 Identification level

On the first level of analysis, the *Identification level*, the documents are described according to type, form, function, sender, and addressee.

*Report 1*

In the head section on top of the front page of *R1*, the document type label is "Report". The title of the report, placed directly under the head section, identifies the document as a report of a project; thus the type can be categorised as "project report".

Also in the head section, the date, serial number of document, issuer and approver of the report are stated. The author and approver of this report are both engineers working in the R&D department in company B. The addressee is not stated but interview information indicated that this type of report is circulated both internally and externally[4] within the organisation.

[4] The document is also sent to recipients in subsidiaries abroad.

The format of the document is not restricted to a form/blank but set up by the author, probably following a company model, including certain obligatory sections of information (cf. *Thematic level* below). The assumption that there is a certain report format serving as a company model is confirmed by the fact that the other project report and the two lab reports written in this company all have the same set-up and order of sections. In the same way, the six visit reports submitted by this company seem to follow a certain model, slightly different from the model of project and lab reports.

The total length of *R1* is 43 pages, containing approximately 5,500 words, 46 figures, 22 of which are presented in appendices (pages 29-43), and 17 tables. The function of the report is to inform about and document work and findings of a laboratory experiment project. Furthermore, it proposes changes and actions to be taken for future work and positions the research project in the research community[5].

*Report 2*

*R2*, like *R1*, is not restricted by a set form/blank format. *R2* comprises 17 pages, approximately 2,600 words, and contains a total of 17 figures/tables.

This report can also be identified regarding type and sender through a head section at the top of the front page in the same way as in *R1*. The authors of this report are two engineers in company C. No approver is stated in *R2,* although there is, as in *R1,* a slot in the head section for this information. The addressees are six named colleagues at middle and senior management level within the company.

The function of this report is similar to that of *R1*, i.e. to provide information about and document findings of project work, in this case primarily dealing with economic issues. Further, this report, too, presents proposals for future action.

* * *

In sum, both reports are written by engineers, having Swedish as their mother tongue. The formats of the two project reports are not restricted to forms/blanks but the document formats are set up by their authors, most likely following company report models, including certain obligatory sections. The main functions of the reports are to document and inform colleagues within the respective business groups, both internally and externally, about outcomes and findings of project work. The report written in the R&D

[5] The laboratory experiment accounted for in the report, is part of a research project.

department also has the function of positioning the project work in the research community. Both reports present proposals for future actions to be taken.

### 5.1.2 Thematic level

The aim of the analysis on the *Thematic level* is to study the thematic structure of a document, i.e. to identify and describe the purpose and content of the different sections and parts of text in the document.

*Report 1*

Apart from the head section, described above on the *Identification level*, and the title of the report, also on the front page of *R1*, a "Summary"[6] and "Keywords" are presented.

The summary is a little less than a page long and contains six paragraphs stating purpose (first paragraph), material and method (second paragraph), results and conclusions (third to sixth paragraphs). The lexical signals that identify the functions of the different paragraphs in the summary are:

| | |
|---|---|
| (1)…the main objective is to find… | (purpose) |
| (2) The material used in this study is… | (material and method) |
| (3) An increase is seen… | (result) |
| (4) The major benefits… | (conclusion) |
| (5) The drawback… | (conclusion) |
| (6) The drawback… | (conclusion) |

The purpose of the summary is obviously to provide, in a condensed form, the most important information about the project presented in the report, i.e. the objectives of the project work, the procedure and materials used, results, and conclusions.

The subsequent main sections of this report appear in the following order and are labelled: "Table of Contents", "Background", "Complementary Data", "Experimental", "Results", "Discussion", and "Appendices".

[6] In both reports, *R1*and *R2*, the word *Summary* is used, rather than the word *Abstract*.

The "Background" section consists of three sentences presenting, in the first sentence, the setting and rationale of the project, expressed as follows:[7]

(7) Any change in cooking and O2 predilignation will affect [name of company] and thus [name of company]'s business potential.

In these sentences, especially the words *change*, *will affect*, and *business potential* signal and convey the situational background and rationale of the project.

In the second sentence of the "Background" section, the scope of the work is stated, as the wording in the following statement clearly expresses:

(8) The scope of this work is to find arguments for less cooking …

In the third sentence, the main materials used are identified and described, but in the following examples, for reasons of confidentiality, the names of materials are not stated but referred to as [material]:

(9) Soft [material] and two different hard [material] are studied.

The next section, titled "Complementary Data", solely consists of a two-row table containing terms and figures. There is no text accompanying or presenting the table.

Section 3, called "Experimental", identifies materials and describes procedures used in the project work. This section is divided into nine sub-sections, most of which typically consist of a table and five or six lines of text of the kind illustrated in the following examples:

*(*10) The [material] were laboratory cooked according the ITC method …

(11) The bleaching sequence for each [material] was optimised…

The "Results" section is the most extensive section, spanning eighteen pages containing eighteen diagrams in the form of bar charts and line graphs, and ten tables. Each diagram

[7] As mentioned earlier, all examples are quoted exactly according to the original, including spelling and linguistic errors, but names and specific words and technical terms that could be connected to a certain company have, for reasons of confidentiality, been omitted and are either replaced by N.N., X or by a more general word within square brackets.

and table is commented on in surrounding passages of text. At the most, these text passages amount to twelve lines and typically present facts and figures of findings, as in:

(12) After the cook, the low [material] had higher viscosity compared to the…
(13) Increased cooking… from 14 to 18 resulted in an increase of 0.8% …

In the "Discussion" section (four pages), both methods and findings are commented on and discussed in the text and illustrated in two tables. The following two examples illustrate textual comments on findings:

(14) The brightness reversion and the level of hexenuronic acids are believed to depend on each other.
(15) It is interesting to note that the way of measuring brightness reversion is important. When measuring the post colour number the effect is not as plain as for the above discussed brightness reversion results.

The "Discussion" section ends with two sub-sections labelled "Conclusion [of specified material]", each consisting of a bullet list summarising main findings. Finally, there are four appendices presenting detailed figures in tables and graphs.

*Report 2*

In *R2*, a "Summary" does not appear on the front page as in *R1* but follows after "Contents". The summary in *R2* is short, comprising eleven lines of text. It does not include purpose and method as in *R1*, but exclusively presents main results and conclusions.

The summary in *R2* is followed by the section "Technical audit", which corresponds both to the sections "Background" and "Results" in *R1*. It is a relatively long section, divided into five sub-sections, describing the background situation and prevailing conditions at the start of the project, as well as presenting results of project investigation work.

The final two sections in *R2* present investment plans, costs and budgets.

An overview of the sections presented on the first three pages of *Report 1* and *Report 2* is shown in Table 5 below.

*Table 5 Sections presented on the first three pages of Report 1 and Report 2*

| Page | *Report 1* | *Report 2* |
|---|---|---|
| Page 1 | Identification header<br>Title<br>Summary<br>Keywords | Identification header<br>Title |
| Page 2 | Table of Contents | Contents |
| Page 3 | Ch. 1 Background<br>Ch. 2 Complementary data (a table)<br>Ch.3 Experimental (presents experiment procedures and materials; continues to page 6/28) | Ch. 1 Summary<br>Ch. 2 Technical audit (presents background and results; continues to page 7/17) |

As can be seen from Table 5, the placement of, for instance, "Summary" and "Background", varies between the two reports. In *R1*, the summary is placed on the front page, directly under the title of the project. However, in *R2*, the summary, which in this report is presented as section 1, does not appear until on page 3, after the page presenting "Contents". This placement of the summary is somewhat unexpected, as it is well known that a summary, or abstract, usually appears at the beginning of a manuscript, functioning as the point-of-entry for the paper.

Furthermore, it is interesting to note that *R2* does not contain a specific method chapter as is traditionally seen in scientific reports (cf. Björk & Räisänen, 1996). In *R1*, however, the notion of method is included in the description of the experimental set-up, and the materials used in the section "Experimental".

* * *

The findings on the *Thematic level* can be summarised as follows: The sections "Summary", "Table of Contents", "Background", and "Results" are included in both reports, not appearing in the same places, however. While the summary in *R1* is placed on the front page, directly under the title of this report, the summary in *R2* does not appear until on page 3, after "Contents". Also, the information presented in the two summaries differs. The information given in the summary of *R1* comprises purpose, material and method, results, and conclusions, whereas the summary in *R2* merely

presents main results and conclusions. Similarly, differences concerning placement and content can also be seen regarding other sections included in the reports.

### 5.1.3 Discourse level

On the *Discourse level*, I look at strategies employed to create coherence in content and cohesion between units in the texts, including connectives and other markers of lexical linkage. The use of metatext for directing and guiding the reader in the text is also studied. Further, even if not being self-evident discourse phenomena, some aspects of formality and style are illuminated on this level, since they refer to and affect the whole text.

#### 5.1.3.1 Coherence and linking strategies

The language used in technical reports is usually characterised by the requirement of economical, precise and logical expression of facts, ideas and theories and their interrelationships. Techniques for indicating how the point being made in one sentence is connected to the information being presented in the previous or following sentence include, e.g., repetition of key words, the use of synonyms or hypernyms, and the use of linking words (see e.g. Sager et al., 1980:198-200; Björk & Räisänen, 1996, pp. 186-187). In this section, we will look at the realisation of coherence and linking strategies in *R1* and *R2*.

*Report 1*

Repetition of technical key words is a strategy used in more than half of the paragraphs in *R1* to signal a relation between sentences and a 'step-by-step' linear text progression (cf. Quirk et al. 1985, pp. 1435-1436), as illustrated in the following examples:

(16) Triple samples were bleached in the oxygen stage and the average yield was calculated. The yield over cooking +O2 –stage was calculated using the results from the cooking performed by …University. The yield after ECF and HA ECF bleaching was measured in the same way.

(17) The beatability required to reach a given tensile index will indicate the amount of energy consumed during beating. The beating is one of the most energy consuming parts in the …procedure.

In (16), *yield* and *cooking*, and in (17), *beatability/beating*, are the recurring words, which provide linkage between the sentences in the respective paragraphs.

Apart from coordinating and subordinating cohesive devices accounted for below (see 5.1.4.1), the relation between parts of the text is also realised by other cohesive ties, such as adverbs and pro-forms. For instance, the adverb *respectively* indicates segregatory coordination in the following example:

(18) The incoming kappa to the bleach plant is 9.6 and 11. 6 respectively.

In 13 instances, linking adverbial conjuncts indicating various semantic relations, e.g. addition, concession, and result, are used to connect linguistic units (cf. Quirk et al., 1985, p. 631 ff; Johansson & Lysvåg, 1986, p. 218 ff; Biber et al. 1999, p. 875 ff), as illustrated in the following examples:

(19) Light scattering …Density is also related to the light scattering…
(20) The length and the strength of the fibre as well as the bonding strength and bonding area enhance the tensile index.
(21) However, in practice a shape factor above 96% has not been observed.
(22) Consequently, the differences in the physical properties are not due to the fibre deformation …

As appears in Table 6 below, the most frequent conjunct in the report is *also*, which is used in seven cases. The conjunct *therefore* appears twice, while *as well as, thus, however, i.e.,* and *consequently* are each used once in the text. In Table 6, conjuncts are

referred to as "linking words". The labels of the semantic relations are based on Johansson & Lysvåg (1986, pp.220-225).

*Table 6 Distribution of linking words and their semantic relations in Report 1, in order of decreasing frequency*

| **Linking word** | **Semantic relation** | **Number** |
|---|---|---|
| *also* | Addition | 7 |
| *therefore* | Result | 2 |
| *as well as* | Addition | 1 |
| *thus* | Result | 1 |
| *consequently* | Result | 1 |
| *however* | Concession | 1 |
| *i.e.* | Example | 1 |
| *respectively* | "Segregation" | 1 |
| **Total** | | **15** |

Not surprisingly, considering the predominantly simple sentence structure in *R1*, relatively few linking words are found in the text. Furthermore, having seen that this report mainly presents technical facts and consecutive procedures, it is not unexpected that addition is the most frequent semantic relation indicated by a linking word. However, in all instances except one, this relation is signalled by means of the linking word *also*. Similar additional linking words such as *Moreover*, *Furthermore*, *In addition*, *Additionally*, etc., are not used at all in the text (see 5.1.3.3 *Formality and style* below).

As regards pro-forms, the most frequent pro-form referring to a preceding clause in *R1* is anaphoric *this*, which occurs in eight instances, as in:

(23) The high kappa [material] gives higher density compared to low kappa [ material]. <u>This</u> is due to the increased amount …

In three cases, the pro-form *it* is used as a linking word, and in one of these instances the reference is unclear. In the following sentence the reader does not know if *it* refers to 'The carbohydrate composition' or to 'Figure 5':

(24) The carbohydrate composition can be studied below in Figure 5 where it shows the relative content…

*Report 2*

The linking strategy of repeating technical keywords, frequently applied in *R1*, is hardly used at all in *R2*. In *R2*, the relation between the predominant complex sentences is more frequently realised by the use of conjuncts, pro-forms, and other more sophisticated lexical cohesive devices, such as nominalization and the use of general hypernyms (see Quirk et al. 1985, p. 1442). The text in *R2* has the structure and style expected to be found in technical articles written by native speakers of English, as can be seen from the following passage:

(25) In general, the spare part philosophy has been to keep as much spare parts in stocks as possible. This was a necessity during the Soviet Union days, when spare parts were rare but cheap. Today, the situation has changed. Still, it is possible to get cheap parts from Russia, if the right contacts are available. However, a quick delivery can be executed if the payment is right.

In this passage, the keywords *spare parts* are indeed repeated in most of the sentences, but, as can be seen, the pro-form *This* and the general hypernym *the situation* also contribute to the cohesion of the text. Furthermore, prepositional phrases and adverbs such as *In general, Today, Still*, and *However*, are used to signal relation between the sentences.

As regards pro-forms, anaphoric *this* is the only word used as a pro-form in *R2*, occurring four times.

The distribution of linking words in *R2* is shown in table 7 below:

*Table 7 Distribution of linking words and their semantic relations in Report 2*

| **Linking word** | **Semantic relation** | **Number** |
|---|---|---|
| *in general* | Generalisation | 4 |
| *however* | Concession | 2 |
| *anyhow* | Concession | 1 |
| *despite* | Concession | 1 |
| *still* | Concession | 1 |
| *also* | Addition | 1 |
| *as well as* | Addition | 1 |
| *so* | Result | 1 |
| **Total** | | **12** |

Although *R2* is a considerably shorter report than *R1*, we can see from this table that the number and variation of linking words used in *R2* are similar to *R1*. This implies that coherence in the *R2* text is to a higher degree than in *R1* achieved by the use of conjuncts. Not unexpectedly, considering the fact that the text in *R2* is of a more argumentative nature, we also see a relatively high proportion of concessive linking words in *R2*.

### 5.1.3.2 Metatext

Another type of organising and linking device is the use of metatextual items to guide and direct the reader in the text material. In the present investigation, two main types of metatext are recognised, 'Reference to the text' and 'Addressing the reader'. The former category is divided into the subcategories 'Reference to the whole text', 'Reference to part of the text', and 'Reference to tables and diagrams' (cf. Mauranen, 1993; Bäcklund, 1998).

What is considered metadiscourse varies among researchers (see Ädel, 2003). In most studies of metadiscourse, linking words and expressions such as *first, next, however,* and *for example* are regarded as metadiscourse since their function is to "help readers recognise how our texts are organised and see exactly how different parts of them are connected to each other" (Vande Kopple, 1985, p. 83; Bäcklund, 1998, p. 15). Furthermore, Vande Kopple (1985) and Markkanen et al. (1993) include 'Validity

markers', e.g. *probably*, and 'Attitude markers', e.g. *Unfortunately*, as metadiscourse. Ädel (2003) also recognises 'personal metadiscourse' including *I*, *we*, and *you* that make "direct reference to the writer and/or reader of the current text" (p. 96).

In the present study, however, connectors, e.g. conjuncts, and certain linguistic hedges, have not been classified as metatextual items but are referred to as linking words, specifically dealt with above (see 5.1.5.1), while personal pronouns are dealt with in section 5.1.5.3, regarding formality and style.

***Report 1***

In *R1*, a total of 50 metatextual items occur. In the category 'Reference to the text', metatext that refers to the whole text is found in six instances (11%) in *R1*, as illustrated in the following examples.:

(26) The material used in this study were laboratory cooked…
(27) The scope of this work is to find arguments for less cooking.
(28) Softwood and two different hardwoods are studied and this report presents the ….

As can be seen in these examples, the words *this study*, *this work* and *this report* refer to the whole text.

Metatext that refers to part of the text occurs twice (4%). Two chapters are introduced through metatext, referring to their content:

(29) In this part each of the following procedures are shortly presented.
(30) This section includes the chemical composition and the shape of the fibres.

Phrases introducing and referring to tables and diagrams in the text are fairly consistently inserted throughout the report in 37 of 40 instances (93%), which make up the largest group of metatext (75% of all occurrences), as illustrated in the following examples:

(31) Table 1 shows the general cooking conditions.
(32) Specific cooking data are available in Figure 2.

(33) Table 5 displays the analyses performed on the material.

(34) According to Figure 12 there are small or no differences in WRW.

There is, however, little variation in expression for referring to figures and tables. The most frequent phrases are "*according to Figure/Table* ..." and a combination with the verb *show*: "*are/is/as shown in Figure/Table*...". These two types of phrases are to an equal degree used and make up more than 70% of all instances of such references. In a few cases (14%), a phrase with the verb *see* is used in a similar way to the verb *show*: "*are/is/as/as can be seen in Figure/Table*." In addition, there are four other phrases referring to figures and tables in the text, each occurring once: "*are available in Figure 2"* (cf. example (32) above), "*Table 5 displays*..." (cf. example (33) above), "*This is examined more in detail in Figure 2*.", and "*This can be studied below in Figure 6.*"

Further, to direct readers in their interpretation of the text and guide their reading, the authors of *R1* directly address the reader, using imperative sentences in five instances (10%), in expressions such as:

(35) Note that the ECF sequence …is a three stage ECF sequence.

(36) For an overview, go to the Discussion section.

(37) For more information of the fibre analysis, consult Appendix 3.

An overview of the number of different types of metatext in *Report 1* is shown in Figure 4:

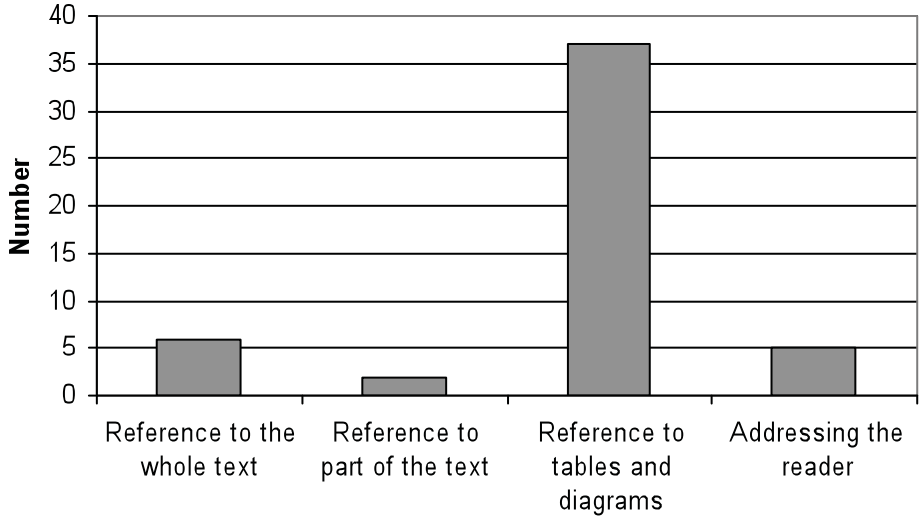


*Figure 4 Number and distribution of metatextual items in Report 1*

As can be especially noted from Figure 6, metatextual references to tables and diagrams in *R1* are given in almost all instances.

***Report 2***

In view of the fact that *R2* is a shorter text than *R1*, it is not unexpected that there are fewer instances of metatext in *R2* than in *R1*. The total number of metatextual items in *R2* is 15.

In *R2* there is one instance (7%) of the type of metatext that refers to the whole text, as can be seen in:

(38) All collected data from investigation carried out by … will not be attached to this report.

Metatext referring to part of the text does not occur at all in *R2*, and references to tables and diagrams are not consistently inserted, as is the case in *R1*. In *R2*, only nine of the sixteen tables and diagrams in the text are presented or referred to in metatext (60% of all occurrences of metatext in *R2*). In all but one of these instances, a form of the verb *show* is used, as in:

(39) Future main structure of organisation is shown in below diagram.

In five instances (33%), the authors directly address the reader, using imperative verb forms, as in:

(40) Note![X]and[X] are not included into the out-sourceing.
(41) See appendix 2b and 3.

Figure 5 provides an overview of the number of instances of metatext in *Report 2*:

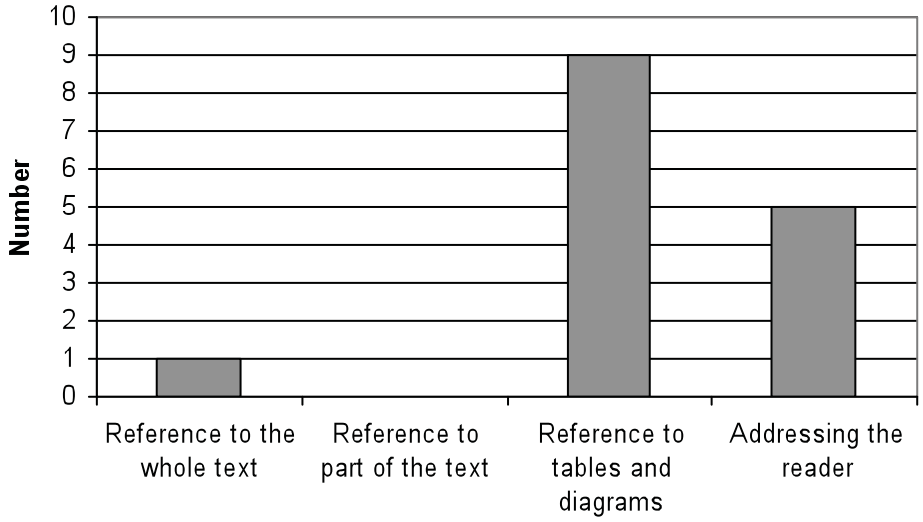


*Figure 5 Number and distribution of metatextual items in Report 2*

When comparing the two reports, *R1* and *R2*, regarding the occurrence of metatext, it is especially interesting to note that while as many as 93% of the tables and diagrams in *R1* are referred to in the text, only slightly more than half of the tables and diagrams in *R2* are referred to, as shown in Figure 6:

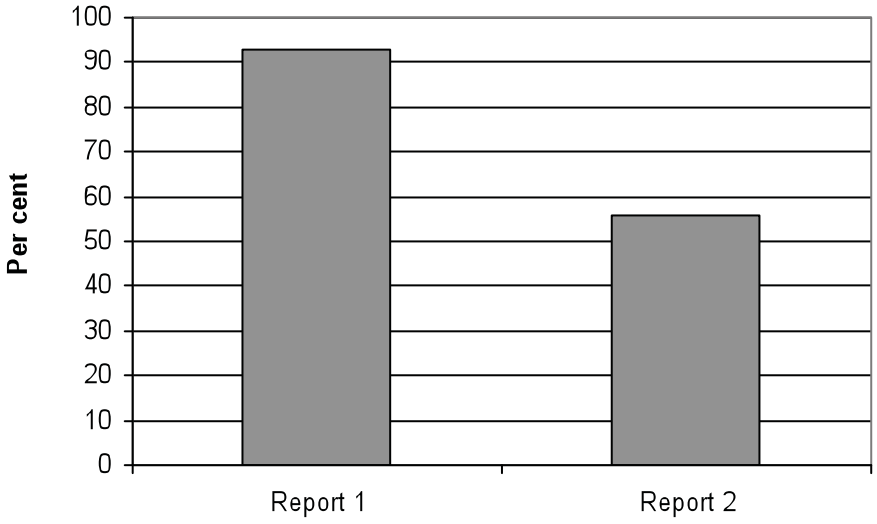


*Figure 6 Reference to tables and diagrams (%) in Report 1 and Report 2*

Since it is well known that tables, figures, and other forms of illustrations play an important communicative role in scientific and technical texts, and as each of the

analysed reports contains a relatively large proportion of visual material, it is to be expected that this type of metatext is dominant in both reports. However, the fact that attention is drawn to only about half of the tables and figures in *R2* is surprising. To give reference to an illustration in the text can generally be seen as a 'standard' instruction in guidelines on writing technical and scientific documents.

