CHALLENGES FACED BY THE AUTHORS OF TEXTBOOKS FOR FOREIGN LANGUAGE FOR SPECIFIC PURPOSES AND COMPARISON OF THE TEXTBOOKS FOR STUDENTS OF ENGINEERING

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Abstract

At Slovenian universities teachers of foreign language for specific purposes often decide to develop their own materials due to the lack of suitable course books. Our study includes interviews with the authors of textbooks for students of engineering in order to determine challenges that authors faced when preparing and writing the textbooks, their reasons for writing, choice of themes, aims of learning, and language teachers' knowledge in the engineering discipline which the textbooks are designed for. Then four textbooks from Slovenian teachers and one from our colleagues in Czech Republic are analysed; contents of materials and the proportion of field-related texts, general technical texts, reading and listening comprehension exercises, grammar and writing tasks are compared.

Key words: *foreign language for specific purposes, general technical themes, field-related themes, general technical texts, field-related texts, exercises*

1. INTRODUCTION

As any other modern profession, teaching is changing all the time; therefore teachers spend more time catching up with modern technology and new obligations than with actual design and preparation for classes. When a general language teacher becomes a teacher of language for specific purposes (LSP), the requirements are even higher. Foreign language teachers have never studied foreign language as language for specific purposes; so they do not have their own experiences to rely on. Consequently, they have to depend on experiences of their colleagues and their materials, teachers from the specific field as well as on their own handsouts and experiences gained in the course of their teaching career. Another limitation comes from the number of hours and curriculum of the academic courses. LSP classes in higher years mean that students already have certain knowledge in specific field, but they might have forgetten how to use foreign language (language attrition). In lower classes students might not know enough about their area of study in which the LSP teacher is not competent as well.

At university level, students should use their existing knowledge and skills. Both, LSP teachers and students cope with materials. Due to limited time and resources students should develop skills and strategies in order to use them after the course is over. On the other hand, teachers should identify attitudes, needs and potential of students. In short, they need to find such materials to fit into teaching situation. Teachers' concern is also how the student can learn more effectively in order to design their course more dynamic and interactive.

Due to the lack of suitable course books, LSP teachers may decide to develop their own materials. Many doubts arise before writing: Which themes should be included? What about the layout? Which texts are suitable – authentic, simplified, long, short, understandable even to LSP teacher? What is the students' command in the field? Should grammar be embodied into units or presented as an independent unit? When these basic dilemmas are solved, it is easier to continue. Remaining questions might be: What tasks and exercises are appropriate? How to present grammar structures? Do the materials develop all language competences? Where to find suitable texts? How to include listening comprehension materials or videos?

Accordingly, writing LSP materials is a challenging task for foreign language teachers, especially due to their lack of knowledge in the specific field, but persistent learning and passion of experienced LSP

teachers can lead to well-developed materials which provide didactic approach, consider pre-knowledge of students and their field of study.

2. THE ROLE OF FOREIGN LANGUAGE FOR SPECIFIC PURPOSES AND MATERIAL DESIGN

Hutchinson and Walters (1994, pp 6 -8) name three reasons to learn English for specific purposes, but the same can be applied to other foreign languages as well. First, fast development in science, technology and economics after the Second World War forced language teachers to follow requirements of these areas. Second, new ideas in linguistics suggested that the language varied in different contexts. Third, educational psychology concentrated more on learners and their needs.

Even though LSP teachers do not have a command in the specific area, it is important that they are ready to learn from students and materials. Bojović (2006) understands the difference between teachers of general foreign language and teachers of LSP in the requirements of the latters to understand other professions and to be prepared to adjust to their needs. They should consider specific area, its subject and purpose. Unlike General English teachers, a lot of LSP teachers' effort is focused on the design of the well-suited courses (Hutchinson and Walters, 1994, p 21). They have to provide proper materials which cannot be found in other textbooks. And they also need to know what the students should learn and what topics should be included, especially if they decide to provide their own materials.

