

English as a Lingua Franca: a Tool for Educating Engineers

Jaana Suviniitty

Helsinki University of Technology, P.O. Box 6400, FI-02015 TKK, Finland
jaana.suviniitty@tkk.fi

Abstract - Almost all paper engineers use English as normal part of their work. Based on the replies to a questionnaire distributed by the Finnish Paper Engineers' Association (FPEA), most of the respondents use English daily, predominantly with non-native speakers of English – English as a lingua franca (ELF). Nevertheless, when the possibility of using English as the lecturing language in the Forest Products Technology Department at Helsinki University of Technology (TKK) was discussed with the students, many of them were against such a change. This was especially the case among the Finnish students. Despite this negative reaction, all master's level courses at TKK Forest Products Department are now lectured in English. The second part of this study has gathered student feedback on the lectures given in English, as well as evaluated lecturers' English through reviewing their lectures. The material indicates a solid use of English as a Lingua Franca, which prepares the students for the kind of future suggested in the FPEA questionnaire in the first part of this study. The results of both studies show that the use of ELF in both working world and at the university reaches its communicative goals.

Index Terms – English as a Lingua Franca (ELF), English for Engineers, English Master's Programs

INTRODUCTION

The students at Helsinki University of Technology Forest Products Technology Department were privileged by the support of Global University, a project funded by the Forest Industry, when their master's level studies were changed into English. This change created some concerns and discussion in the Forest Products Technology Department at TKK in spring 2005. The department students were concerned regarding their own English abilities and apprehensive about the Finnish lecturers' presumably lacking English skills. Most of the 73 students, who responded to the question regarding the language to be used in lecturing in spring 2005, felt the lecturers' accented English may influence their understanding of the lecture.

Due to the new language situation in the Forest Products Department, the university was interested in seeing what the English needs of their graduates would be in the future. To look into what type of English the students will need in the working world, a questionnaire among the members of Finnish Paper Engineers' Association (FPEA) was conducted. The results indicate that knowing and using

English as lingua franca (ELF) is essential for engineers at work.

Since students' expectations on lectured English differ quite drastically from the English they actually will need, it is essential to relay this message to them. When English is used as a tool among non-native speakers (NNS) of English, it tends to be different than when it is used among native speakers (NS) or when one of the communicators is a native speaker of English. Since non-native users of English outnumber its native users globally [1]–[3], it is essential for the students to cope with English as a lingua franca already during their studies. This study compares and reviews the results and aspects of two different studies on English use. Pedagogical implications of the results will also be discussed.

WORKING LIFE ENGLISH

To discover what type of English is used in the paper business and in which ways, a web-based questionnaire was designed. The aim of the questionnaire was to determine what type of English the members of the Paper Engineers' Association use and in what type of situations they use their English in their working lives. Paper Engineers' Association members were selected as the target group since they are an integral part of the forest products and paper business. The association is also highly regarded among both students and business associates. The questionnaire also reviews the possible problem situations that arise in the respondents' English use. The responses can be used to give an idea to students in the Forest Products Technology Department students, what to expect from English after they graduate.

Information regarding the questionnaire and its purposes together with the link to the web-questionnaire was e-mailed to 1200 members of the Finnish Paper Engineers' Association. The questionnaire was completely answered by 349 respondents. Partial responses were eliminated from the analysis.

The responses indicate that the informants use English mostly with non-native speakers of English (89%) and that they use somewhat more field-specific language (62%) than everyday vocabulary (48%). Naturally, since the majority of their contacts are with non-native speakers of English, also more problems are encountered with them (69%). It is, however, worth noticing that this figure is actually lower than the number of contacts with non-native speakers. In other words, it is not always problematic to use English as ELF. Similar findings have been recorded also by Mauranen [4].

What are the situations in which English is used? Most of the informants use English as a spoken language in interactive situations. Table I below indicates the situations where English is used. When calculating the total averages of the spoken versus the written language situations, English is used 14 percent more in speech-related situations compared to the writing-related ones. The respondents were asked to mention all of the situations in which they use English, thus the percentages indicate how many of the respondents use English in the listed situations.

TABLE I
SITUATIONS OF ENGLISH USE

Situation		Percentage of the respondents
Spoken	Meetings	92%
	Telephone	93%
	Other Conversations	82%
Written	E-mail	98%
	Report Writing	88%
	Writing Articles	39%
Mixed	Other	13%

This table also indicates that e-mails are used very frequently, only two percent of the informants did not use English in e-mail. The difference between the use of written and spoken modes of English is important when relating it to teaching: it is essential for the students to learn to use their English in various spoken communicative situations. For example telephone is one of the most difficult situations in which to use a foreign language; it requires good language ability and adequate communicative skills.

Furthermore, the study indicates that English is used daily or weekly by 96 percent of the respondents. However, the problems they encountered are quite infrequent. Only 16 percent encountered problems on a daily or weekly basis. Table II below indicates both the frequency of use, as well as the frequency of problems.