* * *

To sum up, not unexpectedly, the most frequent type of metatext used as a linking device, both in *R1* and *R2*, is reference to tables and diagrams. In *R1*, practically all tables and diagrams are introduced and referred to in metatext, while somewhat surprisingly, only about half of the illustrations in *R2* are presented and referred to with the use of metatext.

### 5.1.3.3 Formality and style

In the following section, some aspects of formality and style often commented on in style guides, such as nominalisation, use of the passive construction, personal pronouns and contracted forms, are looked into.

Noun phrases such as *effluent analysis, fibre charge, beatability* and *air permeance* are used throughout *R1*, appearing as headings, and, as pointed out earlier, also recur as keywords in the text. The typical stylistic method used to present and describe technical facts and procedures in *R1* is the use of noun phrases and nominalisations in the form of technical keywords in combination with the passive voice, as in:

(42) The brightness reversion and post colour number is measured on the fully bleached material.
(43) Complementary tests have been done on the low kappa material.
(44) The fibre deformations and dimensions were evaluated.
(45) Tear index is used to evaluate liability crack of material.[8]

[8] In example (45), the noun phrase *liability crack* is not idiomatic, though. A prepositional phrase, *liability of cracking,* should have been used instead.

The stylistic method of nominalisation + passive construction is probably deliberately chosen to keep the text impersonal and render professional tenor, a style proposed in several manuals and pedagogic literature (see e.g. Jones & Keene 1981, Hyland 2000). Moreover, personal pronouns such as *we* or *you*, implying personal involvement, do not occur at all in *R1* (cf. Spencer & Arbon 1996, p. 26). For instance, in the following example, the authors of the report use a rather heavy, non-idiomatic passive construction, apparently to avoid the more informal *we/you can see*:

(46) There is seen an increase in ….

Similarly, contracted forms, generally regarded as a feature of spoken, informal English (cf. Kjellmer 1995, Westergren Axelsson 1998) are avoided in *R1*.

*Report 2*

As in *R1*, compound nouns, e.g. *burner control equipment*, *maintenance cost figures* and *air pre-heater steam boiler* are frequently used as keywords in *R2*, but only in a few cases as headings. As mentioned earlier, in the more complex sentence structure of *R2*, they do not have the predominant task of indicating a connection between sentences in the same way as in *R1*.

Similarly to *R1*, however, the passive construction is the commonest method of presenting facts in *R2* as well, especially when giving historical or background information. However, unlike *R1*, personal pronouns and determiners, for instance *we*, *us*, and *our* occur in passages where the authors draw conclusions or present their own ideas, as the following examples illustrate:

(47) We estimate that remaining lifetime could be about 15 years…
(48) Our estimation is that the number can be reduced to about 960…
(49) Due to KEC reluctance to let us analyse the figures in more detail we do not have any simple explanation…

The use of personal pronouns as in *R2* accords well with recommendations made by, e.g., Wang (2008), who maintains that personal pronouns increase readability in all kinds of engineering writing, including technical reports (p. 84). Other influential style guides

echo this view, for instance *Manual on scientific writing* (1993) and Day (1994) However, in an analysis of 240 research articles, Hyland (2001) showed that not all discipline conventions sanction the same degree of authorial presence and that students should therefore be made aware of preferred practices in different communities (p. 224).

The informal feature of contracted forms is, as in *R1*, consistently avoided in *R2*, with the exception of the following instance:

(50) …there we don't have any data.

* * *

To sum up, the predominant stylistic method of presenting facts and procedures in both *R1*and *R2* involves constructions of technical keywords and noun phrases in combination with the passive voice.

It is interesting to note that the linking strategy of repeating technical keywords is used between sentences in more than half of the paragraphs in *R1* but hardly at all in *R2*. In *R2*, relations between sentences are more frequently indicated by the use of linking words, pro-forms, and other lexical cohesive devices, such as general hypernyms. In *R2*, linking words expressing concession are predominant, while in *R1* the conjunct *also* is most frequent. Other linking words and pro-forms appear sparsely in *R1*. For instance, concessive *however* occurs only once. As mentioned above, irrespective of author language proficiency and style, the different nature of project reports as regards content may partly explain the difference concerning the use of linking strategies in *R1* and *R2*.

Not unexpectedly, the most frequent type of metatext used as a linking device, both in *R1* and *R2*, is reference to tables and diagrams. In *R1*, practically all tables and diagrams are introduced and referred to in metatext, while somewhat surprisingly, only about half of the illustrations in *R2* are presented and referred to with the use of metatext.

Personal pronouns do not occur at all in *R1*, but *we*, *our*, and *us* occur frequently in some text passages in *R2* where the authors draw conclusions or present their own ideas and suggestions (cf. e.g. Hyland, 2001).

With the exception of one instance in *R2*, contracted forms are not used in either *R1* or *R2*.

Further, with regard to stylistic observations, it can be argued that the varied use of conjunctions and linking words in *R2*, as accounted for above, makes this report

stylistically more formal than *R1*. For instance, addition, being the most frequent semantic relation indicated by a linking word in *R1*, is in all instances except one signalled by means of the relatively informal linking word *also*. Other possible additional linking words and phrases such as e.g. *moreover*, *furthermore*, *in addition*, *additionally*, etc., are not used at all in the text.

### 5.1.4 Sentence level

It should be stressed that it is beyond the scope of the present study to provide an exhaustive analysis of the sentence structure appearing in the documents investigated. Instead, the aim on the S*entence level* of analysis is to give, at a macro level, an overview, with illustrating examples of sentence structure as regards sentence complexity, occurrence of deviant sentence structures, and the use of coordinating and subordinating markers. Lower-level grammar will be accounted for in 5.1.5.

#### 5.1.4.1 Main clauses and subordinate clauses

As mentioned in chapter 3, frequency counts of specific linguistic features are presented to give a quantitative characterisation of a text so that different texts can be compared. The first step of analysis on the *Sentence level* was to divide the text into sentences[9] and clauses. Of the approximately 215 sentences making up the text in *R1*, 117 (55%) are short, simple sentences consisting of a single independent clause (cf. Quirk et al. 1985, p.719-720).[10] Frequently, a simple sentence is followed by another simple sentence, as illustrated in the following examples:

(51) The materials have been washed after the cooking. Oxygen predelignification of the two different materials was performed according to [X]'s standard method.

[9] Here defined as a unit beginning with a capital letter and ending with a full stop. Question or exclamation marks do not occur in either of the two reports.

[10] All sentences in *R1* are declarative. There are no interrogative or imperative sentences.

(52) The oxygen stage does not have any effect on the hexenuronic acids. The ECF bleached low kappa material has hexenuronic acids left in the fibre.

Out of the total number of sentences, there are 17 (8%) compound sentences (Quirk et al, 1985, p. 719, 987), consisting of two coordinated independent clauses, as in:

(53) The bleaching sequence for each [material] was optimised and all the results from the optimisation work are available in ….
(54) Triple samples were bleached in the oxygen stage and the average yield was calculated.

The remaining 81 sentences (37%) are complex sentences, i.e. a main clause with one, as is the case in most instances, or more subordinate clauses, finite or nonfinite (cf. Quirk et al. 1985, p. 987). The following example illustrates a complex sentence with one finite subordinate clause, introduced by the conjunction *since*:

(55) Since the same chips were used for the two [materials], the metal content was identical.

Table 8 gives a survey of the sentence types in *R1*.

*Table 8 Distribution of sentence types in Report 1*

| **Type of sentence** | **Number** | **Percentage** |
|---|---|---|
| Simple sentence | 117 | 55% |
| Compound sentence | 17 | 8% |
| Complex sentence | 81 | 37% |
| **Total** | 215 | 100 % |

It could be argued that the dominance of short simple sentences gives the text a somewhat "choppy" and less professional stylistic character (cf. Björk & Räisänen 1996, p. 210). On the other hand, in the complex sentences, nonfinite dependent clauses dominate. Of 154 subordinate clauses, 109 (71%) are non-finite, i.e. *–ing*, *past participle* or *to-infinitive* clauses. According to Johansson & Lysvåg (1986), the use of nonfinite

clauses is associated with formal, "carefully planned expository writing" (p. 195). Since nonfinite clauses lack modal auxiliaries and frequently also lack a subject and a subordinating conjunction, they are, according to Quirk et al. (1985, p. 995), used by the writer as a means for achieving syntactic compression and compactness. The following examples illustrate sentences containing nonfinite subordinate clauses (underlined):

(56) Less energy is needed to reach a Schopper-Riegler of 30.

(57) The [material] was bleached after oxygen predelignification, using an ECF sequence.

(58) The [materials] were conducted to an oxygen stage followed by sequence D.

Of the nonfinite clauses, the *ing*- clauses occur most frequently, as can be seen from Table 9, accounting for the distribution of finite and nonfinite subordinate clauses in *R1*.

*Table 9 Distribution of subordinate clause types in R1, in decreasing order of frequency*

| **Type of clause** | **Number** | | **Percentage** |
|---|---|---|---|
| **Nonfinite clause** | *-ing* | 61 | 40% |
| | *past participle* | 25 | 16% |
| | *to-infinitive* | 23 | 15% |
| | Total frequency of Nonfinite clauses | **109** | **71%** |
| **Finite clause** | | **45** | **29%** |
| **Total** | | **154** | 100% |

When studying coordinators and subordinators in the compound sentences in *R1*, it can be seen that the predominant coordinator is the conjunction *and*, used in practically all instances (see examples (53) and (54) above). In two cases, *but* is the coordinator, as illustrated in:

(59) Consequently, the differences in the physical properties are not due to the fibre deformations for the O2 material but the fibre dimensions will influence physical properties on the O2 HA [material].

The following table accounts for an overview of the distribution of coordinators in *R1*:

*Table 10 Distribution of coordinators in R1.*

| **Coordinator** | **Number** | **Frequency** |
|---|---|---|
| And | 15 | 88% |
| but | 2 | 12% |
| Total | 17 | 100% |

As can be seen from Table 10, the coordinator *and* is clearly dominant.

In complex sentences, subordination is generally marked by a subordinating element. The most important device of subordination is subordinating conjunctions, especially as regards finite clauses (Quirk et al., 1985, p. 998). These conjunctions serve not only to mark subordination, but also to signal the functional relationship between clauses, e.g. causal, temporal or conditional relationships. Other signals of subordination are, e.g., the subordinator *that*, *wh-* words, and, as noted above, nonfinite verb forms.

In *R1*, the most frequent conjunction used is temporal *when*, introducing 28 subordinate clauses, either initiating a finite subordinate clause, as illustrated in example (60) below, or a nonfinite clause, as in (61):

(60) The viscosity of the high kappa…is higher when the [material] is fully bleached.

(61) There is a major reduction in the refining energy when increasing the kappa number.

The second most frequently used conjunction is causal *since* (see also example (55) above), introducing eleven (19%) dependent clauses, followed by *that*, which introduces seven (12%) clauses. This is illustrated in the following examples:

(62) Since the same chips were used for the two [materials], the metal content *was identical.*

(63) One other effect is that the viscosity of high kappa … is as expected 100 units higher compared to the low kappa.

Other subordinating conjunctions are *if* and *while*, which occur in two instances each, and *as* and *as long as*, which are used once each, as illustrated in:

(64) As can be seen the time, temperature and alkali charge varies for the different [materials].

(65) The content of acids will continue to increase as long as there is significant amount of 4-O-methyl-acids in the fibres.

(66) The density is increased while the light scattering coefficient remains constant for the high kappa [material].

Relative clauses with *which*/*that* are surprisingly rare. They occur only in two clauses:

(67) Schopper-Riegler is often accompanied by the tensile index, which is an important property of the [material].

(68) An increase of the kappa number increase the chemical consumption that leads to higher ….

Relative *where* also appears twice, as illustrated in:

(69) Density is related to the light scattering where low light scattering results in increased density .

Interrogative *how* appears in one instance:

(70) The yield is also included since it is discussed how the chemical composition changes.

As earlier mentioned, some sentences contain more than one subordinate clause. For instance, the final example above, (70), has two embedded clauses: the adverbial clause

introduced by *since* and the interrogative clause introduced by *how*, the latter clause being a constituent of the adverbial clause. Similarly, another case of multiple embedding is illustrated in the following example, where we see a *that*-clause and two embedded nonfinite clauses:

(71) One other effect is that the viscosity of high kappa…is as expected 100 units higher compared to the low kappa.

The distribution of clause types and subordinators in *R1* is illustrated in the following diagram (Figure 7):

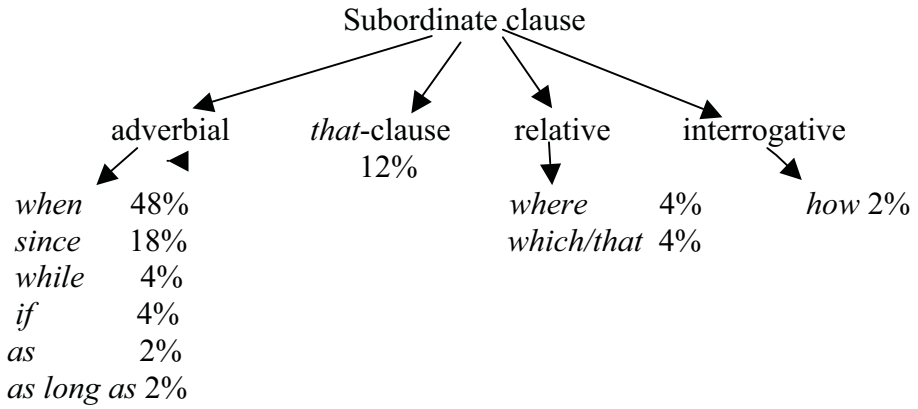


*Figure 7 Distribution of clause types and subordinators in R1*

The fact that the conjunction *when* is the most frequent may appear somewhat surprising. However, *R1* is a report presenting and describing technical facts and sequential laboratory procedures. Thus, it seems that the relationship established by *when* between the events or states expressed in the main clause and the subordinate clause in a sentence, here tends to be more a marker of logical order or causal relation rather than a purely temporal relationship (cf. Johansson & Lysvåg, 1986, p. 160; Quirk et al., 1985, p. 1097; Biber et al. 1999, p. 841).

*Report 2*

Sentence structure in *R2* differs from that in *R1*. On the whole, the sentences in *R2* are longer and more complex. Of the 135 sentences in *R2*, approximately 30% are simple sentences, consisting of a single independent clause. However, unlike those in *R1*, some of them contain coordinated predicates or noun phrases, as in:

(72) The 130 kV switchyard is not owned but maintained by the company.

(73) Smaller jobs and also jobs on electrical equipment are performed by the parent company or by the sister company …Energy Services.

Furthermore, there are only six compound sentences, making up slightly more than 4% of the total number of sentences. The remaining 89 sentences (66%) are complex sentences, containing one or more subordinate clauses, as shown in the following table:

*Table 11 Distribution of sentence types in Report 2*

| **Type of sentence** | **Number** | **Percentage** |
|---|---|---|
| Simple sentence | 40 | 30% |
| Compound sentence | 6 | 4% |
| Complex sentence | 89 | 66 % |
| **Total** | **135** | 100% |

As is readily seen, when comparing this table with Table 8 above, complex sentences are considerably more frequent in *R2* (66%) than in *R1*, where only 37% of the sentences are complex.

In the complex sentences in *R2*, 36 (57%) out of a total of 63 subordinate clauses are nonfinite *to-infinitive*, *-ing*, and *past-participle* clauses, as illustrated in:

(74) A general idea about the spare part philosophy has been <u>to keep</u> as much spare parts in stock as possible.

(75) Figures <u>showing</u> historical expenditures/budgets have probably been subject for modifications of some reasons.

(76) The maintenance costs <u>shown</u> in table above consists of the following items: …

Among the nonfinite subordinate clauses in *R2*, the most frequent type of clause involves the *past participle*, as seen from Table 12:

*Table 12 Distribution of subordinate clause types in R2, in decreasing order of frequency*

| **Type of clause** | **Number** | | **Percentage** |
|---|---|---|---|
| **Nonfinite clause** | *past participle* | 19 | 30% |
| | *to-infinitive* | 10 | 16% |
| | *- ing* | 7 | 11% |
| | Total frequency of nonfinite clauses | **36** | **57%** |
| **Finite clause** | | **27** | **43%** |
| **Total** | | **63** | 100% |

In *R2*, as appears from this table, we do not see the same large predominance of nonfinite subordinate clauses as in *R1*, where more than 70 % of the dependent clauses are nonfinite (see Table 9). A tentative explanation may be differences in character between the two texts. Whereas *R1* is content-oriented, and, as was seen on the *Discourse level* above, de-emphasises personal involvement, *R2* is more argumentative and explicit, which generally implies a higher degree of finite clauses (cf. Johansson& Lysvåg 1986, pp. 195-196).

Concerning coordinators, as in *R1*, the coordinator *and* is not unexpectedly predominant also in *R2*. The coordinators *but* and *or* occur only in one instance each, as shown in the following examples:

(77) Estimated remaining lifetime should have been 10 to 15 years …, <u>but</u> up to now the status of turbine system are unsatisfactory…

(78) Maybe pressure and temperature ought to be reduced <u>or</u> in worse cases the drums had to be replaced.

Table 13 gives an overview of the distribution of coordinators in *R2*:

*Table 13 Distribution of coordinators in R2.*

| **Coordinator** | **Frequency** |
|---|---|
| And | 4 (88%) |
| But | 1 (6%) |
| Or | 1 (6%) |
| **Total** | **6** (100%) |

In the dependent clauses, the dominant subordinating conjunctions are conditional *if*, which introduces ten subordinate clauses (40%), and the conjunction *that,* introducing eight subordinate clauses (32%). Temporal *when*, which was the clearly dominant conjunction used to introduce subordinate clauses in *R1*, occurs only twice (8%) in *R2.* The only other conjunction used is contrastive *while*, which appears in one instance (4%). Relative *which* occurs in four instances (16%). Incorrectly used as a relative marker in two sentences, we find *there* instead of *where*, a not uncommonly seen transfer error, most likely triggered by the orthographical and phonological similarity between Swedish 'där'[11] and English *there*[12] (cf. Köhlmyr, 2003, p. 268-269) (see also example *(84)* below) as in:

(79) … excluding [XX PRODUCTION] there probably a small electrical boiler can be cost effective.

Similarly, *why* incorrectly used as a relative subordinator is found in two cases (cf. also examples (85) and (127) below), as in:

(80) In general the status of the Hob's production are in fairly good condition units why we estimate their remaining lifetime to about 10-15 years…

This type of mistake can probably also be referred to transfer from Swedish, where the Swedish interrogative adverb 'varför' (Engl. *why*) can be used as a relative connector[13].

[11] Throughout this study, single inverted commas are used for Swedish examples of words, whereas the corresponding English words are given in italics.
[12] In Swedish, 'där' can be both a demonstrative adverb, as in 'De är där', corresponding to English *They are there*, and a relative adverb, as in 'Det här är platsen där de bor', in English *This is the place where they live* (see Ljung & Ohlander, 1992, pp. 179 and 218).
[13] In English, *why* can be used as a relative adverb together with the noun *reason*: *There is no reason why we can't stay another week* (see Ljung & Ohlander, 1992, p. 218).

The distribution of clause types and correctly used subordinators in *R2* is illustrated in the following diagram (Figure 8):

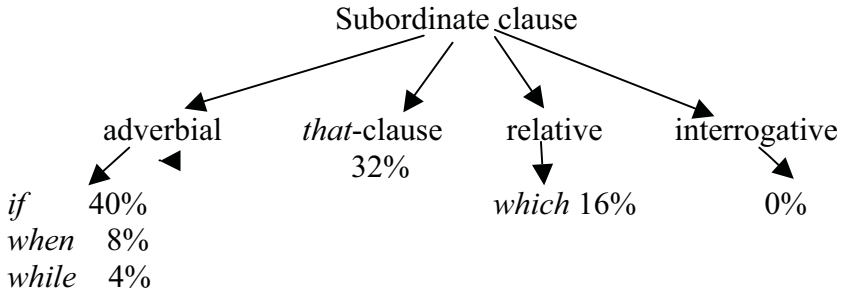


*Figure 8 Distribution of clause types and subordinators in R2*

Considering the relatively large number of subordinate clauses in *R2*, it is somewhat surprising that the number of subordinate conjunctions used is lower in *R2* than in *R1*. This can be explained by the fact that several of the relatively large number of nonfinite clauses in *R2* are not introduced by a conjunction.

Also, as to the use of conjunctions, it is interesting to note that temporal *when*, which is the totally dominant subordinating conjunction in *R1*, here amounts to only 8%. In *R2*, the most frequently used conjunction is instead *if*, followed by *that*. It can also be noted that there are no interrogative clauses in *R2*.

### 5.1.4.2 Incomplete and deviant sentence structures

*Report 1*

In *R1*, there are three instances of sentence structure resulting in obscurity of expression. In the first case, after a preceding sentence and full stop, the final 'sentence' in the following example is incomplete and apparently incoherent since it neither contains a finite verb nor has a connection, e.g. a relative pronoun, to the preceding sentence:

(81) The drawback of increasing the [material] content is an increase in the consumption of bleaching chemicals resulting in an increase of AOX and COD in the effluent. A higher density when beating to a specific Schopper-Riegler and lower Scott-Bond when beating to a specific tensile

index.

A similarly incoherent construction is seen in the following example, where the second sentence lacks a predicate verb:

(82) The COD was measured in the effluent and is shown in Figure 3. The COD from the oxygen predelignification stage since this can be included in the recovery system.

In another complex sentence both the introductory independent clause and the subordinate clause are incorrectly constructed and thus unclear:

(83) This in turn means may lower the yield further and the difference in yield when comparing ECF bleached high and low kappa would increase further.

In (83), the occurrence of the word *means* in the first line, probably due to missed deletion when typing and changing the sentence, makes the sentence incomprehensible. Without this word, and with the insertion of commas around *when comparing ECF bleached high and low kappa*, the sentence would have made sense.

*Report 2*

In *R2,* although displaying a more complicated sentence structure than in *R1*, there is just one instance where the sentence construction leads to obscurity, as in:

(84) Steam pressure 12 bar and 200 C are used to estimate steam flow those customers there we don't have any data.

In (84) the sentence is unclear since the author seems, firstly, to have missed out a preposition: … *steam flow* [at /with] *those customers*...and then used the incorrect pro-form *there* instead of relative *where*: …*customers* [where] *we don't have any data* (see also example (79) above).

Other cases of incorrect relative constructions occur, as mentioned (see example (80) above), when *why* is non-idiomatically used as a relative adverb, as in:

(85) The plant as such is very old fashioned why we have reason to believe those parts and other equipment will be difficult to replace.

This type of error could of course also be categorised as a grammatical error (see section 5.2.4 below), but since the word *why* here is wrongly used as a subordinator, introducing a dependent clause, the error is here included in the analysis on the *Sentence level*.

* * *

In sum, the analysis on the *Sentence level* shows considerable difference between the sentence structure used in *R1* and *R2*. Strikingly, more than half of the sentences in *R1* are short, simple sentences, consisting of a single independent clause. Similarly, the complex sentences in this report are relatively short, predominantly comprising a main clause and a subordinate clause. The sentences in *R2* are, on the whole, longer and more complex than in *R1*. Furthermore, there is a considerably higher frequency of nonfinite dependent clauses in *R2* than in *R1*.

In addition, there is a difference as regards subordinators used to introduce dependent clauses in *R1* and *R2*. The clearly dominant conjunction used to introduce a dependent clause in *R1* is *when*, being the choice in nearly half of the cases. This conjunction is used only twice in *R2*, where, instead, the most frequent conjunctions are *if* and *that*.

Deviant or incomplete sentence structure, leading to obscurity of expression, occurs in relatively few instances. There are three cases in *R1* and only one in *R2*. Run-on sentences appear in a couple of instances in both *R1* and *R2*.