Štefanec (2008) sees a textbook as a textual medium with two functions: teaching instrument and learning source which lead to students' activities in order to pass the exam. Good materials stimulate learning and help to organize the teaching-learning process. Materials can be designed for various reasons. First, materials written by a teacher or institution are tailored to specific areas and learners. Second, even though fitted materials are available, it is not possible to purchase them. Third, non-educational motives like the reputation of the institution or the teacher can also lead to material design. (Hutchinson and Walters 1994, pp 106, 107)

3. LANGUAGE COMPETENCES AND OUTCOMES

Language competence comprises linguistic or grammatical competence, discourse competence, sociolinguistic or sociocultural competence and textual competence. All should be developed through classroom activities, which focus on meaningful uses of the language and on language in context and therefore included in textbooks by means of proper chosen texts and tasks to get best outcomes. Stern (1991, pp 508-509) differentiates immediate and long-term outcomes. The immediate outcomes are essential as a feedback for further pedagogic process. The long-term outcome can be described as lasting attitudes and the acquisition of a second language, and in wider context as a means of communication among various language communities. The specific learning outcomes deal with knowledge of the language and the ability to use that knowledge to interpret and produce meaningful texts appropriate to the situation in which they are used. Language competence is best developed in the context of activities or tasks where the language is used for real purposes, in other words, in practical applications.

4. LANGUAGE SKILLS

The language competence is achieved by development of four skills: reading, listening, speaking and writing. All are related to each other and can be divided into oral and written skills or grouped into receptive and productive skills.

4.1 Reading

Reading is an essential part of education. Students should understand a written text in order to extract required information. Widdowson (1985, pp 173-180) argues that reading cannot be disconnected to

other regards of language behaviour; it is an interpretative process within a communicative activity. Mentally, it operates at two levels; the first level is data comprehension, the second distinction of these data. Reading is a rational activity since a reader formulates meaning, based on textual clues. A reader re-evaluates the nature of the text and builds a relationship with it, which can be referred to as interaction between the reader and the writer. Written discourse is non-reciprocal in comparison to spoken discourse. The reader's comprehension bases on his or her knowledge and on what he or she wants to find out in reading, which can be stimulated by proper pre-reading, while-reading and after-reading tasks.

4.2 Listening

Listening skills are very important for students in order to gain listening competence in a wide range of situations. New technology brings new possibilities such as podcasts and videos, available to a wide audience. It is certainly time consuming to find proper audio and video materials and to prepare exercises, but lectures are much more diverse and authentic. The students can hear someone else talking apart from the people in the lecture room. Videos (e.g. video podcasts) provide a picture of what is said and therefore make understanding much easier. Listening comprehension can be trained and evaluated with proper exercises. According to Adamczak-Krystofowicz and Stork (2010) there are four reasons to integrate listening comprehension into language courses: communicative, psychological, motivational and practical.

4.3 Speaking

Oral skills can be seen as motor-perceptive and interaction skills (Bygate, 1995 pp 5 - 7). The first include perceiving, recalling and articulating, whereas the latter mean the appropriate usage of language. Both are important and even though the number of students in the lecture room can be high, a teacher should find ways for communicative activities involving all students. Students can be divided into pairs or groups so that everybody has the opportunity to speak. Littlewood (2007, pp 17 - 19) names four purposes of communicative activities: they "provide 'whole-task practice', improve motivation, allow natural learning and can create a context which supports meaning." He also determines the role of a teacher in these activities and claims that it is not necessary for a teacher to be just a passive observer; he or she can give advice, resolve the disagreements, monitor learners' strengths and weaknesses and correct errors or even play a role as a 'co-communicator'.

4.4 Writing

Writing is a graphic representation of speech and includes the development and structured presentation of thoughts. It is generally believed to be the most difficult of all skills and can be used alongside with reading, listening and speaking. Students should translate their thoughts into language. Byrne (1995) names five reasons to include writing into the pedagogical process: a) provision of various learning styles and requirements, b) demonstration of the progress in the language, c) integration of writing skills through more than one medium, d) provision of different activities in the classroom and out of it, and e) usage of writing for evaluation.