TABLE II
FREQUENCY OF USE AND PROBLEMS

Use vs. Problems		Amount
Frequency of Use	Daily	77%
	Weekly	19%
	Sometimes	4%
	Hardly ever	0%
	Total	100%
Frequency of Problems	Daily	5%
	Weekly	11%
	Sometimes	48%
	Hardly ever	35%
	Total	100%

Since only 16 percent of the respondents encounter problems daily or weekly, and especially since one third of the respondents are faced with problems hardly ever, this would indicate that English works as a successful communicative tool among the paper industry informants.

Breakdown in spoken communication appears to be the most frustrating problem for the respondents. The main problem mentioned by the respondents was not being able to understand the other persons' English on the account of their pronunciation. However, ranking the reasons for the problem situations appeared fairly difficult: only 293 respondents (84%) filled this part of the questionnaire

completely. The percentages in the following table are calculated based on those who responded to all parts of this question, i.e. total of 293. The informants felt their interlocutors' spoken skills were the leading cause of problem situations. 27 percent placed it as number one reason. When compared to the informants' own receptive skills, only 11 percent ranked that as the most important reason for problematic situations. Table III below indicates the informants' view on the reasons for the problem situations.

TABLE III
PROBLEM SITUATIONS

Problem Reasons in the Order of Importance (1=most important, 7=least important)								
	1	2	3	4	5	6	7	
Spoken								
Skills Other	28 %	20 %	16 %	19 %	13 %	4 %	0 %	100 %
Spoken								
Skills Self	25 %	15 %	10 %	13 %	17 %	14 %	6 %	100 %
Receptive								
Skills Other	14 %	18 %	21 %	18 %	16 %	10 %	3 %	100 %
Receptive								
Skills Self	11 %	17 %	20 %	17 %	14 %	15 %	5 %	100 %
Written								
Skills Self	10 %	14 %	12 %	14 %	16 %	22 %	11 %	100 %
Written								
Skills Other	4 %	14 %	20 %	11 %	20 %	25 %	7 %	100 %

Most respondents felt that the others' spoken skills play the largest role in the problem situations. Written skills seem not to be of importance regarding the problems. The respondents' own spoken and receptive skills were viewed as fairly important in the problem situations.

English is used by the respondents frequently but with only infrequent problem situations. Some of the most interesting results relate to the informants' views on problems. Since 15 percent of the respondents chose not to rank the reasons for the problems, this would indicate it is fairly difficult to analyze the problem situations. It is also important to remember that a situation which may seem like a problem to someone, to someone else may be normal interaction. Naturally, the more frequent use of spoken language influences the problem analysis: more problems were seen to result from the lack of spoken or receptive skills of other or self. It is also self-evident that written language can be reviewed many times and thus the communicative goal may be reached even with imperfect skills.

ENGINEERING EDUCATION ENGLISH

The second part of this study pertains to the views of Helsinki University of Technology students in the Forest Products Technology Department. The students and the lecturers are mostly Finnish. However, due to the university's new goals to attract more international students, as well as to the industry requirements for future engineers working globally, the master's program in the Forest Products Technology Department has gone through a transition period from Finnish into English. To ease the transition, the department hired an English support person and in this capacity I have had a unique opportunity to study

this process. The work includes teaching English, but also reviewing all types of written material and helping lecturers with their lecture material. Since the students were quite apprehensive regarding Finnish lecturers lecturing in English as well as regarding their own ability to understand English at such a professional and academic level, it was decided that at least one lecture of each non-native English speaker would be reviewed and the students would be able to comment on the lectures by filling out a questionnaire immediately after the lecture. The questionnaire included Likert scale questions, open-ended questions, and space for general comments. Twenty-three lectures have now been attended and the student questionnaires have been collected after each lecture. One of these lectures was held by a native speaker of English, which provides comparative material to the lectures held by the non-native speakers of English.

The data collection was accomplished through videoing the lectures and circulating the questionnaires among the students after each recorded lecture. The video recording is used to review the lectures or part of them when comparing the researcher's view to the students' questionnaire responses. The recordings can also be used for identifying the common features within the lectures students found easy to understand.

To contrast with the findings from the previously discussed, FPEA (Finnish Paper Engineers' Association) questionnaire, the students appear to prefer or somewhat prefer a native English speaker lecturer as Figure 1, below, illustrates. However, the bias is not as strong as could have been assumed from the students' prior concerns regarding the Finnish lecturers' English. To indicate the changes in students' views depending on the lecturer's native language, responses following the non-native English speakers' (NNS) lectures were compared with the responses after the native English speaker's (NS) lecture.