### 5.1.5 Grammatical level

As mentioned repeatedly, my intention here is not to present a complete linguistic analysis but to illuminate the distribution of certain aspects of language usage and constructions in the documents analysed.

#### 5.1.5.1 Grammar or lexicon?

On the *Grammatical level*, an initial question that arises is what should be regarded as a lexical versus a grammatical aspect of language. According to, e.g., Johansson (1978, p. 71), grammar deals with the rule-governed, closed system of language, whereas the lexicon involves choices from an indefinitely large, open class of items. Nevertheless, since the regularities involved in the formation and combinations of words are similar to the ones involved in grammar (cf. Quirk et al. 1985, p. 11), it is sometimes problematic to decide whether a certain linguistic phenomenon/feature should be referred to as belonging to lexis or grammar (cf., e.g., Köhlmyr 2003, pp. 18-21). In the documents analysed in the present study, only one clearly lexical error was found, namely the word *personal*, i.e. the Swedish word and spelling meaning 'staff', used instead of *personnel*. Other cases of non-idiomatic formations and combinations of words, such as *parantheses number* instead of *numbers within parentheses* and *below table* instead of *the table below*, probably also influenced by transfer from Swedish, seem to be borderline cases, not clearly fitting into either lexis or grammar. Thus, in the present study, both certain lexical choices (in particular, choice of preposition) and grammatical forms and constructions are examined on the *Grammatical level*. However, since it is not within the scope of the present study to give an exhaustive grammatical description of the texts analysed, I have chosen, as accounted for in chapter 3, to limit the investigation to grammatical areas known as being problematic for writers of English having Swedish as their mother tongue.

Illustrative examples are, as mentioned before, quoted exactly according to the original. Words and forms referred to in the discussion are underlined.

### 5.1.5.2 Grammatically deviant forms and constructions

In the present analysis, deviations from a form or structure given as correct in grammars and dictionaries are considered errors. However, the purpose of this section is not to provide an exhaustive account of such errors. Rather, it aims to present examples of errors and mistakes that may be regarded as typical.[14]

The errors are primarily divided into categories according to word class and word-class based subcategories, often seen in grammars for Swedish learners (see e.g. Ljung & Ohlander, 1992; Svartvik & Sager,1996; Estling Vannestål, 2007).

In this section, the different categories of errors found in *R1* and *R2* are presented in order of frequency. Illustrative examples are, as earlier mentioned, quoted exactly according to the original[15], including spelling and all errors. This means that some examples may contain more than one type of error. In cases where the full example is not necessary in order to illustrate the error, only the relevant part of the quote is given. In each example, the error referred to is underlined.

*Report 1*

Since *R1* is a report written and proofread by two engineers having Swedish as their mother tongue, it is not surprising that the text contains non-idiomatic or grammatically deviant and incorrect forms and constructions, which can often be referred to as transfer errors.

*Errors involving Subject-verb agreement*

Not unexpectedly, the most frequent error in *R1* is disagreement, or lack of concord, between subject and verb. This type of error occurs in approximately 10% of the 215 sentences in the report, as illustrated in:

(86) The tear index pass a maximum at a tensile index between 80 and 90.

(87) The less cooked material show a higher content of …

(88) There are a number of parameters that varies.

(89) An understanding of the structural differences of the fibres are needed.

[14] In this study, no distinction between ”error” and ”mistake” is made. Cf. e.g. Köhlmyr (2003, p. 17).

[15] As mentioned earlier, since the material investigated is confidential, names and specific words and technical terms that could be connected to a certain company are either replaced by XX or by a more general word within square brackets.

In example (86) above, it may be the sibilant consonant ending the word *pass* that gives the author the feeling of having produced a correct verb form in agreement with the subject *tear index*.

The missing *–s* ending in *show* in (87) is more difficult to explain. The same error is repeated four times in the text and a tentative explanation could be that the 'mass' word *material* gives the author a notion of plural.

In example (88), it is interesting to note that the concord between *a number of* and *are* has been correctly perceived and expressed, but not that between the relative pronoun *that,* having the noun phrase *a number of parameters* as its antecedent, and the verb form *varies*.

The distance between the noun phrase head *understanding* and the verb is probably the explanation why proximity concord occurs (Quirk et al., 1985, p. 757), i.e. between *differences of the fibres* and *are*, in example (89).

*Preposition-related errors*

Apart from subject-verb concord, there are other areas of grammar that often lead to errors when Swedes write English. One such area – not only for Swedes – is the use of prepositions and prepositional constructions. To choose the correct preposition is often said to be the hardest thing to master in a foreign language, since there is often very little rule-governed logic involved in determining which preposition is the right one. Therefore, not seldom, choices and errors are transfer-related, to the effect that a Swedish preposition is translated and used in a corresponding English expression.

However, in *R1* there are few cases of incorrect choice of preposition, as in:

(90) The comparison between the different sequences are not taking <u>in</u> consideration…

In (90), the Swedish preposition 'i' (Engl. *in*), in the Swedish expression 'ta <u>i</u> beaktande', has been incorrectly transferred in the English corresponding expression *take <u>into</u> consideration*.

Even if *R1* does not contain more incorrect choices of prepositions, there are several instances of errors in combination with prepositions. It could be argued that some of these types of errors should be classified as verb errors, but as they can also be seen as preposition-related, the following examples of errors are discussed here:

(91) *The SR number is a way of measure the drainability of the material.*

(92) *It measures the ability to prevent light to pass through the fibre work.*

In (91), the verb form *measure* is incorrect. After the preposition *of*, as well as other prepositions, the *-ing* form of the verb should have been used instead (see e.g Ljung & Ohlander, 1992, p. 135).

Example (92) also illustrates a relatively common error among Swedes writing in English. Instead of the prepositional phrase *prevent from* followed by *-ing* form of the verb, the incorrect *to*-infinitive *to pass* has been used with the verb *prevent*, reflecting the Swedish construction.

The complex preposition *due to* is frequently and mostly correctly used in *R1* in expressions such as *This behaviour is due to the increased amount of ...*and *It is common to use tensile index due to the porous structure of....* However, in a couple of instances the complex preposition *due to* is directly followed by a finite *that*-clause, as in:

(93) The fibres become straighter due to, that the swelling tend to straighten out the dislocations in the fibre.

(94) High density is a negative property due to that an increase lowers the bulk.

As is well known, most prepositions cannot take *that*-clause complements in English (see e.g. Ljung & Ohlander, 1992, pp. 255-256; Estling Vannestål, 2007, pp. 372-375). The combination of preposition + finite *that*-clause in the examples *(93)* and *(94)* is thus considered incorrect, most likely attributable to L1 transfer (cf. Köhlmyr, 2003, p.104).

*Errors involving passive construction*

Another area problematic for Swedes as well as others writing English is the passive. In *R1*, a couple of passive constructions are either unidiomatic or grammatically incorrect, as illustrated in the following examples:

*(*95) After the oxygen predelignification the differences have been level out.

(96) The comparison between the different sequences are not taking in consideration…

In (95), the verb form *level* should be the participle *levelled*. In (96) the form *taking* instead of the participle *taken* is used.

*Errors involving adjective-adverb*

The choice of adjective or adverb form may also give rise to mistakes. In a couple of cases, the authors have incorrectly chosen the adjective *close* instead of the adverb *closely*, as in :

(97) Air permeance is close connected to the density.

*Word order-related errors*

English word order is another area of grammar that causes problems. It is, however, sometimes difficult to decide whether the position of words in a clause is correct or not. For instance, as regards adverbials, variant positions are possible and "Mobility (the ability to appear in a range of optional positions) is highest for adverbs and short prepositional phrases" (Quirk et al., 1972, p. 426; see also Quirk et al. 1985, pp. 490-496; Ljung & Ohlander 1992, p. 286; Biber et al., 1999, p. 14).

In *R1*, no clearly deviant word order constructions appear. A possible explanation may be that the simple sentence structure in this report makes it relatively easy to apply correct word order. Nevertheless, in the following instance, the word order makes the sentence somewhat difficult to read and understand:

(98) As figure 2 shows by increasing the charge of chlorine dioxide the brightness reversion is lowered.

The question is, however, if this is more of a punctuation than a word order problem since in example (98), either the insertion of a comma after the reference phrase *As figure 2 shows,...* or the placement of the reference phrase at the end of the sentence after comma …, *as figure 2 shows*., would have made the sentence clear .

An overview of types of errors found in *Report 1* is shown in Table 14:

*Table 14 Distribution of types of grammatical errors in Report 1, in order of decreasing frequency.*

| **Type of error involving** | **Number** | **Percentage:** |
|---|---|---|
| Subject-verb agreement | 25 | 66% |
| Preposition | 6 | 16% |
| Passive construction | 4 | 11% |
| Adjective- adverb | 2 | 5% |
| Word order | 1 | 2% |
| **Total** | **38** | 100% |

As is readily seen, subject-verb agreement errors dominate in *R1*. In view of the differences between Swedish and English in this area, this is largely predictable. More surprisingly, there is only one deviant construction concerning word order. However, again it may be the simple sentence structure in *R1* that makes it relatively easy for the authors to use correct word order, or this is an area of grammar that the authors of this report master fairly well. Furthermore, as discussed above, it is sometimes difficult to decide whether there is actually a word order error or not.

*Report 2*

This report is also written by two Swedish engineers, having Swedish as their mother tongue. However, although stylistically more sophisticated as regards sentence structure and the use of linking words and phrases, there are a considerably larger number of grammatical errors and non-idiomatic constructions in the shorter report *R2* than in *R1.* Further, there are also more different types of grammatical errors in *R2* than in *R1*.

Grammatical errors that the text in *R2* is marred by to a higher degree than the text in *R1* are, for instance, errors regarding subject-verb agreement, articles, word order, the use of the apostrophe, adjective-adverb, uncountable nouns, and other miscellaneous mistakes of transfer character. In the following section, these types of errors will be accounted for and discussed in order of decreasing frequency.

*Errors involving subject-verb agreement*

In *R2*, there are actually few sentences not containing some kind of grammatical error. As in *R1*, the dominant type of error is lack of agreement between subject and verb. This type of error occurs in more than 20% of the 135 sentences in *R2*, as in example (99) below, where the verb form *are* disagrees with the subject *need*:

(99) The need for spare parts are not considered so important.

In example (99), proximity concord, i.e. between *parts* and *are*, occurs instead of grammatical concord.

Similarly, proximity concord between *sets* and *are* and *units* and *are* is employed in the following examples:

(100) Operation time at the turbine sets are at present approx. 105 000 hours.
(101 Maintenance cost between the different production units are shown in below table.

In example (102) below, the head noun *boilers*, or the following plural noun phrase *100 000 hours*, probably makes the author choose *are* instead of correct *is*:

(102) The boilers operation time are approx. 100 000 hours.

Word order may explain the concord error in the following example:

(103) Below is shown Swedish prices.

Other errors involving subject-verb agreement are more difficult to explain, as in:

(104) The result of the investigation are available at …
(105) Figures during 1998 shows …

*Errors involving articles*

In *R1*, no errors regarding articles are seen, whereas article errors make up the second most frequent type of errors in *R2*. There are fifteen instances where a definite or indefinite article has been left out and one instance where the indefinite article *an* is used instead of the correct *a*. The examples below illustrate cases where an article has been left out (in the examples indicated by ø):

(106) Remaining boiler houses were planned to be transferred to ø actual house owner in a five years period.

(107) …will be equipped with a gas boiler with ø capacity to even supply …

(108) ø Questionnaire has been send to …

(109) ø Turbine set has to be modernized, if …

In (106), the definite article *the*, or possibly the indefinite article *an*, has been left out in front of the noun phrase *actual house owner*. In (107), an article is missing in front of the noun *capacity*, and in (108*)*, before *Questionnaire*. Finally, in example (109), the definite article has been omitted in front of *Turbine set*.

The next example involves the use of *an* instead of *a*:

(110) As an comparison the table below presents figures from …

*Word order-related errors*

Although *R2* is a shorter report than *R1*, there are ten word order mistakes in *R2*, which is considerably more than in *R1*, where only one word order construction is deviant. Again, a possible explanation of this difference between the two reports may be that the sentence structure in *R2* is more complex than in *R1*. The following examples illustrate incorrect word order in *R2*:

(111) As an comparison show the table below figures for maintenance costs.

(112) Probably must the turbine sets be refurbished within the nearest 4-5 years.

(113) If the maintenance cost reach 50% of capitalized value can the company classify the cost as an investment.

In the examples, Swedish inverted word order, i.e. the verb placed before the subject when another element than the subject introduces the clause, is reflected in the sentences.

*Errors involving adjective-adverb*

In *R2*, six errors regarding adjective-adverb can be found. In example (114) below, the adjective *abnormal* has been used instead of the adverb *abnormally*:

(114) Boiler operation time is not abnormal high …

In the text, there are four other mistakes of the same kind. Moreover, somewhat surprisingly in two cases, an adverb has been used instead of an adjective, as in:

(115) We do not have any simple explanation how come this extremely reduction of the maintenance costs .

In (115), it is interesting to note that the adjective *simple* is correctly used to modify the noun *explanation* but that an adverb, *extremely*, is incorrectly used to modify the noun *reduction.*

*Preposition-related errors*

In *R2*, non-idiomatic choices of preposition appear in six instances, which is considerably more than in *R1*, where only one case of incorrect choice of preposition was found.

In the following examples from *R2*, both the prepositions *for* and *of* are incorrect in the sentence. *For* is used instead of *to* in the prepositional phrase *subject to*. Further, *for* is replaced by *of* in the phrase *reason for*, probably due to transfer from Swedish:

(116) Figures showing historical expenditures/budgets have probably been subject for modifications of some reason.

(117) Maintenance costs and investment cost must be analysed of the X project team …

In (117), *of* is used instead of *by*, and again transfer from Swedish is a likely reason for the incorrect choice of preposition (cf. Sw, 'av' preceding the agent).

A preposition followed by *that*-clause is used once in *R2*, as illustrated in:

(118) Boiler operation time is not abnormal high, in spite of that the material in the drums has to be replaced.

Again, Sw. transfer is a likely reason since a preposition followed by Sw. 'att', corresponding to Engl. *that*, is a correct construction in Swedish.

*Errors involving passive constructions*

Verb errors in passive constructions are found in five instances, as in:

(119) Questionnaire has been send to every customer.

(120) Maintenance cost is splited between the different production units.

(121) Turbine set has to be modernized, if X Power Plant takes out of operation.

In examples (119) and (120), the passive structures are correctly formed with subject + form of *be* + (an intended) past participle, but, as can be seen, incorrect forms of the past participle of the main verbs *send* and *split* have been chosen. In (121), the use of the incorrect verb form *takes*, reflecting how Swedish forms passive by adding –s to the infinitive of the verb, probably severely impairs communication for native speakers of English (cf. Köhlmyhr, 2003, p. 338).

*Errors involving uncountable nouns*

The form *damages* (here with the meaning 'physical harm') is incorrectly used instead of the correct singular form *damage* in example (122):

(122) High maintenance costs normally indicate problems with damages.

The plural form *damages* is probably influenced by the Swedish corresponding noun, which is countable.

Similarly, example (126) below, illustrating incorrect use of the apostrophe in *information's*, also reveals the authors' unawareness of the noun *information* being an uncountable noun, not taking plural -*s*.

*Errors concerning the use of the apostrophe*

Another relatively frequent type of error in *R2* is made up of errors in the use of the apostrophe, not surprising since the apostrophe is currently much abused also by native writers of English. According to e.g. Quinon (2009), there is an accelerating decline of the correct use of it, despite efforts by bodies such as the Apostrophe Protection Society, started in Boston in 2001. A survey in Britain in November 2008 found that nearly half of the adults were unable to use the apostrophe according to the standard rules (Telegraph.co.uk Richard Alleyne, 10 Nov. 2008).

In *R2*, either the apostrophe has been left out or is incorrectly used in twelve instances. Since these different cases of errors concerning the use of the apostrophe cannot be easily classified as either "Nouns/genitive", "Nouns/Plural" ,

"Pronoun/Possessive" or simply punctuation/spelling errors, I have chosen to refer these types of errors to a special category.

As regards the genitive, the apostrophe in plural *-s* genitives has been left out consistently in the text. There are seven cases of this type, as in the word *authorities* in:

(123) The maintenance philosophy comply with the authorities demand on steam, heat and gas equipment.

On the other hand, the apostrophe gives rise to incorrect spelling of *its* in a couple of cases, as in:

(124) KST has it's own operation-, administration-, and maintenance departments.

Furthermore, the apostrophe is used incorrectly, but not consistently, to form plural forms in some instances, as illustrated in:

(125) The new turbine system with higher efficiency, sealing's, bearings and other inside equipment.
(126) The corresponding information's received at audit July 1999 indicate…

As was mentioned above, in (126), the form *information's* also shows that the authors do not know that the noun *information* is an uncountable noun, not taking plural *–s* (see *Errors involving uncountable nouns* above).

*Miscellaneous*

Under this category, errors likely to be typical transfer mistakes but not clearly fitting into any of the other categories discussed above, are dealt with.

For instance, a well-known error involving transfer mistake from Swedish to English is the incorrectly used *why* instead of *so*, *and so/therefore*, which occurs twice (see also examples (80) and (85) above), as in:

(127) The plant as such is very old fashioned why we have reason to believe those parts and other equipment will be difficult to replace.

In the same way, *R2* displays other types of non-idiomatic constructions, some of which could be referred to as "Swenglish", as illustrated in the following examples:

*(*128) Below table shows estimated investment at the production units.

(129) Both own personal and contractors cost are included.

In (128), the expression *Below table*, used in four instances in *R2*, instead of the idiomatic *The table below*, probably reflects the Swedish construction 'Nedanstående tabell*'*, referring to table/diagram[16]. In the same way, the construction *Both own personal,* omitting the possessive pronoun in front of *own*, as in (129*)*, reflects a Swedish construction. As already mentioned, this example also contains a not uncommon lexical mistake that Swedes writing English tend to make, namely using the word *personal*, i.e. the Swedish word meaning and spelling (meaning *staff*), instead of *personnel*.

Table 15 below gives an overview of the number of recurring types of grammatical errors in *Report 2* :

*Table 15 Distribution of types of grammatical errors in Report 2, in order of decreasing frequency.*

| **Type of error involving** | **Number** | **Percentage** |
|---|---|---|
| Subject-verb agreement | 28 | 29% |
| Article | 15 | 16% |
| Use of apostrophe | 12 | 13% |
| Miscellaneous | 12 | 13% |
| Word order | 10 | 10% |
| Adjective-adverb | 6 | 6% |
| Preposition | 6 | 6% |
| Passive construction | 5 | 5% |
| Uncountable noun | 2 | 2% |
| **Total** | **96** | 100% |

This table clearly shows that there are significantly more grammatical errors in *R2* than in *R1* (for a comparison, see Table 16 below). As we can see, subject-verb concord is, as

[16] Some of the confusion may also be triggered by *above* and *below* not being quite parallel in terms of constructions: *the above table* is a correct construction but **the below table* is not.

in *R1*, the most frequent type of error also in *R2*. However, in view of *R2* being a shorter text than *R1*, the relative frequency of such and other types of errors is considerably higher in *R2* than in *R1*. Furthermore, in *R2*, we see error types that do not occur in *R1*, such as errors involving articles, uncountable nouns, and the use of the apostrophe.

Adding to the higher frequency of errors in this report are also the errors dealt with under the category "Miscellaneous" above, serving as a catch-all for errors that seem to be typical transfer mistakes, but not clearly fitting into any of the other groups.

* * *

To sum up, in both reports, the great majority of errors are related to verbs. Furthermore, in both reports the predominant type of verb-related errors is lack of agreement between subject and verb. This type of mistake can be found in 10% of the sentences in *R1*, i.e. 25 subject-verb agreement errors in this report. Other relatively frequent errors in *R1* are incorrect verb forms in passive constructions and in combination with prepositions. The total number of grammatical errors accounted for in *R1* amounts to 38.

In *R2*, which is a considerably shorter report than *R1*, there are actually few sentences not containing grammatical errors. In *R2*, too, the predominant type of mistake is disagreement between subject and verb, which occurs in 20% of the sentences in *R2*, amounting to 28 such mistakes. Further, errors regarding articles, the use of apostrophe, word order and other transfer errors, not fitting clearly into any other category, are relatively frequent in *R2*. The total number of grammatical errors accounted for in *R2* is 96.

Table 16 shows the distribution of errors in *R1*and *R2*:

*Table 16 Distribution of grammatical errors in Report 1 and Report 2, in order of decreasing frequency.*

| **Type of error involving** | **Number in *R1* (per 5, 500 wds)** | **Number in *R2* (per 2, 600 wds)** | **Total distribution** | |
|---|---|---|---|---|
| | | | **Number** | **Per cent** |
| Subject-verb agreement | 25 | 28 | 53 | 40% |
| Article | 0 | 15 | 15 | 11% |
| Use of apostrophe | 0 | 12 | 12 | 9% |
| Miscellaneous | 0 | 12 | 12 | 9% |
| Preposition | 6 | 6 | 12 | 9% |
| Word order | 1 | 10 | 11 | 8% |
| Passive construction | 4 | 5 | 9 | 7% |
| Adjective-adverb | 2 | 6 | 8 | 6%) |
| Uncountable noun | 0 | 2 | 2 | 1% |
| **Total** | **38** | **96** | **134** | 100% |

### 5.1.6 Punctuation and spelling level

Punctuation is primarily governed by grammatical considerations, either to separate units or to specify certain functions (Quirk et al., 1985, p. 1610-1639). It seems, however, that punctuation practice has become more flexible in recent years, above all meaning less punctuation, especially as regards the use of commas (cf. Björk & Räisänen, 1996, p. 213). Further, there seems to be a tendency of uncertainty and inconsistency in the employment of punctuation (cf. the use of the apostrophe above). As the following description of punctuation shows, this seems to be the case also regarding the documents analysed in this study.

In *R1*, the full stop is generally used between complete simple sentences.[17] There are, however, two instances where complete simple sentences are juxtaposed, divided by a comma instead of a normally expected full stop (Quirk et al. 1985, p 1623). This is often referred to as a run-on sentence, as in:

(130) For the HA ECF bleaching there is no difference in the relative content, this is not as expected and it might be an analysis error.

In another sentence, the main clause and the subordinate clause are divided by a semicolon, a common error when writing in Swedish (cf. *Myndigheternas skrivregler*, 2009, p. 68):

(131) The conclusion is; that if the [ material] is bleached further…the bonding ability would be decreased…

On two occasions, however, a semicolon is properly used to separate/coordinate two independent clauses, regarded as being sufficiently related to belong to one sentence (Quirk et al., 1985, p. 1622):

(132) The air permeance is measured using the Gurley method; this method is only measuring the through pores in the formed paper.

There are also five occurrences of the colon in *R1*, consistently used to introduce bulleted lists in the text.

Commas are sparsely and inconsistently inserted in *R1*. Including the two instances where a comma is incorrectly used to divide sentences (see above), the text contains a total of 15 commas. Considering the fact that this report contains 81 complex sentences with 109 non-finite clauses, in which *ing*- clauses occur most frequently (see Tables 9 and 12 above), it is notable that the authors have chosen to indicate separation between clauses on merely four occasions, as illustrated in the following example:

(133) The [material] was bleached after oxygen predelignation, using an ECF sequence.

[17] There are no interrogative sentences in the reports analysed.

In other similarly constructed sentences involving *–ing* clauses, there is no comma:

(134) The yield over cooking … was calculated using the results from the cooking performed by XX University.
(135) There is also seen an increase in bonding ability and flexibility of the fibre resulting in an increased tensile index of ….
(136) When beating the [material] to the same Schopper-Riegler there is no difference.

On one occasion, an introductory adverbial clause[18] is marked off by a comma:

(137) Since the same chips were used for the two [materials], the metal content was identical.

In other similar structures, the adverbial clause has not been marked off:

(138) As long as there is a significant amount of 4-0-methyl….in the fibre hexenuronic acids will be produced.

The two linking adverbials appearing in initial positions in the report are, however, both marked off by a comma:

(139) However, in practice a shape factor above 965 has not been observed.
(140) Consequently, the differences in the physical properties are not due to the fibre deformations for….