5. METHOD

Our study includes a comparison between five LSP textbooks and interviews with their authors. One of the textbook is from the author of this article, Sabina Mulej; therefore she also answered the same questions. We were interested in the contents of materials and challenges that authors faced when preparing and writing their textbooks. We wanted to have an overview of the proportion of field-related texts, general technical texts, reading and listening comprehension exercises, grammar exercises, and writing and speaking tasks.

First we had a look at themes. As general technical themes we classified the topics that can be used for other fields of engineering as well, sometimes even for general English, e.g. business letters. Field-related topics would probably not be found in textbooks meant for other fields of engineering. For

example, the unit on branches of engineering is placed among general technical themes, whereas the unit on road transport can be found among the field-related themes.

Second, we counted all texts, including listening texts, and classified them under general or field-related texts, following the same classification as for the themes. Even though some texts classified as field-related may be used for more fields of engineering, they would certainly not be found in all. For instance, rules for description of a diagram, graph or table are categorized as a general technical text, whereas a text on surveying as a field-related text.

Third, we noted all exercises and ranged them under exercises on vocabulary, reading comprehension, speaking, listening comprehension, writing and grammar exercises. Not many exercise stayed out of classification, mostly they evaluate understanding of pictures. Even though most of the exercises should be done in writing, we put under writing only those which specifically train writing (e.g. description of a diagram, short or long texts, and translation). Although some listening texts are (partially) written, we placed exercises among listening comprehension if they refer to an audio or video recording. We classified word formation exercises under grammar exercises and pre-reading tasks under speaking if the students have to talk about the foreseen theme or under vocabulary exercises if the pre-reading task introduces lexis.

The textbooks by Brkan (2009), by Županek (2014) and by Mulej (2014) also include explanations of grammar structures, appendices with students' obligations and similar. Huge vocabulary corpus with translation can be found in a textbook by Kasíková et.al (2007); short glossaries also appear in the textbooks by Brkan (2009), by Županek (2014) and by Mulej (2014). All these were not considered in our research.

6. CORPUS

The first textbook is from Czech Republic, written by Stanislava Kasíková, Hana Horká, Renata Nivenová and Violetta Sedláková, entitled English for Civil Engineering; it consists of 11 units, four of them are general (University study, Civil engineering branches. Economics and Information technology), the others are field-related (Building materials, building construction, Architectural engineering, Structural and transportation engineering, Water engineering, Environmental engineering and Surveying). It comprises 33 texts, and 290 exercises. It has 179 pages.

The second textbook is from Metka Brkan (University of Maribor, Faculty of Civil Engineering) who wrote the textbook English for Students of Civil Engineering. It has 64 pages and 10 units; one of them is classified as a general technical theme (Engineering sciences), whereas Civil engineering, Building construction, Buildings, Building materials, Surveying, Structural elements, Forces, Bridges and Tender are ranged under field-related themes. The course book includes 15 texts, and 67 exercises.

The next textbook is written by Violeta Jurkovič, who is with University of Ljubljana, Faculty of Maritime Studies and Transport, entitled Insights into Traffic English (92 pages). It includes 5 field-related themes (Forms of transport, Road transport, Railway transport, Sea transport and Air transport), 35 texts, and 144 exercises.

The fourth textbook is from a colleague from Faculty of Mechanical Engineering, University of Maribor, Tatjana Županek who wrote the textbook English for Students of Mechanical Engineering (56 pages), accompanied by Exercises on English for Students of Mechanical Engineering (39 pages). The textbook consists of 7 units; one of them is ranged as a field-related theme (How does it work?), while Engineering, Materials, Mathematics, Physics, Inventions and discoveries, and Engineers should read and write are ranged among general technical topics. There are 37 texts and 82 exercises from both books.

The last is the textbook for German for specific purposes, entitled Technical German for Students of Civil Engineering (translation from German and Slovene), written by Sabina Mulej. It has 65 pages and consists of 8 topics, 5 of them ranged as general technical themes (Engineering and language, Mathematics, Environmental protection, Alternative energy and Engineers should know how to write)

and 3 as field-related (Construction materials, Construction machines and tools, and Bridges), 31 texts, and 79 exercises.