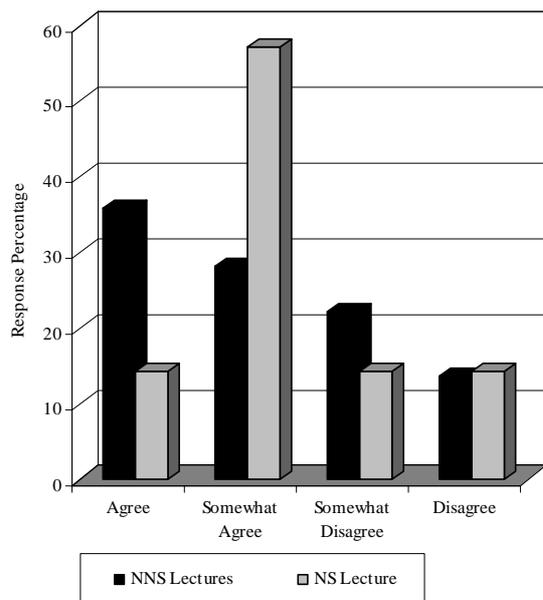


FIGURE 1
STUDENTS' RESPONSES TO THE QUESTIONNAIRE STATEMENT:
"I WOULD PREFER A NATIVE ENGLISH SPEAKER LECTURER."

The students' responses differ quite considerably when we compare responses gathered after non-native speaker lectures to those ones from the native English speaker lecture. Immediately after hearing a native English speaker, it would appear agreeable to the students to have a native speaker lecturer most of the time. Looking at the results from non-native speaker lectures, the distribution is more even. Students were also asked whether they would understand the lectures better in their own native language, whatever that may be. Figure 2 below indicates the findings on this question

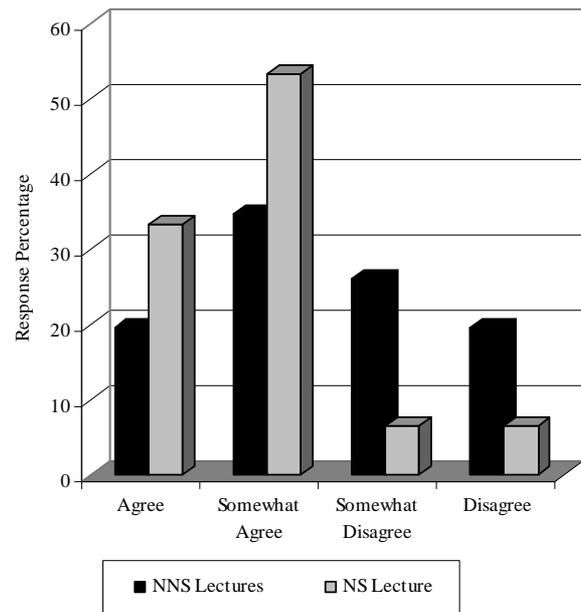


FIGURE 2
STUDENTS' RESPONSES TO THE QUESTIONNAIRE STATEMENT:
"I WOULD HAVE UNDERSTOOD THE LECTURE BETTER IN MY NATIVE LANGUAGE."

Regardless of the language used for lecturing, most students would find it easier to have the lectures in their native language. However, the difference between those, who either somewhat or completely disagree with this and those who agree with it is, again, not that considerable. The results from the native English speaker lecture also quite clearly indicate some problems with understanding. When over 80 percent of the students feel they would have understood the lecture better in their native language and when the situation after NNS lectures shows about 50 percent of the students sharing this opinion, the issue behind understanding most likely is not non-native English.

Reviewing the presented questionnaire results and comparing them to students' prior concerns regarding lecturers' English skills has provided somewhat perplexing information on students' preferences. When the lecturer is a non-native speaker of English, approximately 60 percent of the students would prefer a native speaker of English as a lecturer. When the lecturer is a native speaker of English, over 80 percent of the students would prefer or somewhat prefer the lectures to be held in their own native language.

The potential problem areas thus may lie elsewhere, not necessarily related to English – whether native or non-native. A sample comment from one of the students depicts some of the prevailing attitudes towards Finnish accented English:

Compared to many other Finns speaking English, the lecturer's English skills are very good. After spending eight months in Australia, it's a bit difficult to listen to Finns speaking English since it sounds so different.

This type of statement correlates with studies conducted on accent perceptions and attitudes towards different varieties of English. One recent study [5] indicates that language learners tend to prefer native speakers' English, even if the non-native variety is as understandable as the native speech. The issue is more of an attitudinal one than purely linguistic or even communicative.

PEDAGOGICAL IMPLICATIONS

Since, based on the responses to the engineer questionnaire, English is mostly used as a lingua franca in working life, the goal in its use could simply be mutual understanding and reaching the desired outcome. This should also be the guiding principle when the engineering students are taught English at Helsinki University of Technology. The students need to be encouraged to use their English and they need to be informed that they most likely will be using English with other non-native speakers of English. In this sense, the fact that most of the lecturers in the Forest Products Technology Department are non-native speakers of English, prepares the students for the future they encounter when they join the work force in the field of paper engineering.

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