In the few other cases where a comma is inserted in the text, it is used to separate coordinated adjectives in a couple of instances; in another instance, it is inserted to set off parenthetical addition of information, as in:

(141) The total amount of COD in the effluent is, as expected, higher for …

[18] A long adverbial seems more loosely linked to the rest of the sentence than a short one and is therefore marked off by a comma (Quirk et al., 1985, p. 1627).

In three cases, a comma is incorrectly inserted:

(142) The factor used is 0.15 and reinforcement of hydrogen peroxide, is made in the first stage for both [materials].

(143) The fibres become straighter due to, that the swelling tend to straighten out the dislocations in the fibre.

Why there is a comma in example (142) is difficult to explain. Since the same construction is used on another occasion, too, it is probably not accidentally inserted. In (143), on the other hand, the comma is most likely used to indicate separation between clauses. However, since the construction with a preposition followed by *that*-clause is incorrect (see section 5.1.9.1, *Grammatical level* above), the insertion of the comma in this position is also incorrect.[19]

Hyphens appear in a couple of instances in this report. On two occasions, a hyphen is used in the compound noun phrase *4-0-methyl-glucuroic acids*. On another occasion, a hyphen is, in line with Swedish practice, inserted before *and*[20]:

(144) The aim of this study is the different fibre- and fibre network properties.

A dash is used to indicate interval in a couple of instances:

(145) The kappa factor 0.1–0.2 was used.

As regards spelling, it can be noted that there are practically no spelling mistakes in *R1*, which seems to point to a striving for correctness and more formal style (cf. 5.1.3.3 *Formality and style* above). The use of computer spell-checkers is probably another reason for the lack of spelling errors. In one instance, however, the conjunction *than* is incorrectly spelt as *then*.

[19] Normally, there is no comma before a *that*-clause (Quirk et al., 1985, p. 1619).
[20] Here the "compound" is *fibre properties*, i.e. no hyphen in English.

*Report 2*

As in *R1*, there are a couple of cases of run-on sentences in *R2*, where complete simple sentences are divided by a comma instead of a full stop, as the following example shows:

(146) This work force only take care of day to day maintenance activities, all major repair, overhaul and similarly are handled by contractors.

Altogether, there are approximately thirty commas in *R2*, considerably more than in the longer text *R1*, which contains totally fifteen commas. The higher frequency of commas in *R2* can probably be explained by the fact that its structure is on the whole more complex than in *R1*. For instance, as we have seen, there are 81 (37%) complex sentences in *R1,* whereas there are 89 (66%) complex sentences in the shorter report *R2* (see Tables 8 and 11 above).

Commas are, however, neither consistently nor frequently used in *R2*. For example, despite the fact that there are nearly ninety complex sentences in this report containing one, or, as in most cases, more than one subordinate clause, commas are used to separate clauses on merely eleven occasions. Further, it may be noted that out of the approximately thirty commas inserted in *R2*, nine of these are used to separate units in series, as in:

(147) Material, vehicles, tools, safety equipment, workshops and other locals for O&M purpose.

In none of these series, is a comma inserted before the conjunction *and*. As is known, AmE generally favours insertion of a comma before the conjunction, and in BrE, usage is divided (see e.g. Quirk et al., 1985, p. 1619; Björk & Räisänen, 1996, p. 217). The question is, however, if the authors of this report have made a deliberate choice of usage. It seems more likely that influence from Swedish has led to the omission of a comma before *and* in these cases.

In four instances, on the first page of the text, an initial adverbial is marked off by a comma, as illustrated below:

(148) However, the power equipment used is of standard type …

(149) In general, the CHP-people prepare a detailed maintenance plan …

On the same page, however, there are also four other instances when an initial adverbial is not marked off by a comma, as in the following examples:

(150) In general the status of the HOB's production are in good condition.
(151) Still it is possible to get cheap parts from Russia.

Furthermore, it can be noted that a comma is incorrectly used instead of a decimal point before decimal fractions in a couple of tables, as illustrated in the following example:

(152)

| **Öre/kWh** |
|---|
| 2,09 |
| 3,25 |
| 4,03 |

A comma instead of a decimal point is also used in the following example:

(153) Assumptions for the calculations are:
2,5 % year 5

Again, transfer from Swedish is most probably the reason for using commas in these cases. However, this type of punctuation error is not consistently made in the report, In most cases the correct decimal point has been used.

Similarly, both commas and full stops appear in the punctuation of 'millions':

(154) Investment cost HOB million LT 9.5
(155) Total investment steam network HOB and CHP according to contract: Million LT 10,77

Hyphens do not appear at all in the report. According to standard English practice, a hyphen should, however, have been used between *three* and *years* in the phrase underlined below. Further, since the word *year* here functions as a noun modifier, it

should not take a plural ending. Thus, the correct way of writing this phrase would have been *a three-year period*:

(156) … spread over a three years period

It can also be noted that an exclamation mark is used once after the imperative *Note*:

(157) Note! XX are not included into the out-sourceing.

*Note* occurs on two other occasions in the text but is then not marked off by an exclamation mark. In one instance, it is followed by a comma and in the other instance, it is not marked off at all.

Finally, as regards spelling, there is just one mistake found, shown in example (157) above: *out-sourceing* instead of *outsourcing*.

* * *

In sum, it can be especially noted that both reports show sparse use of commas. This finding is not unexpected since the comma is the most flexible punctuation mark in the range of its use (Quirk et al., 1985, p. 1615), above all tending to be increasingly less used (cf. Björk & Räisänen, 1996). More remarkable is the inconsistency of how commas are used in the reports, especially in *R2*, where, for instance, a clause or an adverbial is marked off by a comma in one sentence but not in another, similar type of sentence on the same page of the report. In *R2*, the comma is also incorrectly used instead of decimal point before decimal fractions in some instances.

Other types of punctuation, such as colons, semicolons and hyphens, appear in a few instances, mainly idiomatically used.

As to spelling, it can be concluded that there are practically no spelling errors in the two reports analysed, probably because of the use of computer spell-checkers and a striving for correctness.

### 5.1.7 Summary and discussion of the analysis of reports

As emphasised earlier, this document analysis should be seen as a preliminary study in which the suggested method, comprising six levels of analysis, has been applied to some

workplace-produced documents, including two project reports, written in two different companies. On the *Identification level* of the analysis, the findings of the analysis of reports can be summarised as follows:

Both reports analysed are classified as project reports, a type of report that, according to the interviews carried out in the present study, is a frequently written type of company document. Company contacts also informed me that the named authors of the reports, working in the companies B and C, respectively, are engineers having Swedish as their mother tongue. In addition, neither of the reports have been proofread or revised by native speakers of English, which makes the documents "authentic" examples of L2 text.

Since these reports were sent to colleagues at middle and senior management, both internally and externally within the business groups, it can be assumed that the recipients of the documents have either Swedish, English or possibly some other language as their native language.

Clearly, the main functions of the reports are to present information about and document outcomes and findings of project work. Further, the report written in the R&D department in company B, *R1*, has the function of positioning the project work in the research community. Both reports also present proposals for future action.

The formats of the two project reports are not restricted to a form/blank but the document formats are set up by their authors, most likely following company models, including obligatory sections.

Thus, the *Thematic level* of the analysis shows that the sections designated "Summary", "Table of Contents", "Background" and "Results" are included in both reports, although not appearing in the same places. It may, e.g., be noted that the summary in *R1* is placed on the front page, directly under the title of the report, while the summary in *R2* does not appear until on page 3, after "Contents". The initial placement of the summary, as in *R1*, written in company B, could also be seen in other types of reports written in this company, which confirms the assumption that the authors have followed a company model for reports.

Moreover, not only the position but also the information presented in the two summaries differs. Neither of the two reports contains a special "Method" section, but in *R1*, the information given in the summary comprises purpose, material and method, results, and conclusions. The summary in *R2* presents merely main results and conclusions.

Similarly, differences concerning placement and content can also be seen regarding other sections. For instance, background information is presented in an introductory, special "Background" section in *R1*, while this information is included in section 2, called "Technical audit" in *R2*. This section in *R2* also comprises presentation of results in a subsection, while in *R1* results are accounted for in a special results main chapter.

With regard to text coherence on the *Discourse level* of the analysis, it may be especially noted that repetition of technical keywords is used as a linkage device between sentences in more than half of the paragraphs in *R1*. According to, for instance, Halliday (1994), the repetition of a lexical item is the most direct form of lexical cohesion (p. 330). In *R2*, the linking strategy of repeating technical keywords is hardly used at all, though. In *R2*, cohesion is instead more frequently realized by the use of linking words, pro-forms, and other lexical cohesive devices, such as general hypernyms (see e.g. Halliday & Hasan 1985, p. 80). In *R1*, these kinds of cohesive devices are sparsely used.

Again, irrespective of author language proficiency and style, the different nature of project reports as regards content may also explain the difference concerning, for example, the use of linking words in *R1* and *R2*. For instance, the only linking word expressing concession in *R1* is *however*, occurring in one instance. In the more argumentative text in *R2*, we also find other concessive linking words such as *anyhow*, *despite*, and *still*, often found in this kind of text.

The use of metatext as a linking device to refer to the whole text or part of the text occurs in fewer than ten instances in *R1* and hardly at all in *R2*. Further, metatext directly addressing and guiding the reader is only to be found on a few occasions in each of the reports.

Not unexpectedly, the most frequent type of metatext, both in *R1* and *R2*, is reference to tables and diagrams. In *R1*, practically all tables and diagrams are introduced and referred to in metatext. In R2, however, only slightly more than half of the visuals are presented and referred to by means of metatext. The fact that only about half of the tables and diagrams in *R2* are 'signposted' in the text is surprising since most guidelines on writing technical and scientific documents emphasise the importance of helping the reader identify and relevantly 'make use of' illustrations by introducing and referring to them in a clear way.

As regards degree of formality and style, the predominant stylistic method of presenting facts and procedures in both *R1*and *R2* is constructions involving technical keywords and noun phrases in combination with the passive voice. Since passive

constructions are usually impersonal, i.e. without an agent, the use of the passive is not unexpected. It may be regarded as a construction typical of informative, scientific writing, in which there is more focus on the action or process than on the person carrying it out (Quirk et al.,1985, p. 166; Ljung & Ohlander, 1992, p. 130; Biber et al., 1999, p. 477).

Further, in this connection it can also be observed that personal pronouns such as *we* or *you* do not occur at all in *R1*. In *R2*, however, *we*, *us,* and *our* occur frequently in text passages in *R2*, where the authors draw conclusions or present their own ideas and suggestions (cf. e.g. Hyland, 2001; Wang, 2008).

Contracted forms, frequently used in informal texts, are not used in either *R1* or *R2*, with the exception of one instance in *R2*.

The next level of analysis, the *Sentence level*, also shows considerable difference between *R1* and *R2*. Strikingly, more than half of the sentences in *R1* are short, declarative, simple sentences, consisting of a single independent clause. Similarly, the complex sentences are relatively short, predominantly comprising one independent and one subordinate clause, where about a third of the subordinate clauses are nonfinite.

This simple sentence structure corresponds both to earlier descriptions of the language of science and technology and to some contemporary advice regarding technical writing. For instance, Sager et. al. (1980) refer to the "reduction of syntactic complexity" in SE (Special English) as a syntactic quality that "enables information to be conveyed as efficiently and clearly as possible" (p.184-185). Similarly, in a handbook about business communication for engineers, Wang (2008) advocates simple, declarative sentences, since shorter sentences break complex information up into "smaller, easier- to-process units" (p. 88).

Further, as regards subordinating conjunctions in *R1*, it is interesting to note that the clearly dominant conjunction, temporal *when,* functioning more as a marker of logical order or concession than expressing a temporal relationship, is the choice in nearly half of the cases.

In *R2*, the sentences are, on the whole, longer and more complex than those in *R1* and with a considerably higher proportion of nonfinite clauses. The predominant subordinating conjunctions in *R2* are *if* and *that*. Temporal *when*, the most frequent conjunction used in *R1*, occurs only twice in *R2*. It may be argued that the relatively large proportion of nonfinite clauses and the varied use of conjunctions in *R2* make this

report stylistically more formal than *R1* on the sentential level (see e.g. Johansson & Lysvåg, 1986, p. 195).

The differences regarding sentence structure and the use of conjunctions in the two reports analysed may have various explanations. On the one hand, it seems natural to assume that the authors' level of proficiency in English exerts an influence on the complexity of sentence structure and variation of conjunctions used. Another tentative explanation may be the different features of the content of the reports, and possibly also "company report writing style". Although both reports are identified as project reports, *R1* is of a more purely scientific nature than *R2*, mainly presenting scientific procedures and facts, whereas *R2* contains discussions of economy and development work. This may, for instance, explain the higher frequency of the conditional conjunction *if* found in *R2*.

Furthermore, when reading other project and lab reports submitted from company B (see section 3.4.2 above), the company in which *R1* was written, the general impression is that the simple and "straight to the point" sentence structure found in *R1* can also be seen in these other reports written by other authors in the same company. Without closer scrutiny of the sentence structure in these reports, which is beyond the scope of the present study, it seems reasonable to assume that this is an accepted and common "house style" in this company.

Deviant or incomplete sentence structure, leading to obscurity of expression, occurs in relatively few instances. There are three cases in *R1* and three in *R2*. In *R2*, deviant relative pro-forms disturb the clarity of sentences in three instances. However, in view of the relatively complex sentence structure found in *R2*, it is somewhat surprising that the text does not contain more errors in this area.

Run-on sentences can be found in four cases, two in *R1* and two in *R2*. However, they do not give rise to obscurity.

In view of the fact that both reports are written by engineers having Swedish as their mother tongue, it is not surprising that also non-idiomatic or grammatically deviant and incorrect forms and constructions occur in both *R1* and *R2*. As pointed out repeatedly above, the present analysis on the *Grammatical level* does not claim to provide an exhaustive account of such errors but should be seen as an inventory of types of errors occurring in the two reports analysed.

Although *R2* is a shorter report than *R1*, it contains considerably more grammatical errors and non-idiomatic constructions than *R1*. A potential explanation could be that the

simpler sentence structure in *R1* makes it easier for the authors to detect and avoid such mistakes. Another reasonable assumption may, of course, be that the authors of *R1* have a higher degree of grammatical awareness and overall language proficiency than the authors of *R2*.

In both reports, the great majority of errors are related to verbs, a finding in line with that of Köhlmyr (2003). Furthermore, in both reports the predominant type of verb-related errors is lack of agreement between subject and verb. In the present study, this category of error was also found to be dominant in other documents collected, which, however, are not included in the subcorpus for analysis, thus being more superficially examined.

Other relatively frequent errors in connection with verbs are incorrect verb forms in passive constructions and in combination with prepositions. Errors regarding articles, the use of the apostrophe, word order, and other transfer mistakes, not fitting into any other obvious category, are also relatively frequent.

A vital question concerns whether the errors found in the reports investigated severely impair communication or give rise to misunderstandings. In a limited study of error gravity, Johansson (1978) suggests that lexical errors cause a higher degree of irritation and problems of understanding than grammatical ones. However, according to Köhlmyr (2003, p. 337), several studies indeed show that most grammatical errors of nonnative-speaker type do not completely hinder communication but that they may lead to misunderstandings, if the errors are serious enough. As regards evaluation of errors, Köhlmyr refers to previous studies reporting that verb-related errors, e.g. verb complementation, verb forms, concord and tense errors, seem to be the most damaging to communication (p.338). As pointed out above, the majority of all errors found in the reports analysed in the present study are verb-related. Thus, it is reasonable to assume that some of them affect communication negatively and may lead to misunderstandings. In any case, even if not giving rise to misunderstanding and impaired communication, it is natural to assume that errors lead to irritation and may, as one of the authors of *R1* observed in the interview, give a bad impression not only of the writer but also of the company (cf. Köhlmyr, 2003, p. 336).

### 5.1.8 Concluding remarks on the analysis of reports

As earlier mentioned, the two reports analysed were submitted by company contacts as being typical examples of communicatively good and effective project reports, written by native Swedish engineers in the respective companies. The analysis of the reports shows that the recipients of the documents are both internal and external colleagues within the business groups, implying that the native language of the readers may be either Swedish, English or some other language. To investigate whether the recipients of the reports also consider the documents to be communicatively good and effective has not been possible within the limited scope of the present study. However, the interviews carried out in the study show that none of the informants had experienced that his/her language was questioned, criticised or corrected by, for instance, recipients who were native speakers of English. These findings are in line with previous studies concluding that native speakers, in general, seem to be more lenient in their judgments of accuracy than non-native speakers (see e.g. Hughes & Lascartou, 1982; McCretton & Rider, 1993). The unanimous opinion among the informants was that their documents written in English were 'good enough' as regards content and language, and that they always aimed for language clarity and correctness.

So, does the analysis of the two project reports in the present study confirm the companies' view that the submitted reports are communicatively good? My answer is, 'Yes, on most levels ', based on the following conclusions:

Genre awareness (cf. Swales, 1990, pp. 45-47; Dudley-Evans, 1994, pp. 219-220; Hyland, 2002, pp. 15-22) and discourse conventions applied, including domain knowledge and the correct use of technical key words, expected language structure, register and style, expected thematic structure and the organisation of content into sections, and, finally, expected visual support, probably make both reports communicatively effective documents within their respective business groups. This assumption is in line with, for instance, that of Hyland (2002), who claims that "good writing is contextually variable" (p. 10) and "communication, and not absolute accuracy, is the purpose of writing." (p. 8).

Nonetheless, it may be argued that the many grammatical errors, especially in *R2*, adversely affect communication and understanding of the text. On the one hand, there is no denying that the errors probably give rise to irritation among some of the readers of the reports, but, on the other hand, it seems that few of the errors could lead to complete

communication breakdown. According to Johansson (1978), there is less risk that grammatical errors cause problems of interpretation than lexical ones, since "By definition, grammar deals with the rule-governed, predictable aspects of language" (p. 71), implying that in most cases the reader's knowledge of the language helps him/her predict and interpret the expected, correct form. Similarly, Köhlmyr (2003) concludes that grammatically unacceptable sentences "may be correctly interpreted by the reader, thanks to semantic and pragmatic/situational factors." (pp. 336-337). Furthermore, Köhlmyr (2003, p. 337) points to the fact that several previous studies have shown that "most NNS [non-native speakers] errors do not impair communication completely".

## 5.2 Analysis of minutes of meetings

As accounted for above in section 3.4.1.1, the other type of document analysed in the present study is minutes of meetings. Similarly to the reports investigated, the minutes of meetings selected for the analysis were written in different companies, three in company B, one in company A, and one in company C, making comparisons between the texts possible. Like the reports, the minutes of meetings analysed were written by engineers having Swedish as their native language and the documents were not revised by native speakers of English. In the following sections, these documents will be referred to as *M1*, *M2*, *M3*, *M4*, and *M5*.

In the presentation of results, *M1* will be presented more thoroughly than *M2*-*M5*, which will be compared with *M1* and described in less detailed terms. Further, since *M2* and *M3* were written by the same authors, these two documents have been grouped together in the presentation. Similarly, for reasons of obtaining a clearer overview of comparative results, the documents *M4* and *M5* are conflated into a second group.

### 5.2.1 Identification level

As seen above in the investigation of reports, on this level of analysis the documents are described according to type, form, function, sender, and addressee.

On top of the first page, the document *M1* is labelled "Minutes of Meeting", thus defining the type of document. In a head section below this title, the following words are listed:

(158) To
From
Date
Subject
Doc. No.
Present
Copies to

Among other information in this section, such as e.g. date and subject, sender (From) and recipients (To/Copies to) of the document are also identified. The sender of this document is an engineer in the R&D department in company B. The recipients are those participating in the meeting, six of whom are from company B and three from a sister company abroad in the same business group. The participants in the meeting are identified under "Present", one of the headings in the list presented above.

Apart from the head section, the format of the document is not restricted to a form/blank, but the author has decided on its structure and headings. The length of the document is four pages, comprising approximately 1,500 words, some of which are included in three short lists.

The function of this document is to provide information and documentation about the questions, discussions, conclusions, decisions, and plans of action dealt with in a specific company meeting.

*Minutes of Meetings 2 and 3*

The documents *M2* and *M3* were written in the same company and department as *M1*, i.e. in the R&D department of company B, but not by the same author. As in *M1*, the first page in *M2* and *M3* has the heading "Minutes of Meeting", followed by the same type of formatted head section as is seen in *M1*, in which senders, recipients and meeting

participants are identified. The names of the recipients indicate that the documents are sent to Swedish and non-Swedish speaking colleagues within the business group.

Both *M2* and *M3* were written by the same authors, two engineers in the R&D department of company B, having Swedish as their mother tongue.

*M2* comprises two and a half pages, containing approximately 850 words, *M3* one and a half pages, with approximately 450 words. Although originating from the same authors, the format and structure of these two documents differ considerably, as will be further described below on the *Thematic* level of analysis.

As for *M1*, the function of *M2* and *M3* is to provide information about and document issues dealt with in two different meetings in company B.

*Minutes of Meetings 4 and 5*

*M4*, written in company A, is a relatively shorter document, containing about 200 words in one and a half pages. Like *M1-M3*, it has the heading "Minutes from … Meeting", which states the type of document. This heading is followed by a list of names of participants. The final name in the list of participants is marked "Sekr.", most likely indicating the author and sender of the document. The names of the recipients are listed under the heading "Copy to:". Through my visit to this company, I know that four of the recipients are Swedish-speaking and two have English as their mother tongue.

The final minutes of meetings to be analysed, *M5*, were written in company C. It is a comparatively longer document, consisting of four pages. Unlike the other minutes of meetings looked into in the study, the first page is a special title page on which the type of document can be identified through the title, written in large and bold characters: "Minutes of Contract Review Meeting No 3". On the following page, participants of the meeting are listed under the heading "Attendees". The name of the author of the document is found on the last page, in the form of a signature. Addressees are not specified.

As *M1-M3*, the functions of *M4* and *M5* are to give information about and document main points and decisions taken, etc., in specific meetings held in companies A and C.

* * *

In sum, in all minutes of meetings analysed the type of document, as well as date, subject of meeting, participants and author/sender, is stated. As for recipients, they can be identified as being of different nationalities, having either Swedish, English or some

other language as their mother tongue. Apart from the head sections of the documents, the formats of the documents are not restricted in forms/blanks but structures are set up by the individual authors and vary between the documents, also within the same company.

### 5.2.2 Thematic level

On the *Thematic* level, the thematic structures of *M1*-*M5*, i.e. the purpose and content of the different sections and parts of text in the documents, are identified and described.

In *M1*, following the head section described above, there is a section labelled "Background". In this section, background information about the technical situation is given and the course of events leading to the meeting is described, as the following paragraph shows:

(159) When NN 1 from XX came in contact with NN 2 an idea of technical collaboration between the two companies R&D departments arised. Via NN 1 the issue ended up on NN 2's desk. NN 2 put together a meeting between the two R&D's.

The next section, also on the first page, has the heading "Purpose of the meeting". In a single sentence the purpose is declared, starting: "The purpose of the meeting was to …"

The next heading, "Agenda", is followed by a four-line list in which the initial noun phrase in each line signals a certain activity and indicates the content of the meeting:

(160) Introduction to …
Brief presentation of …
Other questions
Discussions on …

At the end of the document, there are two short paragraphs defining future initiatives and action to be taken. Typical words used in the sentences to signal this future work are verb forms such as "*will*", "*is willing to*", and the expression "*The plan of action is*".

*Minutes of Meetings 2* and *3*

As pointed out earlier, the minutes of meetings *M2* and *M3* were written in the same company as *M1*. Furthermore, *M2* and *M3* were written by the same authors, although not the same as that of *M1*. However, the fact that these three documents originated in the same company, and two by the same writers, cannot be seen in the thematic structure of the documents. Unlike *M1*, neither *M2* nor *M3* include the sections "Background" and "Agenda", and each one of these three documents is differently and specifically structured as regards thematic sections.

The text in *M2* starts rather abruptly, without any heading, presenting participants in two different meetings, as shown in the following:

(161) First we had a meeting with the process and … specialist at the … mill. These people were present NN, NN, NN
After that NN, NN and NN had a meeting with NN, one of the people involved in the planning of the three new XX mills.