The questionary used for the interviews with the authors of textbooks includes the following questions:

a) What were your reasons for writing your own materials?

b) How did you choose themes?

c) What part of material design was the hardest for you? Why?

d) What part of material design was the easiest for you? Why?

e) Where did you search for materials?

f) Did you consult the teachers of professional subjects?

g) What are the most important aims of learning with your materials?

h) How much have you learnt from the materials about this branch of engineering?

They were answered by all Slovene authors and by two authors from Czech Republic, which means 6 altogether.

7. SURVEY

7.1 Reasons for writing

The interviewed authors stated that the lack of proper materials is the most important reason for writing a textbook not only in Slovenia, but also in Czech Republic. Found materials and/or old textbooks seem unsuitable because they are too extensive for a certain number of lectures, they are out-of date, unmethodical, and they do not match the requested language level. If materials are gathered in a textbook, it is easier for a teacher and students to have a methodical approach; also students who did not attended lectures (regularly) have the proper source in order to prepare for the exam.

7.2 Choice of themes

As the authors already had experiences with LSP, they chose the themes according to the field of study, their existing and tested notes, materials and their own previous course books. Furthermore, they relied on experiences and materials of their colleagues, and related textbooks. One of the authors made a preliminary needs analysis, whereas one divided the discipline into sub-disciplines and devoted one unit to each of them. Two of the authors chose the themes in respect of the needed technical terminology. Considering the variety of responses, it must be noted that there is not a silver bullet/single way to the target textbook.

7.3 Material design

The teachers searched for materials on internet, newspapers, and existing textbooks for English for specific purposes in their field, foreign language books from discipline, encyclopaedias, handbooks, and even television. The biggest challenges were to decide on proper design, length of units, to find themes according to the students' interest, language level and number of students in a group, to achieve suitable proportion of texts and exercises, and to find fitting grammar structure to each unit. The most time-consuming part was the search for materials; sometimes a teacher finds an interesting text of fitting language level, but unsuitable for task design. Furthermore, teachers struggle to get translations of English words, because they cannot be always found in dictionaries. Although the teachers mostly agree that no part of the textbook writing was simple, because it is an accurate professional work, the more manageable tasks were to design activities such as reading comprehension or grammar exercises since they can be created analogically to general language tasks. Moreover, all

authors consulted the teachers of professional subjects, at least in some respect and to a certain level. Two textbooks were reviewed by experts from the field.

7.4 Aims of learning

According to the authors, the most important goals of learning with their materials are to develop all four language skills, to gain and practice technical terminology, to understand technical and scientific articles in foreign language, to use language actively in communication with foreign experts, in companies, and to be able to write shorter texts such as a CV, abstracts and formal letters.

7.5 Gained field-related knowledge

All authors claim that they have learnt a lot from the discipline they were writing a textbook for, that they are still learning all the time and that without certain knowledge from the field one cannot successfully, efficiently and self-confidently deliver lectures in LSP. The teachers are also improving their knowledge from materials they have found, but have not used in their textbooks or as materials for students, from translations and proofreading of technical and scientific articles from the colleagues at the faculty, other textbooks, encyclopaedias and dictionaries. However, they are aware that the familiarity with the technical terms cannot make them experts in the field.

8. COMPARISON

Apart from technical contents, the compared LSP textbooks do not differ much from general students books for foreign language. They follow the same methodical approach and combine texts and exercises to develop all four language skills. This means that students can easier focus on technical terminology, for they do not need to deal with new types of exercises and tasks. Without a doubt, engineering themes raise students' motivation and show variations of language in different contexts.