This information is followed by a heading, identifying the first of the two meetings mentioned at the beginning of the document. Then, a couple of introductory sentences summarise the proceedings of the meeting:

(162) We presented the results from our [material] studie in the XX project. We thanked VCP NN for supplying one of the [material] samples used in the studie. During the discussions that followed we got this information:….

The text that follows is divided into subsections, each one preceded by a subheading, describing materials, methods and procedures used in a special project.

The next heading in *M2* identifies the second meeting. The text following this heading is divided into paragraphs of an informative character, not preceded by subheadings. The final paragraph ends abruptly, without any lexical signals of this being the end of the document.

*M3*, written by the same authors as *M2*, begins with the heading "*Cooperation*", directly followed by the subheading "*We presented our proposals to NN*:". Under this declarative, active sentence used as a subheading, proposals are presented in the form of

a numbered list with sentences written in the imperative mood, very directly stating action to be taken, as in:

(163) 1. Find a relevant analytical method for brightness reversion.
2. Try to explain the mechanisms of brightness reversion.

The second and third subheading are also in the form of declarative sentences: "*NN presented his two ideas*:" and "*After some discussion two ideas looked most promising:*" , followed by text, containing sentences in both imperative and declarative moods.

The final section of *M3* is preceded by the heading "*Information*". It comprises eight very short paragraphs, consisting of one to three sentences, presenting information about the issues to be discussed in the meeting. As in *M2*, the end of the document is not signposted or in any lexical way marked through words that might signal its end.

*Minutes of Meetings 4-5*

*M4* is divided into six sections, each of which is preceded by a heading, written in initial capital letters. The headings are:

(164) Notes from previous meeting
Deployment office Info
Stoppers to 6-Sigma
New projects
Deviation projects
Other

The first three of these headings are each followed by a single, fragmentary, headline-like sentence, as is the case under the heading 'Stoppers to 6-SIGMA' (see also 5.2.4 *Sentence level* below):

(165) Situation regarding at least two projects running simultaneously
improved, but still not OK Actions ongoing.

The section 'New Projects' contains most of the text making up this document, listing and briefly presenting and commenting on seven different projects.

Under ‘Other’, future planned action is presented in three short sentences.

The organization of the relatively longer document, *M5*, gives a more formal impression than the other Minutes of Meetings analysed in this study. As described in section 5.2.1 above, it has a special title page, identifying the document in an informative title as regards the organizational number of the meeting and issue discussed.

After the title page the document is organized into five ‘sections’, each of them numbered, as exemplified below:

(166) 1. Review of Minutes of Contract Meeting (CMR) No.2
2. Document Submissions
3. Review of Progress
4. Any Other Business
5. Date of future meetings

Under the first heading, *1. Review of Minutes of Meeting (CMR) No.2,* a list of fourteen “*Actions”* is presented and commented on, as is illustrated in the following example:

(167) Action 1/4 Agreed to be deleted
Action 1/5 Agreed to be deleted
Action 1/6 Completed
Action 1/7 Ongoing

The sections *2.* and *3.* present information, in the text divided into short paragraphs, as illustrated in the example paragraph from the second section, *2. Document Submission*:

(168) EMSA to confirm that all the dates contained in the resubmitted Document Submission Schedule (DSS) are consistent with all the dates provided in the resubmitted Programme of Performance.

Section *4, Any Other Business,* consists of two short non-finite sentences, as illustrated in the following example:

(169) DPMU to look into possibility of providing further office space.

* * *

To sum up, the contents of the documents are organized into sections, preceded by headings. However, both the wording and character of headings, as well as the thematic structures, i.e. the purpose and content of the different sections, differ between the documents. This is also the case regarding the minutes of meetings written within the same company.

### 5.2.3 Discourse level

The aim on the *Discourse level* is to study cohesive strategies, including the use of linking words and metatext. Further, some aspects of formality and style are looked into.

#### 5.2.3.1 Coherence and linking strategies

*Minutes of Meeting 1*

Together with coordinating and subordinating markers, accounted for in 5.2.4 below, and repetition of technical keywords, lexical linkage in *M1* is realized by a few conjuncts: *therefore*, appearing twice, and *though*, once. Moreover, in a few cases, pro-forms such as anaphoric *this*, *one* and the pronouns *it*, *they*, and *them* are used, as in:

(170) The current plan is to use three streams, <u>one</u> to the recycling as sodium sulphate and <u>one</u> to the A stage.

(171) During the meeting all relevant issues had been brought up. XX wrote <u>them</u> down on the white board.

*Minutes of Meetings 2-3*

In *M2*, the two introductory paragraphs start off with the listing enumeratives *First* and *After that*, respectively, organizing and linking the content in these paragraphs both temporally and lexically.

In one instance, *However* is used as a linking word between sentences. Also, in one instance, the conjunction *But* occurs as a connector between sentences.

Other linking words are the pro-forms *another*, used twice, and anaphoric *This*, occurring in one instance.

Furthermore, the writers of the documents provide attitudinal 'comments' on the content in two instances by introducing one sentence with the disjunct *Apparently*, and another sentence with the disjunct (modal adverbial) *Unfortunately*.

As regards *M3*, conjuncts as connectors are as sparse as in *M1*. *However* occurs twice and *also* once. The pro-form *this* is used once, like *some.*

In another instance in *M3*, thematic connection is achieved lexically by the demonstrative *these* + the noun *results*, referring back to and acting as a substitute or hypernym for the content of a preceding sentence. In the same way, *Other interesting things* refers back to what has been dealt with in a preceding sentence.

Furthermore, lexical linkage between the following two sentences is established by the adverbial *even* and comparative form *easier*:

(172) According to N.N. [the material] is easy to cook and bleach. New modern [materials] are <u>even easier</u> to bleach and ….

*Minutes of Meetings 4-5*

The text in *M4* does not contain any adverbials as linking words. In the only paragraph longer than two sentences, coherence is achieved by means of lexical linkage in the form of repetition of the keyword *project*, as can be seen in:

(173) John will finish the <u>project</u> not later than Nov.03. As a spin of this <u>project</u> Peter and Roy will scope one further <u>project</u> in the same area.

In *M5*, apart from the pro-forms *it* and anaphoric *this*, the only other linking phrase is *In addition to*, used twice. Otherwise, repetition of lexical keywords is the predominant method of establishing lexical linkage both within and between paragraphs in *M5*, as illustrated in the following example:

(174) EMSA stated that it believed it was on <u>programme</u> but not as far ahead as it would like. To advance the <u>programme</u>, EMSA stated that it would

be ready to start excavations but needed to obtain necessary authority permissions.
DPMU to provide permission requirements to EMSAby end of November.
DPMU will then obtain all necessary permissions in line with requirements.

As can be seen in *(179)*, the word *programme* is repeated in the first paragraph. Lexical linkage between the paragraphs, as well as within the second paragraph, is performed by repetition of the nouns *permission* and *requirements*.

Table 17 below gives an overview of the distribution of linking adverbials used in *M1-M5*.

*Table 17 Distribution of linking adverbials and their functions in M1-M5, in order of decreasing frequency*

| **Linking adverbial** | **Function** | **Number ( in document)** |
|---|---|---|
| *However* | Concession | 3 *(M2* 1; *M3* 2) |
| *Therefore* | Result | 2 (*M1*) |
| *In addition to* | Addition | 2 (*M5*) |
| *Though* | Contrast | 1 (*M1*) |
| *First* | Enumeration | 1 (*M2*) |
| *After that* | Enumeration | 1 (*M2*) |
| *Also* | Addition | 1 (*M3*) |
| **Total** | | **11** |

From Table 17 can be seen that the modest number of conjuncts used in the minutes of meetings analysed are fairly evenly distributed within the documents *M1, M2, M3* and *M5*, while the considerably shorter *M4* does not contain any linking adverbials.

In sum, apart from a few linking adverbials, pro-forms and hypernyms, the dominant strategy for achieving lexical linkage in these documents is repetition of lexical key words.

### 5.2.3.2 Metatext

Metatextual items, used to guide and direct the reader in the text material, is sparsely found in *M1-M5.* In *M1*, metatext referring to part of the document is used once, as shown in:

(175) The power point presentation can be found in the appendix.

The author also directly addresses the reader in one instance:

(176) For a list of these publications, please contact the secretary of this document.

*Minutes of Meetings 2-5*

In *M2*, *M4*, and *M5*, there are no instances of the type of metatext that is recognized in this study.

In *M3*, as described in section 5.2.4 below, several sentences start with an imperative form of a verb. However, the function of this form is not for the reader to directly follow the invitation, but is here used as a stylistic method to present proposals and describe possible methods. In one instance, however, the authors address the reader with directions regarding the document. In this case, the reader is told where to find more information about the document by means of the following instruction:

(177) For details see: [online address]

Next, the reader is guided with reference to part of the text in the document, as in:

(178) Here is some interesting information from XX:

To sum up, metatextual items amount to a couple of references to the document or part of the document and two instances, where the reader is directly addressed.

### 5.2.3.3 Formality and style

*Minutes of Meeting 1*

Apart from the pronouns used as pro-forms, accounted for in section 5.2.3.1, there are no instances of personal pronouns in *M1*. The stylistic method of presenting information is a mixture of active and passive constructions in combination with noun phrases and technical keywords, as seen in:

(179) The prime issue of the board grade is the stiff tensile index. This parameter is favoured by a conventional D stage.

No contracted forms occur in *M1*.

*Minutes of Meetings 2-3*

In *M2*, the style differs from *M1*, especially as regards the use of personal pronouns. In *M2*, the personal pronouns *we*, *our*, *they* and *their* are frequently used in the text. In referring to the authors of the document as well as to their own company, *we* and *our* are used. When referring to the associated company where the meeting was held, and to representatives of this company, *they* and *there* [their] are used. The following example illustrates the use of personal pronouns in the text (note that *their* is consistently spelt *there*):

(180) We did not get any information about there effluent but one of there questions during our presentation was about the AOX levels.

On one occasion, the authors seem to forget to give the impression of a jointly written document and the first personal pronoun *I* is used:

(181) I got the impression that they thought the AOX levels in our ozone sequence was low and wondered about the reason for this.

Moreover, the following sentence begins with the indefinite pronoun *one*:

(182) One could speculate that there AOX levels are higher since there Z stages works so poorly and …

On another occasion, *he* is used to refer to a previously named participant of the meeting. As in *M1*, there is no instance of contraction forms in *M2*.

Being written in the same company and by the same authors as *M2*, it is not surprising that personal pronouns are used in *M3* in the same way, although not to the same extent, as in *M2*. Similarly to *M2*, *we*, *our* and *us* are used when referring to the authors as representatives of their own company, while *they* is used when referring to the associated company visited or to representatives of this company. The pronoun *he* occurs once, referring to a previously mentioned participant in the meeting.

Further, as regards style in *M3*, it is interesting to note how imperative clauses are frequently used to suggest action to be taken, followed by declarative clauses, developing and explaining the proposals, as in the following passage:

(183) Start evaluating different [material] ending with a P or a D stage and eventually include more extreme [material] to get the reasons and mechanism of brightness reversion. Do the brightness reversion evaluation at different temperature, humidity and reaction time. XX has at University of XX a climate chamber where the temperature and humiditycan be controlled.

Contracted forms are used on two occasions in *M3*, as in:

(184) D. is not working with ozone any more and he doesn't work as well as the R&D departments claim.

*Minutes of Meetings 4-5*

In *M4*, the personal pronoun *we* is used a couple of times when the author refers to the project groups represented in the meeting, as in:

(185) We aim to start all these projects before end of this week.

Further, in the same way as in *M2* and *M3*, the pronouns *he* and *his* are used to refer to previously mentioned persons, as in (186) below. This is, however, the case in only two instances. A more frequent method of referring to a previously mentioned person in *M4*

is repetition of this person's first name. This is the case on four occasions, also illustrated in (186):

(186) When John is finished with his MBB training he will get the task …

As in *M1*, personal pronouns are not used in *M5* to refer to people. In fact, there are no references at all to people. Instead, acronyms as names of departments and groups within the company are used in combination with the proform *it*, nouns, and passive constructions, as in:

(187) DPMU stated that it required the programme to be formally agreed by the end of November and asked EMSA how it would proceed to ensure this.

Furthermore, another stylistic observation in *M5* can be made as regards modality. The auxiliary verbs *is to*, *will*, *would* and *shall* are used, seemingly interchangeably, in the same type of expressions, as can be seen in:

(188) DPMU agreed to the way forward and is to confirm the proposed meeting date of 24 November.
(189) It was agreed that a meeting will be held…
(190) …it was agreed that Design Plan requirements would be discussed in the meeting arranged to discuss the Quality Assurance Programme.
(191) It was tentatively agreed that the meeting shall be held …

Apart from the example (191) above, the modal verb *shall*, which has a restricted use with a 3rd person subject in legal or quasi-legal discourse (Quirk et al. 1985, p. 230), occurs on two further occasions in *M5*:

(192) In advance of the meeting, DPMU shall provide a copy of the relevant QA section, that sets out design plan requirements.
(193) In addition, DPMU shall attempt to provide, as example, a copy of a design plan.

Further, as regards degree of formality, neither in *M4* nor *M5* are contracted verb forms used.

* * *

To sum up, there are major differences between the documents as regards the use of personal pronouns and modality, even between the documents written in the same company. In three of the five documents anlysed, personal pronouns are frequently used, both in the first and third person. Concerning the use of contracted forms, only two instances were found, both occurring in one of the documents.

### 5.2.4 Sentence level

As already touched upon on in connection with the *Thematic* level, the sentence structures in *M1*-*M5* show variations as regards sentence types, not only between the documents but, in some cases, also within the same document.

The text in *M1* is a report-like, descriptive account consisting of a mixture of declarative simple and complex sentences. In *M1*, 15 out of the 71 sentences are simple sentences (21%), 5 are compound (7%), and 51 complex sentences (72%).

In the complex sentences, the subordinating marker is a non-finite verb phrase with a *to*-infinitive, -*ing* participle or past participle clause in 23% of the subordinate clauses.

An overview of sentence and clause types in *M1* is given in Table 18:

*Table 18 Distribution of types of sentence and clause types in Minutes of Meetings 1*

| **Type of sentence** | **Number** | **Proportions** | **Frequency of subordinate clause types** |
|---|---|---|---|
| Simple sentence | 15 | 21% | |
| Compound sentence | 5 | 7% | |
| Complex sentence | 51 | 72% | Nonfinite subordinate clauses: *to-infinitive, ing-participle, past participle* (22) 23%<br>Finite subordinate clauses: (75) 77% |
| **Total** | **71** | 100% | **(97)** 100% |

In the compound sentences, the coordinators are *and*, used in three cases, and *but*, used twice. In the complex sentences, the most frequent conjunction used is *that*, occurring seven times (35%). Temporal *when* and causal *since* occur three times each, and conditional *if* is seen in one instance. Relative *which*, *that* and *where* introduce a subordinate clause in six instances.

The distribution of coordinators and subordinators in *M1* is shown in table 19 :

*Table 19 Distribution of coordinators and subordinators in M1, in order of decreasing frequency*

| **Coordinator** | **Number** | **Percentage** | **Subordinator** | **Number** | **Percentage** |
|---|---|---|---|---|---|
| *and* | 3 | 60% | *that* | *7* | 35% |
| *but* | 2 | 40% | Relative *which* | 4 | 20% |
| | | | Causal *since* | 3 | 15% |
| | | | Temporal *when* | 3 | 15% |
| | | | Conditional *if* | 1 | 5% |
| | | | Relative *where* | 1 | 5% |
| | | | Relative *that* | 1 | 5% |
| **Total** | **5** | 100% | | **20** | 100% |

Some of the sentence structures in *M1* display a fairly high level of English proficiency, not only including non-finite verb phrases but also complex word order and the use of apposition, as illustrated in the following examples:

(194) The X facility, the establishment of which will be determined at the end of 2002, will utilize[material], resulting in …

(195) The raw material to be used is the [material], a hybrid of [material] and [material].

However, a relatively long passage in *M1*, introduced by the statement "*Issues arisen during the presentation were:"*, gives a more "non-professional" impression, containing a mixture of sentences with declarative clauses and direct and indirect questions and answers, reflecting discussion between participants, as illustrated in the following examples:

(196) The problem with the D stage is to control the stage … and what is happening with the residual components at high temperature. Are we shore that they will not go berserk? The comment on this from NN was that it is the …

(197) It was also discussed what type of chemical to be used. What does X say about using [material] in the A stage? No comments.

(198) In the following discussion the question was if the general opinion is based on old knowledge and perhaps is not longer valid. What will be the effect of shorter retention times, an option is to have 90 minutes instead of 120 minutes. In this case NN stated that …

*Minutes of meetings 2-3*

In *M2*, the comparatively simple sentence structure, primarily consisting of finite clauses in declarative sentences, has the same descriptive and report-like character as in *M1*.

This type of text is also predominant in *M3*. However, in *M3*, a couple of sections are characterized by a somewhat confusing mixture of imperative and declarative sentences following each other, as illustrated in examples (199) and (200):

(199) Compare final D and P stages regarding brightness reversion in … and temperatures. Earlier studies on brightness reversion have suggested that …

(200) Start evaluating different [materials] ending with a P or a D stage… Do the brightness reversion evaluation at different temperature, humidity and reaction time. The company has a climate chamber where the temperature and humidity can be controlled.

*Minutes of Meetings 4-5*

In the relatively short document *M4*, the information in the first three sections is presented in incomplete non-finite sentences, having the character of points in a list. The incomplete passive sentence making up the first 'point' lacks a subject and a finite form of the copula verb (indicated by the symbol ø below):

(201) ø Approved without comments.

The subject of this sentence is the heading, preceding the sentence: *Notes from previous meeting.*

In the other three incomplete sentences, a finite form of the copula verb (indicated by the symbol ø) in the predicates is left out in front of a past or present participle (i.e., in passive and progressive constructions), as in:

(202) The official score card ø reviewed.
(203) Situation regarding at least two projects running simultaneously ø improved, but still not OK Actions ongoing.
(204) All projects ø running to plan for the moment.

In other sections of this document, the sentence structure consists of complete, mainly complex, sentences.

With the exception of the sentences in *M2*, most complete sentences occurring in *M1, M3* and *M4* are complex sentences. In *M5*, too, most sentence structure is predominantly complex. However, it can be noted that the complete sentences in this document are more 'complex' than in the other minutes of meetings, as the majority of the complex sentences in *M5* contain several subordinate clauses. Furthermore, only one of the sentences in *M5* is a simple sentence, consisting of a single, main clause.

It can also be noted that, as in *M4*, some of the sections in *M5* are presented in list form, consisting of incomplete sentences in which the finite form of the copula verb (indicated by the symbol ø) in the verb phrase is left out, as in:

(205) EMSA ø to provide justification for its milestone payment request.
(206) DPMU ø to look into possibility of providing further office space.

Further, in some passages, complete and incomplete sentences, follow each other, as in example (207):

(207) DPMU has now provided EMSA details for obtaining permission on Construction Works from INPP. Although considered unlikely, EMSA to consider and advise whether such requirements impact on Contract Price.

Other forms of deviant sentence structure can be seen on a few occasions, but apart from the 'discussion-like' combinations of declarative and interrogative sentences in *M1* accounted for above, there are no incorrect sentence structures leading to communicative obscurity in this document. However, in example *(208)* below, readability is perhaps somewhat negatively affected by the use of a comma instead of a question mark between the two sentences:

(208) What will be the effect of shorter retention times, an option is to have 90 minutes instead of 120 minutes.

A similar structure in *M1*, with a comma instead of a full stop between complete sentences, is seen in the following example:

*(*209) The amount of … is as high as 60 to 80 mmol/g before bleaching, to minimise brightness reversion, the aim is to reduce it to a level of….

In *M2-M5*, all complete sentences are mostly well structured and clear. However, in *M3*, there is one instance of a run-on sentence, hardly leading to obscurity, though:

(210) Oxygen stages does a poor job on [material], the wood is relatively cheap and new recovery boilers are seldom limited.

* * *

In sum, sentence structure in the five minutes of meetings shows a somewhat confusing variety as regards sentence types, sometimes involving a mixture of interrogative, declarative and imperative sentences. On the whole, however, the sentence structure is idiomatically correct and clear. The few cases of deviation seen are more a question of punctuation and the use of deliberate 'headlinese' style than incorrect sentence constructions. Also, concerning punctuation, it may be noted that question marks are used after interrogative sentences, whereas no exclamation marks are inserted after imperative sentences.

### 5.2.5 Grammatical level

As in the analysis of reports, my intention on the *Grammatical level* is not to give an exhaustive grammatical overview but to present clear and typical grammatical errors and mistakes found in the minutes of meetings analysed.

*Minutes of Meetings 1*

Somewhat unexpectedly, there are no subject-verb agreement errors in *M1*. On the whole, the text contains relatively few grammatical mistakes. Instead, the document mostly displays a fairly high level of English proficiency as regards, for instance, the use of passive constructions, prepositional phrases, and word order.

Nevertheless, there are a couple of non-idiomatic forms and constructions. For instance, the past form of the verb "arise" is incorrect in the following sentence:

(211) An idea of a technical collaboration between the two companies R&D departments arised.

In the same sentence, the apostrophe in the genitive form of the word *companies* is omitted, a mistake recurring in another genitive in the text. Furthermore, in this sentence, and probably due to Swedish transfer, the author has treated the word *collaboration* as a countable noun, inserting the indefinite article *a* in front of it.

In another case, the indefinite article *a* is incorrectly used instead of the correct form *an*, as in:

(212) Therefore, it is a economical way to remove HexA.

The relative pronoun *which* is found instead of *whose* in the following example:

(213) This brightness reversion is caused by the so called X-factor, which nature is unknown.

*Minutes of Meetings 2-3*

In *M2*, there are two cases of disagreement between subject and verb, and in *M3*, there are three, as illustrated in the following examples:

(214) …since there Z stages works so poorly …

(215) brightness drops from 90% to 70% ISO brightness has been reported

(216) Oxygen stages does a poor job

Another type of mistake seen in *M3* is a genitive indicated by colon instead of apostrophe in one instance:

(217) … it is in line with XX:s other plans…

In (217), the company name (here *XX*), being an acronym, is followed by *:s*, very likely influenced by the Swedish usage of marking the genitive form by colon+s for abbreviations.

*Minutes of meetings 4-5*

In the short text in *M4*, only one instance of lacking subject-verb agreement is found:

(218) No deviations was reported.

In *M5*, there is no clear example of disagreement between subject and verb. On the other hand, different verb forms are inconsistently and seemingly randomly chosen to agree with the same collective noun in several cases (cf. Quirk et al.. 1985, 19, 1246). In the text, the subject *EMSA* is in some instances followed by *are* and in other instances by *is* and *was*. In the same way, *DPMU* is used with both singular and plural verb forms, as in:

(219) DPMU has now provided EMSA details for obtaining permission…

(220) DPMU allow initial document submissions in English and after …

There are two instances of article errors, as the following two examples from *M4* and *M5*, respectively, show:

(221) …in beginning of 2004…

(222) XX shall attempt to provide, as example, a copy of …

As can be seen, the definite article is left out in (221), and in (222) the indefinite article is missing. However, in (222), a contributing factor of the non-idiomatic *as example* may be that the author has mixed this phrase up with *for example*.

An overview of grammatical errors in *M1*-5 is shown in table 20:

*Table 20 Distribution of grammatical errors in Minutes of Meetings 1-5, in order of decreasing frequency*

| **Errors involving** | **Number** | **Percentage** |
|---|---|---|
| Verb form | 7 | 47% |
| Article | 4 | 27% |
| Pronoun | 2 | 13% |
| Use of the apostrophe | 2 | 13% |
| **Total** | **15** | 100% |

As this table shows, nearly half of the errors involve verb forms. These are above all subject-verb agreement errors, comprising six out of the seven errors in this category.

* * *

To sum up, there are relatively few grammatical errors in the minutes of meetings analysed in this study. A possible explanation for this may be that the comparatively short sentences and economical use of words that characterize minutes of meetings generate fewer grammatical errors than other types of text.

### 5.2.6 Punctuation and spelling level

As shown above on the *Sentence level*, the sentence structure in *M1* contains both declarative and interrogative sentences. The interrogative sentences are in two cases followed by question marks:

(223) Are we shore that they will not go berserk?

(224) What does X say about using [material] in the A stage?

In another case, the question is marked off by a comma:

(225) What will be the effect of shorter retention times, an option is to …..

A comma between complete sentences is also seen in another instance in *M1*, as well as in one instance in *M3*. Further, it may be noted that imperative sentences in *M3* are followed by a full stop on all occasions.

As regards spelling, there are three instances of errors in *M1* that are often seen in texts written by Swedes. These errors could be referred to as merely accidental spelling mistakes, but more probably they are evidence of the author's ignorance of the correct spelling or forms. In the first case, *to* is incorrectly spelt, as in:

(226) Shorter sequences are considered to leave a to small safety marginal …

In the following example, the infinitive form of the irregular verb *choose* is incorrectly written *chose*:

(227) SE has the experience, knowledge and skill to chose the relevant parameters.

It is possible to assume that native language interference plays a role when the English open compound noun "analysis portfolio" is written in one word:

(228) After that the analysisportfolio will be set.

A type of spelling mistake, not uncommon among Swedish writers of English, is found in *M4*, where the adverb *drastically* is incorrectly spelt *drasticly*. Also, twice in this document, the word *ambition* is spelt *anbition*.

### 5.2.7 Summary and discussion of the analysis of minutes of meetings

On the *Identification level* of analysis, it may be especially noted that apart from the head sections in the minutes of meetings, containing information about subject of meeting,

participants, sender, and recipient, the formats of the documents are not restricted to forms/blanks. Instead, the structures vary considerably between the documents, also when written in the same company or even by the same author.

Variation of structure is also seen on the *Thematic level*. The purpose, content and headings of different sections differ between the minutes, also when written within the same company.

The findings on the *Discourse level* show that the dominant strategy for achieving lexical linkage in these documents is repetition of lexical key words. Few other linking devices, such as linking adverbials and proforms, are used. Metatextual items amount to a couple of references to the document or part of the document, and the reader is directly addressed twice.

Concerning formality and style, the documents show major differences in the use of personal pronouns and modality, even between the documents written in the same company. Personal pronouns are frequently used, both in the first and third person, in three of the five documents. Contracted forms occur only in two instances, both in the same document.

The analysis on the *Sentence level* shows that the sentence structure, on the whole, is clear and correct. There is, however, a variety of sentence types, including declarative, interrogative, and imperative sentences, which, in a few of the documents, are somewhat confusingly mixed. In another document, the abbreviated, incomplete structure found in newspaper headlines is mixed with complete, declarative sentences.

Relatively few errors were found on the *Grammatical level* of analysis, possibly due to the fact that the language in minutes is characterised by comparatively short and grammatically less complex sentences, sentence fragments and sparse use of words. The errors found were predominantly verb-related, most of them being subject-verb agreement errors.

As mentioned above, both declarative, interrogative and imperative sentences occur in these documents. As regards *Punctuation and spelling*, it may be noted that question marks are used after interrogative sentences, whereas no exclamation marks are inserted after imperative sentences. In a couple of cases, a comma is used between complete sentences, once to mark off an imperative sentence.

There are few spelling errors; the ones found are not uncommon among Swedish writers of English, e.g *to* instead of *too*, *chose* instead of *choose* and *drasticly* instead of *drastically*.

### 5.2.8 Concluding remarks on the analysis of minutes of meeting

In the analysis of minutes of meetings, we have seen a fair number of differences in the texts. This is not unexpected since there are no general 'rules' for how minutes should be structured (e.g. Gutman 2001, pp. 2-3). Interestingly, however, the findings of the analysis of minutes of meetings show that there are differences in overall structure and also in the minutes of meetings written within the same company. It might be natural to assume that staff throughout a company, or business group, would follow company-specific practices when dealing with the same type of document. Nonetheless, thematic structure, sentence structure and degree of formality and style all differ, not only in the minutes of meetings written in the same company but also in the minutes written by the same authors. These findings are in line with those of Angouri & Harwood (2008) who, in a case study of variation in written products of a multinational consortium, argue that the differences can be explained in terms of the documents' defined importance and complexity. One of the informants in Angouri & Harwood's study gives the following explanations for differences between two minutes of meetings she has written (p. 52):

> …the first is a very important document for us you know; it goes straight up to XXX (name of manager), so it has to be formal, clear and transparent.
>
> Now the second I sent …the point is that when it's only for us to have a record of what has happened we always keep it as simple as possible, and we don't bother with formalities.

According to Angouri & Harwood, this does not only imply that the first minutes document is considered to be more demanding, or complex, in terms of its production (p. 56) than the second, but it also means that the minutes differ in function: while the first constitutes official records with legal status, the second merely functions as a memory aid (p. 52).

In this study, the role of relative complexity and importance in terms of relevance for the structure, style and function of the minutes of meetings submitted for the study has

not been investigated or verified. It is, however, reasonable to assume that these factors may have influenced the production of these documents to some degree or other.

To sum up, although somewhat marred by various types of errors and occasionally unexpected sentence structure, the overall impression of the minutes of meetings examined in this study is that they are communicatively clear and so fulfil their functions of providing information and documentation about specific issues dealt with in company meetings.

## 5.3 Comparison of the document types analysed

In comparing the two types of documents examined in this study, i.e. reports and minutes of meetings, both similarities and differences can be observed. On the *Identification level* it can, for instance, be noted that both text types have a documenting function. The authors are stated as being engineers having Swedish as their mother tongue and the documents are intended for colleagues both internally and externally within the respective business groups. Further, apart from an identification header placed on the first page of each document, the document formats are not restricted to templates, i.e. a form/blank format, but the text in each of these documents is organised and structured by the authors themselves.

The findings on the *Thematic level* show that variation of thematic structures and content are at hand in both types of documents. For instance, in the two reports analysed, a few sections such as e.g. “Summary” and “Results” appear in both reports. However, these sections vary not only as regards the placement in the reports but also concerning the information provided in the sections varies.

Similarly, the minutes of meetings are differently structured in terms of sections and contents of sections, even when produced in the same company and, interestingly, also when written by the same authors.

On the *Discourse level*, the minutes can be seen as less formal in style regarding the feature of impersonality; in particular the use of personal pronouns is more frequent in the minutes of meetings than in the reports.

Concerning differences between the two document types, the most striking differences are found on the *Sentence level*. In the reports, the sentences are predominantly

declarative except for a few cases of imperative constructions when the author directly addresses the reader in metatext in expressions such as "*See appendix b and c"*.

The minutes of meetings, on the other hand, show considerable variation when it comes to sentence types. As we have seen, not only declarative but also interrogative and imperative sentences are used and occasionally mixed in the meeting proceedings. Furthermore, incomplete sentence constructions of the kind found in headlines, such as e.g. "*Situation regarding XX improved but still not OK actions ongoing"*, can be seen in the minutes texts but not in the report texts.

Also, it can be argued that the sentence structure in the minutes of meetings is less formal and more varied than in the reports. This is especially the case in those minutes with text passages containing a 'discussion-like' informal mixture of questions and answers expressed in corresponding interrogative and declarative sentences, and where decisions to be taken are expressed in imperative sentences.

On the *Grammatical level*, it may be noted that the dominant grammatical errors in both types of documents involve verb forms, especially lack of agreement between subject and verb. Another relatively large category of errors in both types of documents concerns the use of articles.

Finally, the analysis on the *Punctuation and Spelling level* shows that, unlike in the reports, question marks are used in the minutes. This is most likely due to the more varied sentence structure in the minutes of meetings, containing not only declarative sentences like the reports, but also interrogative sentences.

Concerning spelling, there are comparatively more spelling errors in the minutes than in the reports, which may be interpreted as there being a higher demand for correctness and formality in the reports than in at least some of the minutes.

To sum up, the analysis on different levels has shown that there are both structural and linguistic variation and similarities within the two types of documents. As to similarities, all documents contain, e.g., various language errors and deviations. However, according to informants participating in the study, the documents are linguistically good enough and communicatively clear. Thus, it seems that the errors and deviations found in the documents do not severely impede communication. It is also reasonable to assume that genre knowledge, including, e.g., relevant and correct use of technical vocabulary and expected layout, makes the documents communicatively clear and effective.

With regard to variation, the results have shown that there is not only variation between the two document types, but also within the same type of document, even when

written by the same author, concerning, e.g., thematic organisation, sentence structure, linking devices, references to tables and diagrams, use of personal pronouns, and register. These findings demonstrate that writing at work cannot be genre-generalised. Instead, it seems that domain, context and situation-specific practices characterise writing in the workplace (see e.g. Swales, 1990; Hyland, 2002; Bhatia, 2004).

# 6 Summary and conclusions

## 6.1 Introduction

The overall aim of this work was to illuminate the communicative situation and context of engineers using English in the workplace. The study was initiated through the author's professional interest in the teaching of English to future engineers and the questions regarding content, direction and relevance of English courses given in engineering programs at a university of technology.

The present study has been carried out in ten large companies and one smaller, located in the western part of Sweden, representing various business sectors. The investigation undertaken, directed at engineers working in these companies, comprises a survey with 89 respondents, ten interviews performed in five of the companies, and an analysis, at different linguistic levels, of different types of documents typically produced in the workplaces and written in English.

In view of the fact that an increasing number of companies have changed their corporate language from Swedish to English, and that knowledge of English seems to be taken for granted when employing people, a major question addressed in this study is how engineers having Swedish as their mother tongue cope when English is their working language. With focus on written English, more specific questions dealt with are what engineers typically write in English at work, what level of proficiency is required for typical writing tasks in English, and what strategies are used to perform these tasks. A further question is if courses in English for Specific Purposes (ESP) can prepare engineers for writing in English at work.

## 6.2 Survey and interviews

In the present study, both the survey and the interviews confirm the impression of continuously increasing anglicisation in Swedish workplaces (cf. Hollqvist, 1984; Berg et al.,2001). The results show that not only people relatively high up in the company hierarchy use English as their working language, but the shift from Swedish to English

seems to comprise and affect all employees in the workplace. This is the case also regarding writing at work. For instance, all interviewees reported writing in English every day. Moreover, the interview findings indicate that most written text produced in a company having English as its corporate language is written in English and very little in Swedish. Further, the majority of informants preferred writing, e.g., reports in English rather than in Swedish, since the relevant technical terms were English, and not Swedish. These results indicate a tendency towards domain losses in Swedish in technical writing, similar to the situation arising in science and research (cf. Gunnarsson, 2001; Swales, 2004; SOU, 2002).

In the survey, it is interesting to note that the majority of respondents evaluate their writing skills in English good enough for their work situation. On the other hand, and somewhat contradictorily, nearly half of the respondents expressed a need for further training in English for their present work. Further, the majority of respondents voiced a wish for more English practice in engineering programs at university; cf. Josephsson & Jämtelid (2004). Nevertheless, again contradictorily, the majority of respondents in the present study have not taken the opportunity of obtaining further training in English offered by their companies. Possible explanations for this, although not confirmed in the study, could be lack of time or reluctance to reveal deficiencies regarding English skills.

To meet the assumed demand for high quality when performing writing tasks in English, the three most common and approximately equally frequent strategies reported in the questionnaire involved relying on one's own ability, consulting similar existing documents and collaboration with a colleague (cf. Blåsjö, 2006). A less used strategy pointed out in the survey was consulting a company language reviewer/translator, the reason probably being that the companies in general do not offer this kind of service. Thus, the results regarding strategies and tools used when writing suggest that the author of a document first and foremost relies on his/her own ability and knowledge, and also on his/her own skills in seeking and attaining relevant knowledge, when producing the document.

However, according to interview informants, and contrasting with the results from the survey in this study or the results in Blåsjö's (2006) study, collaborative writing was seldom the case. Furthermore, five out of ten interviewees reported that they frequently consulted a language reviewer/translator to have their documents checked and improved on before final submission. In the present study, the discrepancy between the results of the questionnaire and the interviews in this area is probably due to the fact that the

majority of respondents of the questionnaire and the interviewees have different positions in the company, thus also different types of writing tasks, an assumption that accords well with results shown by Gunnarsson (1992). This assumption is further strengthened by the unanimous opinion among informants in the present study, i.e. that specific writing tasks are linked to specific work positions. The interview informants participating in the study were in management, middle management and other positions involving predominantly self-produced texts of great importance, in some cases constituting official documents with legal status.

Focusing on writing tasks in English in relation to gender, the general view was that there was no link between specific tasks and gender. Half of the informants, however, suggested that there might be a weak relationship between females demonstrating less confidence than males in certain work situations and tasks assigned/taken on, including certain writing tasks in English (cf. Mobärg, 2006).

As regards frequency of text types, the findings of the survey show not unexpectedly that the most common type of text written in English at work is e-letters. Alongside of e-letters, reports belong to the most frequently produced categories of English documents in the workplace. Other fairly frequent types of text are, e.g., instructions, memos, manuals, safety data sheets, texts in PowerPoint presentations, and minutes of meetings.

## 6.3 Documents

For the study, 96 documents of different types written in English by engineers having Swedish as their mother tongue, including the above-mentioned types, were collected and investigated. E-letters, reports, and minutes of meetings were especially examined and described. The two latter categories of documents, i.e. reports and minutes of meetings, were more thoroughly investigated and described by means of a tentatively proposed model of document analysis.

As regards e-letters, the survey showed that e-letters in English are written on a daily basis at work. Well in line with previous research (see e.g. Boiarsky, 1995; Crystal, 2001; Hård af Segerstad, 2002), the interviews indicated that, in writing e-letters, the features of clarity and avoiding misunderstanding are more important than linguistic correctness. In cases where, from the recipient's perspective, differences in cultural and

rethorical conventions make it difficult to achieve clarity, interviewees stated that they sometimes deliberately had to use incorrect language structures and forms to make themselves clear. These findings also accord well with previous observations, showing that the relationship between sender and recipient influences the norms of writing concerning correctness, degree of formality and style (cf. Danet, 2001; Kankaanranta, 2005). For instance, in the present study, salutations varied between "Dear Mr/Ms …" and "Hi/Hello", the former usually only used when writing a first letter to a new business contact. Of special interest, and also in line with Kankaanranta's results, is that none of the informants in the study reported omitting either salutation or complimentary close.

While e-letters were considered by respondents to require the lowest level of language proficiency, the general view regarding reports was that a high level of English proficiency and linguistic accuracy is required when writing reports (cf. Hållsten, 2002). The reason cited for the requirement of this high language standard was that reports are official documents, usually circulated both internally and externally within the whole business group. Not surprisingly, other types of documents, such as instructions, memos, manuals, and texts involving legal matters, were also stated to require a high level of English proficiency and awareness of genre conventions.

As mentioned above, a more in-depth picture of the structure, language and linguistic level of two types of documents produced in the workplace, reports and minutes of meetings, has been attained by applying a model of document analysis. Two project reports and five minutes of meetings, from three of the companies participating in the study, have been examined on six levels of analysis, spanning from macro to micro level: the *Identification*, *Thematic*, *Discourse*, *Sentence*, *Grammatical*, and *Punctuation and Spelling levels*.

From the results of the analysis, it can be concluded that there is not only variation between the two document types, but also within the same type of document regarding e.g., layout, thematic organisation, sentence structure, cohesion markers, references to tables and diagrams, use of personal pronouns, and register. These findings demonstrate that writing at work is context-, domain-, and workplace- specific rather than genre-generalized (cf. Swales, 1990; Hyland, 2002; Bhatia, 2004).

With regard to linguistic levels in terms of accuracy and communicability, the conclusion is that despite the fact that the texts analysed contain a relatively large number of grammatical errors, especially involving subject-verb concord, article use, word order and prepositions, the documents seem to be communicatively effective, largely due to

authors' ability to apply discourse conventions including, e.g., domain knowledge and expected thematic structures (cf. Hyland, 2002).

## 6.4 Pedagogical implications

The present study shows that engineers in industry realise the importance of being able to write communicatively efficiently in English, regarding both their employability and their professional success. Furthermore, they express a clear wish for training in English oral and written communication, as part of university engineering studies, as well as a need for further training in these skills in their present work situation. In view of this, courses in ESP in the engineering programs at universities and institutes of technology can be assumed to be important and relevant for students in these programs. The question is what to focus on in ESP courses and how professional writing in English can best be practised.

As we have seen, informants in the study report that they strive for correctness and clarity in most situations when writing in English for work-related purposes. Nonetheless, the documents analysed in the present study contain a large number of grammatical errors and non-idiomatic constructions. As already noted, the great majority of errors concern verbs, especially concord, but there are also a fair number of errors involving articles and number distinction, word-order, prepositions, and other errors, often transfer-related, i.e. due to cross-linguistic influence from Swedish.

These findings suggest that consciousness-raising studies focusing on especially frequent grammatical structures and collocations in texts and writing, also in a contrastive perspective, could be relevant for students to achieve increased language awareness as a step towards attaining a higher degree of linguistic accuracy and reducing the influence of Swedish conventions in writing. Also, form-focused studies, making students familiar with the use of grammar books and learners' dictionaries for enhanced language acquisition and thereby further improved writing skills, may imply that they see grammar and dictionaries as useful tools for self-directed and autonomous learning also when writing in their future professional life (see Köhlmyr, 2003, pp. 354-355).

Further, for awareness-raising purposes regarding the unanimously expressed striving for clarity and logical flow in texts, the importance of effective paragraphing, clear

sentence structure and good coherence, including the use of various linking devices, such as various linking adverbials, could be usefully highlighted and practised in ESP courses.

The array of both inter- and intra-company variation in documents demonstrated in the present study indicates that professional writing is highly context-based. Therefore, even if models and templates of different document types in teaching can serve as guidance and awareness-raising for, e.g., register, thematic structures and the use of visual support in documents, it is important for teachers to stress that classroom models may bear scant resemblance to the models students will meet in their particular workplace.

Further, considering the diversity and variation observed in the nature of workplace writing tasks, it could be argued that samples of various task-oriented, authentic and up-to-date material from, preferably, target workplaces should be used instead of classroom models in teaching. This would probably give students more relevant insights into real-life practices and better prepare them for the diversity awaiting them in their future professional writing (cf. Boiarsky, 1995). For instance, company games and business simulation, in the form of exchanging different types of business letters to learn conventions, style, and vocabulary, were mentioned in the interviews in the present study as useful preparation for writing English at work. Similarly, Zhang (2007) suggests using cases drawn from real-life business practices and simulation sessions for practising business discourse (cf. Angouri & Harwood, 2008). In addition, exploiting authentic texts and data from the workplace would probably boost students' subject-specific terminology acquisition and domain knowledge within their disciplines.

## 6.5 Future research

The results of the present investigation, providing an overview of engineers' use of English in eleven Swedish workplaces, suggest a range of possible more in-depth studies of a sociolinguistic and/or pedagogical character. For instance, an interesting line of research to pursue would be to conduct a field study, exploring writers' reflections on workplace discourse and practices. By using, e.g., think-aloud protocols, their writing strategies and procedures from the initial steps in the writing process to final versions of various documents in English could be followed (cf. Hållsten, 2008).

Further, the document analysis model used in the present study could be expanded and complemented, with the aim of comparing documents written by native speakers of English with the same types of documents produced by writers having Swedish, or possibly, some other mother tongue within multinational business groups (see e.g. Andersson, 1997).

It would also be interesting to investigate how native speakers of English in companies having English as corporate language evaluate the communicative level and linguistic accuracy of, e.g., reports written by colleague engineers having Swedish as their mother tongue. Studies in this area may, for instance, make it possible to shed more light on transfer errors especially damaging to communication in various business documents (cf. Köhlmyr, 2003).

Another approach worthy of future research would be to focus on the relationship between intended sender information and the recipient's conception/interpretation of this information, especially from a cultural-linguistic perspective at a time when business tends to become ever more global, including an increasing number of Asian-based business groups (cf. Marriott, 1995; Hofstede, 2001).

Further, as briefly discussed in section 4.2.9, considering the relatively low number of women in industry, investigations could be carried out with the aim of finding out if there is a relationship between gender, communication and culture with special reference to the use of English as company language (cf. Wood, 2007).

Finally, from a pedagogical perspective, studies observing wash-back effects of different teaching methods, materials and learning strategies regarding language acquisition could provide more substantial evidence for the development and direction of ESP courses than the present cross-sectional study has given. For instance, an interesting avenue to explore would be to investigate if the use of more authentic workplace data in ESP courses would enable future engineers to develop their language skills in such a way that they can more easily adapt to various communicative situations and demands in the workplace.

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# List of appendices

Appendix 1: Enkät (Questionnaire)

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# Appendix 1 Enkät (Questionnaire)

Var god besvara följande frågor (1-19).

1. Kön (kryssa)

☐ kvinna

☐ man

2. Födelseår (skriv) _____

3. Utbildning (kryssa i **samtliga** som gäller för dig)

☐ grundskola/realskola (motsv.)

☐ studentexamen (motsv.)

☐ högskoleingenjörsxamen

☐ annan akademisk grundexamen (fil. kand. el.motsv.)

☐ civilingenjörsexamen

☐ annan högre akademisk examen

☐ annan utbildning (specificera): _____

_____

4. Har du vistats en sammanhängande period i ett engelskspråkigt land?

☐ nej

☐ ja

Om ja, ange hur länge._____

5. Hur länge har du varit yrkesverksam? Ange antal år._____

6. Vilket år anställdes du vid nuvarande företag? _____

7. Hur ofta använder du engelska **muntligt** i arbetet? (kryssa)

- ☐ flera gånger varje dag
- ☐ någon gång per dag
- ☐ någon gång per vecka
- ☐ mera sällan
- ☐ så gott som aldrig

8. Hur ofta **läser** du engelsk text i arbetet? (kryssa)

- ☐ flera gånger varje dag
- ☐ någon gång per dag
- ☐ någon gång per vecka
- ☐ mera sällan
- ☐ så gott som aldrig

9. Hur ofta **skriver** du på engelska i arbetet? (kryssa)

- ☐ flera gånger varje dag
- ☐ någon gång per dag
- ☐ någon gång per vecka
- ☐ mera sällan
- ☐ så gott som aldrig

10. Hur bedömer du själv din förmåga att använda engelska **muntligt** i arbetet? (kryssa)

- ☐ mycket god
- ☐ god
- ☐ acceptabel
- ☐ ganska dålig
- ☐ dålig

11. Hur bedömer du själv din förmåga att **läsa och förstå** engelsk text i arbetet? (kryssa)

- ☐ mycket god
- ☐ god
- ☐ acceptabel
- ☐ ganska dålig
- ☐ dålig

12. Hur bedömer du själv din förmåga att **skriva** på engelska i arbetet? (kryssa)

- ☐ mycket god
- ☐ god
- ☐ acceptabel
- ☐ ganska dålig
- ☐ dålig

13. Vilka **typer av text/dokument** skriver du **på engelska** i arbetet? (kryssa i samtliga som gäller för dig)

☐ brev

☐ e-brev

☐ instruktioner

☐ pm

☐ rapporter

☐ annan typ av text/dokument (specificera):_____

_____

_____

14. **Hur ofta** skriver du nedanstående typer av text/dokument.

**Använd siffrorna 1-6.**

**1 = varje dag, 2 = flera gånger i veckan, 3 = någon gång i veckan, 4 = någon gång i månaden, 5 = mera sällan, 6 = nästan aldrig**

(**OBS.** Samma siffra kan gälla för mer än ett alternativ, t.ex. siffran 1 om du varje dag skriver mer än en typ av dokument.)

Skriv **siffra**:

☐ brev

☐ e-brev

☐ instruktioner

☐ pm

☐ rapporter

☐ annan typ av text/dokument specificera):_____

_____

15. Vilken dokumenttyp anser du ställer **störst krav på god språkfärdighet** när du **skriver på engelska**?

**Använd siffrorna 1-6. 1 = störst krav, 2 = näst störst krav,** osv.

Skriv **siffra**:

☐ brev

☐ e-brev

☐ instruktioner

☐ pm

☐ rapporter

☐ annan typ av text/dokument (specificera):_____

_____

_____

16. Ange **hur du oftast går tillväga** när du skriver de **dokument som** du anser **ställer störst krav** på engelsk språklig förmåga?