	English for Civil Engineering (2007)	English for Students of Civil Engineering (2009)	Insights into Traffic English (2014)	English for Students of Mechanical Engineering (2014) + Exercises on English for Students of Mechanical Engineering (2014)	Technical German for Students of Civil Engineering (2014)
Number of themes	11	10	5	7	8
General technical themes	4 / 36%	1 / 10%	0 / 0%	6 / 86%	5 / 62,5%
Field-related themes	7 / 64%	9 / 90%	5 / 100%	1 / 14%	3 / 37,5%
Number of texts	33	15	35	37	31
General technical texts	12 / 36%	2 / 13%	8 / 23%	32 / 86%	17 / 55%
Field-related texts	21 / 64%	13 / 87%	27 / 77%	5 / 14%	14 / 45%

Table 1: Comparison of themes and texts

Table 1 shows the comparison of five textbooks indicating the difference between the proportions of general technical themes from 0% to 86%, and field-related themes from 14% to 100%. The same applies for general technical texts (13% to 86%) and field-related texts (14% to 87%). This means that some textbooks are more general than others and that teachers had found lack of general technical knowledge of students in the target language such as basic terms in mathematics. Except for one, a number of texts shows large diversity of topics and standpoints.

	English for Civil Engineering (2007)	English for Students of Civil Engineering (2009)	Insights into Traffic English (2014)	English for Students of Mechanical Engineering (2014) + Exercises on English for Students of Mechanical Engineering (2014)	Technical German for Students of Civil Engineering (2014)
Exercises on vocabulary	131 / 45%	24 / 36%	29 / 20%	19 / 23%	22 / 28%
Reading comprehension	49 / 17%	4 / 6%	24 / 17%	7 / 9%	12 / 15%
Speaking	36 / 12,5%	8 / 12%	44 / 31%	9 / 11%	8 / 10%
Listening comprehension	36 / 12,5%	3 / 5%	16 / 11%	0 / 0%	4 / 5%
Writing	19 / 6,5%	11 / 16%	6 / 4%	19 / 23%	10 / 13%
Grammar exercises	18 / 6%	15 / 22%	25 / 17%	28 / 34%	23 / 29%
Other	1 / 0,5%	2 / 3%	0 / 0%	0 / 0%	0 / 0%
All	290	67	144	82	79

Table 2: Comparison of types of exercises

Table 2 shows the number of exercises and their percentage. It seems that teachers follow their own attitude towards teaching and learning and it should be noted that grammar exercises mostly contain technical vocabulary and are therefore specially designed for students of certain discipline. Except for one textbook, where listening is not introduced, the authors strive to include exercises for all four skills. Even though writing seems a neglected skill, we should not forget that apart from speaking, writing is included in all other exercises.

9. DISCUSSION

An interesting aspect of the analysis is the difference in the focus of the textbooks. While almost fifty percent of the exercises in English for Civil Engineering are dedicated to vocabulary, the percentage of the vocabulary in the other textbooks is much lower and ranges from 20 to 36 %. The textbook with the lowest percentage of vocabulary exercises – Insight into Traffic English – has the highest percentage of speaking exercise. Quite different from both is the third textbook (English for Students of Mechanical Engineering + Exercises on English for Students of Mechanical Engineering), where the most exercises are dedicated to grammar, and the fourth (Technical German for Students of Civil Engineering), where vocabulary and grammar are the two mostly counted types of exercises.

Comparing both tables, it can be stated, that although the results of the case-study cannot be generalized, there seems to be a relation between a high percentage of field-related texts and a high percentage of vocabulary exercise. The reason for that is quite simple: specialised texts, field-related texts belong to them, contain a high percentage of special vocabulary, which is not part of the general mental lexicon and has to be dealt with to a quite high extent.

The great diversity of the different types of exercises in the analysed textbooks on the one hand corresponds to the diversity of reasons, why the authors started to write the textbooks, but on the other hand it does not explain the existence of this diversity. This desideratum opens a new field for further studies.

10. CONCLUSION

The importance of self-written textbooks lies in its adaptability to the course, limited by curriculum, and to students' needs. Even though the whole process of writing is demanding, full of ups and downs, teachers make every effort to fulfil the requirements of their students, language level, curriculum and discipline. Teachers strive to get instant outcomes by preparing such tasks that immediately check students understanding and knowledge and serve as a feedback for further learning. Moreover, all textbooks follow long-term outcomes so that students can use the foreign language in a wider context, for their further studies, later at work, and can prepare for exams. To sum up, LSP teachers rely on their previous experiences and without many years of teaching and gaining knowledge in their student's' discipline it is impossible to start writing effective LSP course materials.

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