**Använd siffrorna 1-5.**
**1 = alltid, 2 = ofta, 3 = ibland, 4 = sällan, 5 = aldrig**

**(OBS.** Mer än ett alternativ kan få samma siffra, t.ex siffran 2 om du ofta både samarbetar och tittar på liknande dokument, osv.)

Skriv **siffra**:

☐ litar helt på min egen förmåga

☐ samarbetar med medarbetare

☐ tittar på redan befintliga liknande dokument

☐ använder mig av företagets mallar

☐ anlitar företagets språkgranskare/översättare (om sådan finns)

17. **Bedöm** den utbildning du fått i engelska på din ingenjörsutbildning i förhållande till dina nuvarande yrkesmässiga behov.

**Vad borde ha tränats mer?** (exempel på aktiviteter/färdigheter: ge presentationer på engelska, tala i telefon, tala på möten, argumentera i diskussioner, läsa engelska texter, skriva brev, rapporter, etc; skrivträna med tanke på grammatik och språkriktighet, mm). Skriv här vad du anser:

_____

_____

_____

18. Har du fått möjlighet till **fortbildning i engelska genom företaget**? (kryssa)

☐ nej

☐ ja

Om ja, ange omfattning och huvudsakligt innehåll_____

_____

_____

19. Känner du i din nuvarande arbetssituation **behov** av **fortbildning i engelska**?

☐ nej

☐ ja

Om ja, ange vad du önskar träna _____

_____

_____

_____

# Appendix 2 Statistics of results of questionnaire

*Table 1 Gender*

| Company | Female | Male | Total |
|---|---|---|---|
| **A** | 0 | 10 | 10 |
| **B** | 3 | 7 | 10 |
| **C** | 1 | 8 | 9 |
| **D** | 3 | 6 | 9 |
| **E** | 4 | 6 | 10 |
| **F** | 0 | 10 | 10 |
| **G** | 0 | 2 | 2 |
| **H** | 2 | 12 | 14 |
| **I** | 0 | 6 | 6 |
| **J** | 4 | 5 | 9 |
| **Total** | **17** | **72** | **89** |

*Table 2 Year of birth*

| Company | 1940-1949 | 1950-1959 | 1960-1969 | 1970-1980 | Total |
|---|---|---|---|---|---|
| **A** | 0 | 0 | 8 | 2 | 10 |
| **B** | 0 | 0 | 0 | 10 | 10 |
| **C** | 6 | 1 | 0 | 0 | 7 |
| **D** | 0 | 4 | 4 | 1 | 9 |
| **E** | 2 | 4 | 1 | 3 | 10 |
| **F** | 0 | 0 | 5 | 5 | 10 |
| **G** | 1 | 0 | 0 | 1 | 2 |
| **H** | 0 | 3 | 4 | 1 | 8 |
| **I** | 1 | 0 | 0 | 3 | 4 |
| **J** | 0 | 0 | 0 | 9 | 9 |
| **Total** | **10** | **12** | **22** | **35** | **79** |

*Table 3 Education (highest level indicated)*

| Company | Upper Secondary school | Bachelor's degree in engineering | Other bachelor's degree | Master's degree in engineering | Higher academic education | Total |
|---|---|---|---|---|---|---|
| **A** | 10 | 0 | 0 | 0 | 0 | 10 |
| **B** | 0 | 4 | 1 | 4 | 1 | 10 |
| **C** | 1 | 1 | 0 | 7 | 0 | 9 |
| **D** | 1 | 0 | 1 | 5 | 2 | 9 |
| **E** | 1 | 2 | 0 | 7 | 0 | 10 |
| **F** | 0 | 5 | 0 | 5 | 0 | 10 |
| **G** | 0 | 2 | 0 | 0 | 0 | 2 |
| **H** | 1 | 2 | 1 | 9 | 1 | 14 |
| **I** | 2 | 3 | 0 | 1 | 0 | 6 |
| **J** | 0 | 0 | 0 | 9 | 0 | 9 |
| **Total** | **16** | **19** | **3** | **47** | **4** | **89** |

*Table 4 Continuous stay in English-speaking country*

| Company | none | <one month | <one year | one year- >one year | Total |
|---|---|---|---|---|---|
| **A** | 8 | 1 | 0 | 1 | 10 |
| **B** | 8 | 0 | 1 | 1 | 10 |
| **C** | 4 | 0 | 3 | 2 | 9 |
| **D** | 6 | 0 | 2 | 1 | 9 |
| **E** | 7 | 1 | 1 | 1 | 10 |
| **F** | 6 | 1 | 0 | 2 | 9 |
| **G** | 2 | 0 | 0 | 0 | 2 |
| **H** | 11 | 1 | 1 | 1 | 14 |
| **I** | 4 | 0 | 0 | 1 | 5 |
| **J** | 2 | 0 | 6 | 1 | 9 |
| **Total** | **58** | **4** | **14** | **11** | **87** |

*Table 5 Total employment time*

| Company | >25 years | 15-25 years | 5-14 years | <5 years | Total |
|---|---|---|---|---|---|
| **A** | 0 | 9 | 1 | 0 | 10 |
| **B** | 0 | 0 | 7 | 3 | 10 |
| **C** | 8 | 1 | 0 | 0 | 9 |
| **D** | 1 | 6 | 2 | 0 | 9 |
| **E** | 5 | 2 | 1 | 2 | 10 |
| **F** | 0 | 1 | 8 | 1 | 10 |
| **G** | 1 | 0 | 0 | 1 | 2 |
| **H** | 1 | 6 | 6 | 0 | 13 |
| **I** | 1 | 0 | 3 | 1 | 5 |
| **J** | 0 | 0 | 1 | 8 | 9 |
| **Total** | **17** | **25** | **30** | **15** | **87** |

*Table 6 Employment time in the present company*

| Company | >25 years | 15-25 years | 5-14 years | <5 years | Total |
|---|---|---|---|---|---|
| **A** | 0 | 1 | 8 | 1 | 10 |
| **B** | 0 | 0 | 8 | 2 | 10 |
| **C** | 1 | 0 | 6 | 2 | 9 |
| **D** | 0 | 5 | 4 | 0 | 9 |
| **E** | 0 | 7 | 1 | 2 | 10 |
| **F** | 0 | 2 | 7 | 1 | 10 |
| **G** | 1 | 0 | 1 | 0 | 2 |
| **H** | 1 | 4 | 7 | 1 | 13 |
| **I** | 1 | 0 | 1 | 3 | 5 |
| **J** | 0 | 0 | 1 | 8 | 9 |
| **Total** | **4** | **19** | **44** | **20** | **87** |

**Degree of use of English at work** ***(Tables 7-9)***

*Table 7 Speak English at work*

| Company | several times every day | some times per day | some times per week | more seldom | hardly ever | Total |
|---|---|---|---|---|---|---|
| **A** | 5 | 2 | 3 | 0 | 0 | 10 |
| **B** | 2 | 1 | 2 | 5 | 0 | 10 |
| **C** | 4 | 1 | 3 | 0 | 1 | 9 |
| **D** | 3 | 1 | 2 | 3 | 0 | 9 |
| **E** | 0 | 4 | 3 | 3 | 0 | 10 |
| **F** | 0 | 0 | 1 | 6 | 3 | 10 |
| **G** | 1 | 1 | 0 | 0 | 0 | 2 |
| **H** | 1 | 4 | 8 | 1 | 0 | 14 |
| **I** | 0 | 0 | 2 | 1 | 3 | 6 |
| **J** | 5 | 2 | 2 | 0 | 0 | 9 |
| **Total** | **21** | **16** | **26** | **19** | **7** | **89** |

*Table 8 Read in English at work.*

| Company | several times every day | some times per day | some times per week | more seldom | hardly ever | Total |
|---|---|---|---|---|---|---|
| **A** | 6 | 3 | 1 | 0 | 0 | 10 |
| **B** | 7 | 0 | 3 | 0 | 0 | 10 |
| **C** | 6 | 2 | 1 | 0 | 0 | 9 |
| **D** | 7 | 2 | 0 | 0 | 0 | 9 |
| **E** | 3 | 5 | 2 | 0 | 0 | 10 |
| **F** | 0 | 0 | 2 | 6 | 2 | 10 |
| **G** | 1 | 1 | 0 | 0 | 0 | 2 |
| **H** | 11 | 3 | 0 | 0 | 0 | 14 |
| **I** | 0 | 0 | 0 | 3 | 3 | 6 |
| **J** | 9 | 0 | 0 | 0 | 0 | 9 |
| **Total** | **50** | **16** | **9** | **9** | **5** | **89** |

*Table 9 Write in English at work*

| Company | several times every day | some times per day | some times per week | more seldom | hardly ever | Total |
|---|---|---|---|---|---|---|
| **A** | 3 | 1 | 5 | 1 | 0 | 10 |
| **B** | 4 | 3 | 3 | 0 | 0 | 10 |
| **C** | 4 | 3 | 1 | 1 | 0 | 9 |
| **D** | 3 | 2 | 2 | 2 | 0 | 9 |
| **E** | 1 | 2 | 5 | 2 | 0 | 10 |
| **F** | 0 | 0 | 1 | 6 | 3 | 10 |
| **G** | 1 | 0 | 1 | 0 | 0 | 2 |
| **H** | 5 | 7 | 1 | 1 | 0 | 14 |
| **I** | 0 | 0 | 0 | 2 | 4 | 6 |
| **J** | 8 | 1 | 0 | 0 | 0 | 9 |
| **Total** | **29** | **19** | **19** | **15** | **7** | **89** |

**Self-evaluated language performance** ***(Tables 10-12)***

*Table 10 Speak English at work*

| Company | very good | good | acceptable | rather poor | bad | Total |
|---|---|---|---|---|---|---|
| **A** | 2 | 2 | 5 | 1 | 0 | 10 |
| **B** | 2 | 2 | 6 | 0 | 0 | 10 |
| **C** | 2 | 5 | 2 | 0 | 0 | 9 |
| **D** | 1 | 4 | 2 | 2 | 0 | 9 |
| **E** | 1 | 5 | 4 | 0 | 0 | 10 |
| **F** | 2 | 2 | 5 | 1 | 0 | 10 |
| **G** | 0 | 1 | 1 | 0 | 0 | 2 |
| **H** | 3 | 6 | 3 | 2 | 0 | 14 |
| **I** | 0 | 2 | 3 | 0 | 0 | 5 |
| **J** | 2 | 5 | 2 | 0 | 0 | 9 |
| **Total** | **15** | **34** | **33** | **6** | **0** | **88** |

*Table 11 Read in English at work*

| Company | very good | good | acceptable | rather poor | bad | Total |
|---|---|---|---|---|---|---|
| **A** | 2 | 3 | 4 | 1 | 0 | 10 |
| **B** | 4 | 5 | 0 | 1 | 0 | 10 |
| **C** | 5 | 3 | 1 | 0 | 0 | 9 |
| **D** | 3 | 6 | 0 | 0 | 0 | 9 |
| **E** | 3 | 7 | 0 | 0 | 0 | 10 |
| **F** | 2 | 4 | 4 | 0 | 0 | 10 |
| **G** | 0 | 1 | 1 | 0 | 0 | 2 |
| **H** | 7 | 4 | 3 | 0 | 0 | 14 |
| **I** | 2 | 1 | 2 | 0 | 0 | 5 |
| **J** | 6 | 3 | 0 | 0 | 0 | 9 |
| **Total** | **34** | **37** | **15** | **2** | **0** | **88** |

*Table 12 Write in English at work*

| Company | very good | good | acceptable | rather poor | bad | Total |
|---|---|---|---|---|---|---|
| **A** | 1 | 1 | 6 | 2 | 0 | 10 |
| **B** | 2 | 4 | 3 | 1 | 0 | 10 |
| **C** | 4 | 2 | 3 | 0 | 0 | 9 |
| **D** | 1 | 5 | 2 | 1 | 0 | 9 |
| **E** | 0 | 6 | 4 | 0 | 0 | 10 |
| **F** | 2 | 2 | 4 | 2 | 0 | 10 |
| **G** | 0 | 1 | 1 | 0 | 0 | 2 |
| **H** | 5 | 5 | 4 | 0 | 0 | 14 |
| **I** | 0 | 2 | 3 | 0 | 0 | 5 |
| **J** | 4 | 3 | 2 | 0 | 0 | 9 |
| **Total** | **19** | **31** | **32** | **6** | **0** | **88** |

**Types of texts/documents *(Table 13)***
Here subjects were asked to indicate all the alternatives applicable to the types of texts/documents they write at work.

*Table 13 Types of texts/documents*

| Company | letter | e-letter | instruction | memo | report | other types of text |
|---|---|---|---|---|---|---|
| **A** | 1 | 9 | 1 | 2 | 6 | 4 |
| **B** | 5 | 10 | 6 | 4 | 10 | 3 |
| **C** | 9 | 9 | 7 | 8 | 7 | 6 |
| **D** | 2 | 9 | 5 | 6 | 8 | 4 |
| **E** | 3 | 10 | 1 | 1 | 9 | 4 |
| **F** | 5 | 7 | 1 | 3 | 1 | 4 |
| **G** | 2 | 2 | 1 | 1 | 1 | 0 |
| **H** | 2 | 14 | 8 | 5 | 12 | 3 |
| **I** | 0 | 4 | 1 | 0 | 0 | 5 |
| **J** | 0 | 8 | 2 | 3 | 9 | 2 |
| Total | 29 | 82 | 33 | 33 | 63 | 35 |

**Frequency of writing *(Table 14)***
The subjects were asked to indicate on a six-point scale (*motivate method)* how often they write different types of texts/documents. The alternatives were: every day, several times per week, some times per week, some times per month, more seldom, hardly ever. In this table the total numbers of answers from all respondents are presented at each variable.

*Table 14 Frequency of writing*

| Type of text | every day | several times per week | a few times per week | a few times per month | more seldom | hardly ever |
|---|---|---|---|---|---|---|
| **letter** | 1 | 1 | 2 | 10 | 18 | 12 |
| **e-letter** | 23 | 10 | 13 | 6 | 10 | 4 |
| **instruction** | 0 | 1 | 8 | 9 | 16 | 9 |
| **memo** | 0 | 3 | 8 | 12 | 12 | 13 |
| **report** | 1 | 4 | 15 | 14 | 16 | 12 |
| **other type of text** | 0 | 1 | 4 | 7 | 6 | 6 |

**Demand on language proficiency when writing in English *(Table 15)***
Here subjects were asked to indicate on a six-point scale the standard of language proficiency that the different types of texts/documents demand. 1= highest demand, 2= second highest, etc. As in the previous table the total number of answers from the total number of respondents are presented at each variable.

*Table 15 Demand on language proficiency when writing in English*

| **Type of text** | 1(=highest demand) | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| letter | 13 | 12 | 15 | 7 | 7 | 0 |
| e-letter | 0 | 11 | 12 | 15 | 13 | 10 |
| instruction | 30 | 12 | 9 | 3 | 5 | 0 |
| memo | 4 | 13 | 15 | 11 | 6 | 1 |
| report | 30 | 19 | 7 | 4 | 1 | 0 |
| other type of text | 12 | 4 | 1 | 3 | 1 | 2 |

**Method/Strategy of writing *(Table 16)***
To get an insight into writing strategies five variables to describe methods or strategies subjects used when writing in English at work were available: (1) rely on my own ability, (2) co-operate with colleague, (3) consult existing similar documents, (4) use company document models, (5) turn to company language reviewer/translator (if any is available). Further, respondents were asked to indicate on a five-point scale how often they made use of a certain method. The alternatives here were: always, often, sometimes, seldom, never

*Table 16 Method/Strategy of writing*

| **Method/Strategy** | **always** | **often** | **sometimes** | **seldom** | **never** |
|---|---|---|---|---|---|
| **rely on my own ability** | 17 | 19 | 16 | 4 | 5 |
| **co-operate with colleague** | 5 | 26 | 19 | 7 | 0 |
| **consult existing similar documents** | 9 | 27 | 14 | 8 | 4 |
| **use company document models** | 5 | 14 | 7 | 18 | 10 |
| **Turn to company language reviewer/translator (if available )** | 3 | 5 | 6 | 12 | 24 |

**Evaluation of education regarding English *(Table 17)***

In relation to the proficiency of English needed in their work situations, subjects were, in an open-ended question, asked to evaluate the training of English they had had within their engineering education. To facilitate answering, some examples of language skills were given in the questionnaire and subjects were asked to state what they thought should have been practised more in their engineering program regarding English. In order to get an overview, all answers given have been conflated into four classes: (1) had no English training, (2) satisfied with education, (3) should have had more oral practice, (4) should have had more writing practice.

*Table 17 Evaluation of education regarding English*

| Company | had no English training | satisfied with education | should have had more oral practice | should have had more writing practice |
|---|---|---|---|---|
| **A** | 1 | 0 | 9 | 5 |
| **B** | 1 | 0 | 8 | 8 |
| **C** | 2 | 0 | 7 | 5 |
| **D** | 0 | 0 | 9 | 5 |
| **E** | 0 | 0 | 7 | 5 |
| **F** | 1 | 3 | 4 | 4 |
| **G** | | | 1 | 2 |
| **H** | 2 | 2 | 7 | 2 |
| **I** | 1 | 0 | 2 | 2 |
| **J** | 1 | 0 | 6 | 6 |
| **Total** | **9** | **5** | **60** | **44** |

**Further training in English through the company** ***(Table 18)***
In a twofold question, respondents were asked if they had had the opportunity of obtaining further training in English through their companies, and if so, to give a description of extent and main content of the training. In the first part of the question, the variables were Yes and No.

*Table 18 Further training in English through the company*

| **Company** | **Yes** | **No** | |
|---|---|---|---|
| **A** | 6 | 4 | 10 |
| **B** | 7 | 3 | 10 |
| **C** | 4 | 4 | 8 |
| **D** | 10 | 0 | 10 |
| **E** | 5 | 5 | 10 |
| **F** | 2 | 8 | 10 |
| **G** | 2 | 0 | 2 |
| **H** | 9 | 4 | 13 |
| **I** | 0 | 5 | 5 |
| **J** | 5 | 4 | 9 |
| Total | 50 | 37 | 87 |

**Needs of further English training** ***(Tables 19a-b)***
In his/her present work situation, does the respondent consider him/herself in need of further training in English and, if so, of what nature? To answer the first part of the question, the variables given were Yes and No. In the second part of the question, the respondent was asked to define the nature of need, using his/her own words.

*Table 19a Needs of further English training*

| **Company** | **Yes** | **No** | **Total** |
|---|---|---|---|
| **A** | 5 | 5 | 10 |
| **B** | 6 | 4 | 10 |
| **C** | 5 | 3 | 8 |
| **D** | 6 | 3 | 9 |
| **E** | 5 | 5 | 10 |
| **F** | 3 | 7 | 10 |
| **G** | 1 | 1 | 2 |
| **H** | 7 | 7 | 14 |
| **I** | 1 | 5 | 6 |
| **J** | 2 | 7 | 9 |
| **Total** | **41** | **47** | **88** |

*Table 19b Second part of question: What types of skill do you want to practise?*

| **Company** | **Oral** | **Written** |
|---|---|---|
| A | 4 | 4 |
| B | 5 | 5 |
| C | 3 | 3 |
| D | 6 | 3 |
| E | 3 | 2 |
| F | 3 | 2 |
| G | 1 | 1 |
| H | 8 | 6 |
| J | 1 | 2 |
| **Total** | **34** | **28** |

# Appendix 3 Interview guide (translated into English)

| Aims | Theoretical Guide | Practical Guide |
|---|---|---|
| To map typical writing tasks performed in English in the work place. | Different types of documents written in English | What do you write in English and what do you write in Swedish?<br>Do years of employment in the company and job function affect types and frequency of writing? |
| To explore approaches and strategies used to perform writing tasks in English. | | What do you write yourself.? What do you write together with colleague/s? |
| To get an insight into:<br>a) proficiency levels required to execute these tasks<br>b) company policies regarding language proficiency. | E-letters | Do you write different kinds **of e-letters**? Various requirements on language correctness? Receiver?<br>How do you typically start/end an e-letter in English? Are there company models/standards?<br>What do you find difficult/ easy when writing e-letters in English? |

| Aims | Theoretical Guide | Practical Guide |
| --- | --- | --- |
| | Reports | Do you write different kinds of **reports**? What are your strategies/methods when writing a report in English (company models/standards, cooperating with colleague/s, use of dictionary, grammar, company language reviewer/translator)? How important for the quality of the report regarding language is the orderer/receiver of the report? Is your report reviewed/proof read before sending it? Do you get feedback from the receiver on the report (comments, questions etc)? Does it happen that you consider if what you have written could be misinterpreted because of language difficulties? What do you find difficult when writing the report in English? What is easy? Would the report be easier to write in Swedish? If so, why? |

| Aims | Theoretical Guide | Practical Guide |
|---|---|---|
| | | Would the report then be different in some aspect/s if instead written in Swedish? |
| To find out how higher education can best prepare students for writing tasks in English in the work place. | Other types of documents | What **other types of documents** do you write in English? What language proficiency is required for these documents in comparison to e-letters and reports (vocabulary, grammar, 'correctness' etc)? What do you find difficult/easy when writing this type/these types of documents? |
| To get an insight into possible needs of / demands for further language training. | English training in engineering education | What do you think of your **education** regarding **language competence required** for writing in English in the work place? Did your education prepare you for these tasks? What do you think is important to practise? |

| Aims | Theoretical Guide | Practical Guide |
| --- | --- | --- |
| To investigate if gender is related to writing tasks in the workplace. | In-house training | Have you got **further training in your work place** (just through practice or courses)? If offered courses why not attending? Is there anything regarding writing that you feel you need to develop? |
| | Male/Female aspect | Do **males and females** have the same types of writing tasks in the workplace?<br><br>Do you think that there is a difference in competence regarding writing in English between males and females?<br>If Yes: What kind of difference and does it affect writing tasks? |

# Appendix 4 Accounts of the interviews

## Interviews I-II

The first two interviews are performed in Company B (see section 3.1.1). The company, with approximately 1,100 employees in Sweden, has production and sales companies on 60 locations all over the world and is one of ten units within a supra-national business group with approximately 62,000 employees.

In the reception area of the company, I am received by my company contact person, a senior researcher in the R&D department. She gives me an informative introduction to the workplace and the research going on there. Being provided with protective goggles, I am guided through one of their rather bustling trial laboratories. Then she introduces me to my interviewees, Paul, 30 and John, 36, both engineers. Paul is a research engineer, and John, also an engineer, works in the sales and marketing department. The interviews, lasting approximately one and a half hours each, are performed in Paul's and John's respective offices.

### *Interview I*

I first speak to Paul, who has worked in this company for five years. He was employed after having done his degree project work for a Bachelor's Degree in chemical engineering in the same company.

Paul reports that already from the start his tasks in the company involved using English as working language, and it was also taken for granted that he was able to do so. When I meet him he has recently changed posts in the company. Among other things, the new position entails more documentation work in English than before. "Swedish," he says, "is only used for personal notes and minutes of meetings not intended to be spread outside the building." "The degree of using English is definitely linked to what kind of position and work tasks you have in the company," he adds.

The type of document we start talking about is e-letters. He writes e-letters in English on a daily basis and, as Paul observes, "when writing e-letters, the most important, and most difficult thing, is to express oneself clearly." He also emphasises the importance of adapting style and tone, e.g. regarding salutation and complimentary close, to the receiver. In a more formal letter he writes 'Dear+name' or 'Dear all' as salutations and he uses 'Best regards' or just 'B.R.'as complimentary closes. "The latter, B.R.", he adds,

"they don't seem to understand in the USA, though." He starts a less formal letter with 'Hi/Hello' and ends with 'Regards/Thanks'.

The other type of document discussed in the interview is the technical report. Among Paul's work tasks, the writing of technical reports is quite common. The reports are always written in English and, according to Paul, he actually prefers writing them in English. "It feels natural as all the technical terms we use are in English," he says.

Paul mostly composes and writes reports on his own. He uses similar, earlier written reports as models and, when consulting a dictionary, he uses the web-based dictionary 'Word Finder'. Often a colleague reads and gives comments, both regarding content and language, and Paul sees this feedback as very beneficial to the writing process. "Again, the most difficult and most important thing is to express oneself clearly and not leave out logical steps. In this, response from a colleague is the best tool," says Paul.

According to Paul, all reports have to be of good quality since they are circulated internationally in the entire business group. However, there are no explicitly expressed requirements of language proficiency within the company and he never gets comments on linguistic correctness from, for instance, native Americans in the U.S., to whom he sometimes sends his reports. When getting feedback on his documents, it is usually in the form of questions regarding certain technical facts rather than language structure.

Other types of texts in English that Paul writes are instructions, short manuals and Power Point presentation texts. "Especially instructions demand absolute clarity and correctness," Paul points out, and when writing instructions he usually writes them together with a colleague. "Text in presentation slides, on the other hand, is never reviewed together with anyone else," he notes.

To my question how well the engineering program at the university he went to prepared him for writing tasks in English he answers that "it didn't exist at all." The only English document written before leaving university was his degree thesis. "There I struggled a lot with the language; for instance, I had to learn how to construct the passive voice," he observes. He now perceives that more writing practice, e.g. letter writing and the writing of PowerPoint-presentation manuscripts in English, would have been useful preparation for his present work tasks.

Despite the lack of previous training for writing tasks in English at work, Paul is of the opinion that he is now in control of the situation and that his language proficiency level in English is good enough. He says, however, that he intends to do what he can to continuously improve his skills. It has been, and is still possible for him to attend in-

house training courses in English. So far, he has not had the time for such courses but is planning to take a writing course.

My final questions to Paul concern the gender aspect (see Interview Guide, Appendix 2). Paul claims that only the job position and not gender decides how much and what you write in English. He definitely thinks that the extent of English used is linked to the work tasks you have in the company. "However, what I have noted," he adds somewhat hesitantly, "is that women more often than men tend to be less confident in their skills and perhaps therefore avoid certain work tasks."

***Interview II***

After the interview with Paul, he guides me to his colleague John's office for the next interview. John has worked in the company for ten years, during the last five years in the sales and marketing department. When I comment on a photo of a sweet baby girl on his desk, he tells me that it is his little daughter and that, unfortunately, his work involves a lot of travelling, which means being away from her a lot.

Most of his customers and business contacts are in South America. All correspondence and telephone conversations with these customers are in English. According to John, the language proficiency level regarding English among his customers varies a lot; some are quite good at understanding and expressing themselves in written English while "with others I have to write so that a child would understand," he sighs.

When writing e-letters, John points out that the usual norm is to avoid small talk and instead get straight to the point. "Naturally, the choice of salutation and closing phrase depends on how well you know your recipient," he remarks. Also, he thinks that, on the whole, Americans tend to be less formal, setting the formality level regarding, for instance, salutations lower than he had expected.

The most common documents he writes in English, apart from emails, are reports of telephone conversations, visit reports, and technical reports, describing laboratory trials and trial series. Rather surprisingly, he says that he prefers writing these documents in English rather than Swedish, because "writing them in Swedish would mean stricter demands on correctness than if writing in English."

Despite this view of language accuracy as regards writing in English, John points out that he always tries his best and uses all tools available for clarity and correctness. As a mediating tool when writing a report, he first utilizes a kind of mind mapping. On a large

piece of paper he demonstrates how he visually structures, organises and compartmentalizes the content of a report before he starts writing it. Apart from making use of computer-based dictionaries as well as spelling and grammar checkers, he consults dictionaries in book form, which are available in his office. Additionally, it is possible for him, and all staff working in the sales and marketing department, to get important documents reviewed by a native English teacher who works and gives in-house training in English at the company one half-day a week.

Regarding company language policy, John does not think that the company would employ anyone today who does not feel comfortable with English as working language. After ten years' employment John now feels confident enough in most work regarding English, but he emphasises that he continuously tries to improve his English. There are no requirements for improvement from the company management, though. It is his own decisions when taking courses offered by the company and he himself decides how often he should train and prepare, for example, PowerPoint presentations, together with the above-mentioned English teacher. However, John believes that his English is more than acceptable for his international work tasks. "When travelling, you notice that Swedes are very good at English," he remarks.

Looking back at his engineering education at a university college in Sweden, he notes that all course literature was in English but that there was no practice in writing or speaking English. Concerning my question if he could think of some special training that did not take place in his engineering program but would have prepared him for his work in the company, he mentions writing of laboratory reports and giving presentations in English. "Actually," he adds, "when it comes to writing English in school, you don't need to write long texts to get feedback; short text passages usually also reveal very clearly reveal where your weaknesses are."

Just like his colleague Paul (see *Interview I* above), John can see no connection between work tasks and gender, but instead a connection between confidence and gender in the way that "men think their skills are good enough while women feel less confident and strive for perfection. This might then lead to differences regarding work tasks in English," he notes.

**Interviews III and IV**

Interviews III and IV take place in Company E (see section 3.1.1). This company, employing 260 people, is a unit within a business group with approximately 1,700 employees worldwide.

For the interviews I visit one of the Swedish production plant sites. While waiting in the reception area to meet my first interviewee, workers in helmets stroll past to be served breakfast. Shortly afterwards, also with a helmet on, comes Lena, my interviewee. She has just finished an inspection round and is now ready for our meeting. The interview is conducted in a small conference room over a cup of coffee.

***Interview III***

Lena is an engineer, approximately 30 years old, and she has worked in the company for four years. "Writing tasks in English have been part of my work from the beginning and have gradually become more advanced," she says. In her work she frequently writes e-letters, in Swedish for the internal divisions within the company, and in English to international contacts. Other types of documents that she writes fairly frequently, both in Swedish and in English, are instructions, manuals and manuscripts for PowerPoint presentations. She does not write reports very often.

The e-letters she writes are mostly of an informal nature, since "I usually have well-established, informal mail contacts with the recipients," she observes. This means that she uses 'Hello/Hi' as salutations and 'Best regards' as the closing phrase.

With regard to instructions and manuals, she stresses both clarity and language correctness as important features. In PowerPoint presentations, too, she finds it very important that "the English is correct."

To get it right when writing in English, she consults the online dictionary 'Word Finder' and often also discusses language questions with a colleague. Sometimes she seeks help from her boss and it is also possible for her to approach a company language reviewer/translator, but this "rarely happens," she notes.

According to Lena, there is no clear company language policy regarding the linguistic level in documents written in English. Neither are documents linguistically reviewed, unless she specifically asks a colleague to give feed-back on language. "If you get questions on what you have written, they are of a technical rather than linguistic nature,"

she remarks. “But since there is competition between different departments in the company, we always aim for high standards and doing a good job,” she adds.

Lena’s engineering program at university did not comprise any special English courses. She recalls that some reports had to be written in English but were never commented on linguistically. Now she sees this as a deficiency. For her present work both writing and oral practice in higher education would have been useful, she declares. It is now possible for her to get in-house training, but so far she has not had time for this. However, she feels she needs to develop her oral skills and hopes she will soon find time to follow a course in oral proficiency and presentation skills in English.

As to whether there is a connection between work tasks in English and gender, Lena concludes that not gender but possibly work experience and education level may affect the number and types of written work tasks in English.

***Interview IV***

The next interview is with Anna, who is 55 years old. She has worked in this company for approximately 15 years. When walking together to her office, where the interview takes place, I hear English being spoken in the corridor. Anna tells me that in this department of the company they frequently have visitors from abroad and the working language here ”very definitely is English,” she says.

Anna reports that over the years, the number of working tasks she performs in English has increased and also changed character considerably. In the beginning, she used to translate texts only from English into Swedish. Now she writes in English on a daily basis. Types of texts/documents she mentions are translations of articles and public authority reports from Swedish into English, summaries of research articles, and safety data sheets. However, she sometimes still also translates articles and summaries of articles from English into Swedish.

From Anna’s account it is obvious that the way of writing e-letters in English has changed over the years. In the 90s she wrote long, formal letters. “Now,” she notes, “the language in e-letters tends to be sloppy, more informal and the sentences are shorter – a new culture”. In this ‘culture’ she finds it especially negative that “you are supposed to reply without having time to sleep on the matter.”

Yet, it still happens that she writes ‘complete’ letters via e-mail. These letters are generally formal in tone. In most e-messages she uses ‘Dear Mr/Ms ….’ as the greeting phrase and ‘Best regards/Best wishes’ when closing the e-letter.

When translating research articles, reports, and safety data sheets into English, Anna is partly bound to special EU standard phrases and expressions. She believes that this sometimes leads to questionable language quality. Most important, however, is that all facts are correct, but the documents she writes must also conform to good language standards. Therefore, she always checks spelling and grammar. “For instance, I’m careful with subject-verb agreement,” she points out.

Her English skills were definitely at issue when she was promoted for the work post she now has. “It was clear from the beginning that I was needed for translation work and international business correspondence,” Anna recalls.

Just like her colleague (see *Interview III* above), Anna is of the opinion that there is no pronounced company policy regarding the standard of English used. Nevertheless, according to Anna, “good communication skills in English, verbal and written, improve the company’s image just as an efficient switchboard does.”

Asking how Anna has acquired her English skills, she tells me that a genuine interest in the English language was awakened and developed through pen friends in England and a fascination for the Beatles in the 60s. English was also her favourite subject in school, but in the university engineering program she had no language training. Today, she can see that if there had been an opportunity of practising report writing, conducting meetings, and writing letters in English, she would have been better prepared for future work tasks. She also strongly regrets that she did not have to write her degree thesis in English, which, she says, “would have given extremely good language training both regarding grammar and vital technical vocabulary.”

To reach the high level of English proficiency skills needed in her present work situation, Anna has herself taken the initiative to register for a Cambridge certificate course in advanced English. This course was paid for by the company, and according to Anna there is always the possibility of further in-service training if there are special skills that you need to develop. In her own case, meeting management and argumentation strategies in English are things she feels a need to improve.

Anna is the only woman in her department but her work post has no link to gender, she points out. ”It is the work tasks and not your gender that decide how much and how often you write in English”, Anna concludes.

**Interviews V and VI**

The interviews V and VI are conducted at the R&D department in a company (D, see section 3.1.1) that is part of a multicultural organisation with subsidiaries in more than 80 countries.

For security reasons I register at the reception desk and get a visitor's badge before I can meet my interviewees.

***Interview V***

I first meet with Jenny. She is approximately 30 years old and has a Master's Degree in chemical engineering. Right from the start in the company four years ago, she has written in English: laboratory reports, visit reports, e-mails, instructions, and PowerPoint manuscripts. "Since we work globally, the only thing I write in Swedish is my own notes when doing laboratory tests, but actually the company wants us to write even these in English," she remarks. Jenny does not find writing in English problematic or difficult. She thinks that it would be more difficult for her to write a report in Swedish, "since most technical terms are in English."

As Jenny points out, in the company it is taken for granted that she has a good command of English and is able to write in English at a high proficiency level. It never happens that her documents are linguistically reviewed, and she very seldom asks colleagues for feedback or assistance. When getting feed-back on what she has written, it is always related to content and technical facts rather than language, she observes.

When she studied to become an engineer, there was no English training as part of in her engineering program. All writing was done in Swedish. "It would have been good practice if at least lab reports had been written in English", she notes.

However, she had the opportunity to do the final year of her education in the USA and believes that this considerably increased her employability. "It's very difficult to get a job in my line of business without good English skills," she states. Now, if she should need further training in English, the company provides customized in-service courses.

Jenny's opinion regarding the gender question in the interview is clear. How often and what you write in English is closely connected to work position and not to gender, she thinks. Yet, she has noticed that there is sometimes a difference in confidence between males and females regarding work tasks. "Guys are better at daring to tackle a task – they venture testing and think they can do it. Women are more circumspect and less

confident," she says, adding that this might also, to a certain degree, determine what work tasks you perform in English.

***Interview VI***

My next interviewee, Eleanor, has been employed in this company for almost twenty years. She has a PhD in chemical engineering and is approximately 55 years old. We meet in her office, a relatively spacious room with a large desk full of paper and books. Some of the books are dictionaries of various types.

After just five minutes into the interview, Eleanor gets an urgent telephone call concerning her elderly mother who has fallen ill. Naturally, I am immediately ready to break off the interview and leave, to possibly come back on another occasion. Instead I am asked to wait outside in the corridor. In the corridor there is a bookshelf and while waiting I have a look at its contents. Among technically based reports, newsletters and magazines, I somewhat surprisingly also happen to see several issues of the *World-English language newsletter*.

In the resumed interview, Eleanor informs me that the main part of her daily work consists in writing applications for patents together with other types of documents and letters to patent deputies in other countries, to patent engineers, and to inventors concerning the patents. All the writing is done in English, and for this work she frequently uses not only dictionaries online, but also bilingual English-Swedish/Swedish-English and monolingual English-English dictionaries in book form. Furthermore, for accuracy regarding technical terms and accepted usage within the subject fields concerned, she frequently consults specialist books and articles on these topics. In addition, for general language proficiency she says that she often looks through the above mentioned *World-English language newsletters*.

Eleanor makes it clear that letters to patent deputies are always formal in tone. In these letters the salutation phrase she uses is 'Dear Sirs', and she closes the letters with 'Yours sincerely'.

Eleanor also shows that patent applications conform to certain language usage norms and that they are structured in set sections, e.g. defining the purpose of the invention, describing it, etc. In all documents she produces, clarity and accuracy are the most important features, she declares.

As Eleanor describes it, the typical procedure when preparing a patent application is that she first writes drafts to a patent engineer and to the inventor. After their feed-back, she composes a final draft of the application. Prior to submission, the application is then reviewed by a language reviewer stationed at the head office abroad.

Not having done any English courses at university level in her education, she has mainly attained the linguistic skills required to write the above-mentioned documents in English through her own research work and practice. “The best language training I got was when writing my doctoral thesis in English,” she argues. Also, at the beginning of her current employment, she was tutored by her boss in patent writing. Now, she finds it easier to write these patent documents in English than in Swedish, “since all technical words you use are English and it is often difficult to find a good Swedish equivalent to a technical term.”

Eleanor thinks that it goes without saying that English training should be part of all engineering education. “English skills are always needed when working as an engineer”, she claims. Today, she has the possibility of in-service English training, but in her present work situation she does not feel that she has either the need or time for such courses.

**Interviews VII and VIII**

The company I visit next (Company K, see section 3.1.1) did not take part in the initial sample survey of the present study but through a chance meeting with an employee, two interviews could be arranged.

With approximately 14, 000 employees worldwide and company operations covering all continents, it is not surprising that the reception area in R&D department at the plant site is bustling with visitors speaking English and German when I check in at the reception desk to meet Tom, an R&D engineer and executive officer in his early forties.

***Interview VII***

Tom calls for me at the reception and we sit down for the interview in a small room adjacent to the staff café. When I comment on the many visitors I noticed when arriving, he tells me that they receive visitors practically every day, often from company subsidiaries in other countries, even more now that the company has been entirely bought up by owners abroad. The change of ownership also means that all documents and texts

have to be written in English. Moreover, “since most secretaries have been abolished, you have to write everything yourself,” he observes. Regarding writing in English, Tom does not see this as problem, though. ”Since you have everything in English, it’s easier to express yourself in English,” he says.

The most common type of document he writes is e-letters. These letters are generally written in an informal style, meaning that he usually starts a letter with the recipient’s first name and ends with ‘Regards’. He also uses contracted forms, abbreviations, less formal vocabulary, etc. Correct spelling he finds important, though, but he points to the fact that many colleagues in the organisation “don’t give a damn.” Instead, regarding e-letters there is ”a tendency towards flippancy and carelessness, signalling that the author has not wasted time on polite wording and checking spelling in a business world where time is money.” Tom declares that in this culture it is more important to make yourself clear, avoid words that can lead to misunderstanding and come to the point as quickly as possible.

As regards reports, the picture is different. “There the language has to be formal, correct and accurate,” Tom notes. When writing reports, he often looks for help online from the dictionary ‘Word Finder’ and the search engine ‘Google’, and sometimes he co-writes with a colleague. A report written for legal proceedings, for instance concerning product responsibility, is language-wise of crucial importance and therefore linguistically reviewed by a specially hired translator, and then sent as a ‘test report’ to a solicitor in the USA before it is finally approved.

Tom has a Master’s Degree in engineering and has previously served in the Swedish Air Force. Although there was no special English training included in his higher education at Chalmers University of Technology and at Uppsala University, Tom is now clearly confident in his work tasks regarding English and feels that there is no problem working in an American business group. “Swedes and Americans get on well and understand each other’s jokes,” he says. Thus, he does not feel that he needs courses providing further training in English, nor has he been offered any by the company.

Nevertheless, he thinks that English courses should be part of all engineering programs at university level. “Since everything is in English, everything needs to be practised”, he says.

Tom’s opinion regarding the gender question is that males and females in the company have the same work tasks if they have the same type of job. What strikes him is that in his department there are relatively few women and some of them hold, as Tom

words it, “typical female posts such as receptionists, secretaries and other supporting positions.”

***Interview VIII***

Tom guides me to a small conference room, in the same building, to meet my next interviewee, Peter. Peter is approximately sixty years old, and he has worked in the company since 1973. Relatively recently, he has got a new post within the company and is now a newcomer in his working team.

Over time, Peter has seen, “a dramatic change of languages from Swedish into increasingly more English during the last ten years and today practically nothing but English.” He adds: “Now, even in meetings with only Swedes present the language used is very often English.” Consequently, in the ongoing reconstructuring of the company, Peter cites English skills as an important factor regarding employability. However, in this connection, Peter declares that certain discrepancies seem to exist. As an example, he refers to a recent internally circulated advertisement for a post. According to Peter, the advertisement, written in English, explicitly stressed high proficiency in English as a prerequisite for the post. At the same time, the advertisement itself contained several basic language errors.

His own English skills have mainly been acquired over the years through work experience and a lot of practice, and he now feels that he masters the language well enough to accomplish his tasks. There were no English courses included in his engineering education, and he says that he thinks that this is also the case with his younger colleagues. “When you see how they write, you are sometimes at your wits’ end; there are really too many flagrant, basic errors,” he sighs. According to Peter, the company management does not react, though; only colleagues do. Neither has he heard of any negative feedback from the USA regarding language mistakes. “I think our colleagues in the USA are very indulgent,” he concludes.

Peter’s main task in the team is to write applications to the authorities for certification and approval of their company products. These applications are always written in English, and Peter does not think it would be easier for him to write them in Swedish. The application documents follow a strict format, and as aid in setting them up, Peter consults previously written applications and looks up words in dictionaries. Sometimes he asks a colleague to read through what he has written, just to make sure that he has included all important technical facts. The text is not usually linguistically reviewed by

anyone, but often technical experts are approached to check technical descriptions. However, Peter points out that the language, too, has to be of good quality. “It must be so good that the authorities have no problems in understanding,” he notes.

Regarding gender, Peter reports that in his working team there is only one female engineer. “She definitely does the same job as the rest of us. There is absolutely no difference when it comes to work tasks in English,” Peter says.

## Interviews IX and X

The final two interviews are conducted in a comparatively small company at its headquarters in Sweden. In the office there are three men and one woman working, running all contacts with distributors, customers and suppliers in more than 30 countries worldwide.

### *Interview IX*

The company manager Robert, 62 years old, receives me in his large office for the first interview. He points to the fact that since he owns the company, it is only natural that most contacts and decisions go through him, and that this means a considerable amount of daily correspondence in English. Already when he started his career 30 years ago, he had a few international contacts that required some writing and speaking in English. Now, with business on all continents, English is the predominant working language for all staff in the office. Robert estimates that he himself uses Swedish in just 10% of all writing and 90% in English.

Apart from letters, mostly by e-mail, Robert primarily composes design and product descriptions and various types of reports. He especially refers to two types of reports, meeting and deviation reports. The most frequent type he writes is the meeting report, written to document and confirm the important points of a meeting or visit. A deviation report is written when something in the production has gone wrong. According to Robert, this luckily seldom happens, but when it does it is his responsibility to address the problem via the deviation report. This report, which is available to all customers, describes the problem and how it has been attended to, and has to be very clear and detailed.

Other types of documents that Robert produces in English are descriptions for patents, instructions, specifications, material safety data sheets, brochures, and advertisements.

Roberts finds instructions more difficult to write than reports. “Sometimes you don’t know how to best explain and an instruction text really demands very good proficiency in English,” he says.

However, Robert emphasizes that the most demanding and time-consuming writing activity for him and two of his colleagues, who are also partners in the company, is the annual composition of the company product catalogue, in which all products and product designs are presented and described. Interestingly, the catalogue is first written in English and then translated into Swedish and other languages, because ”you have from the beginning more terms and formulations ready in English than in Swedish.” The work with the catalogue is tight teamwork with a photographer, an art director, his two colleagues and partners, and Robert. Robert and his two partners write, proofread and review the text until it goes to an English business colleague and journalist in England for final revision.

In contrast to the catalogue, brochures and advertisements are usually first written in Swedish and then roughly translated into English before the English text, together with photographs and pictures, is sent to other countries for further translation and finalisation.

In addition to co-writing and team work, other strategies and tools for writing in English that Robert mentions are dictionaries, a grammar book, and the search engine Google. Robert demonstrates a technical Swedish-English dictionary, Webster’s Dictionary and a grammar book of English, all of which are available on his desk in book form. At the same time, he defines clarity and adaptation in order to avoid misunderstanding as more important than linguistic perfection. “For instance, sometimes when corresponding with Chinese people you have to use simple, even incorrect language structure and since they often mistake a question for a statement and vice versa, point-by-point has to be confirmed” , he notes.

Still, due to the nature of the work involved, Robert emphasises good English skills as essential for being able to perform work tasks at the company office. To ensure that employees have these skills, job interviews, when employing new staff, are started in Swedish and then continued in English. “It is extremely important to show to our customers that we are highly communicative in English,” Robert says.

His own English skills have developed through “years of work, practice and experience,” he notes. He had no English training in higher education. This he regrets as he felt very insecure about English in his first job. An intensive course paid for by the company he then worked for partly remedied his feelings of inadequacy. For the

engineering programs at university level he suggests English training in the form of business role plays. He mentions simulation of reality through dual communication by exchanging business letters in the form of enquiries, offers, meeting confirmations, project reports, etc., as useful practice for the working life ahead.

As mentioned above, in the introductory text about the company, there are four people working in the office, three men and a woman. Due to different areas of responsibility, their work tasks look different. Robert points out that this has nothing to do with gender but is based on level of education and former work experience. His only female colleague, for instance, has earlier worked at a chamber of commerce and is therefore their expert in business administration.

***Interview X***

My final respondent is Robert's colleague George. George is in his late thirties, and he has worked in this company for approximately six years. For a couple of years he has also been partner in the company. When George was employed, his ability to speak English was tested in the job interview, which, just as Robert describes it was started in Swedish and then switched over to English.

In his daily work, George corresponds in Swedish with Swedish customers and suppliers and in English with distributors, customers and suppliers abroad. The correspondence is usually in the form of informal e-letters. "I hardly ever write formal letters, it only happens when there is a special demand for an official letter from a customer," George explains.

As regards language correctness, he verifies Robert's illustration of the occasionally special and 'wrong' English structures needed to ensure clarity when corresponding with Asian distributors and customers. "When the recipient's English is poor, actually strange, or even incorrect English has to be used to avoid misunderstandings", he says. In other cases, George believes that it is vital to write as accurately as possible, and he often consults both mono- and bilingual dictionaries and an online spell checker. When corresponding with British business contacts, George feels that he has to be especially careful. "The British are so conservative regarding style," he says.

Other types of texts and documents that George writes in English are instructions, specifications, texts for PowerPoint presentations, and advertising copy. The latter text type he experiences as the most demanding and difficult. On the other hand, when writing advertising texts he usually works together with his colleagues, and there is also,

as mentioned above, the opportunity of having these texts reviewed by an English journalist.

When studying to become an engineer, there were no English courses in the curriculum of the program George attended. Later he became aware of his need of language improvement and took a private course in business English. This and the practice he gets through his work tasks now make him feel fairly confident in using English as his working language. However, after a couple of business visits full of meetings in Australia, he mentions meeting management in English as something he would like to further train and develop. This he also recommends for training in engineering programs. Furthermore, he suggests writing practice in English, comprising several short writing tasks rather than only a few long ones. “After just half a page, shortcomings are possible to identify”, he concludes.