Developing Materials for English for Specific Purposes Online Course within the Blended Learning Concept

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Abstract – **Developing appropriate language materials for English for Specific Purposes (ESP) is an essential component of its practice. The paper addresses the issue of adapting authentic technical texts to make them more suitable as well as attractive for a particular type of a learner. Firstly, the main problems teachers usually face when designing ESP courses have been discussed. Then, the author gives some suggestions as how to select and evaluate authentic texts highlighting the principles that could be taken into consideration when designing the English language course for technology students. After that, the author presents the way how authentic and highly technical texts on advanced machining processes that are being studied and researched at the Faculty of Manufacturing Technologies were selected, adapted and consequently integrated in the form of online course into the existing Moodle platform of the Technical University. Finally, several extracts from the online ESP course showing how specialized authentic texts can be modified to serve the interaction purpose have been presented.**

Keywords – blended learning, authentic materials adapting, advanced technologies, English language online course, Moodle platform

1. Introduction

Computer-based language learning in its variations has acted to open up the world of knowledge to everyone in its most powerful variant.

Blended learning has become a catalyst that has enabled huge changes in what is learned and who is able to learn it. Some authors are "witnessing of the university education transformation by re-emphasizing of thinking and providing instructions and at the same emphasis on the production of learning to use technology for expansion of distance education, to the recognition the importance of the sense of belonging, and the like".[1] On one hand, the term "blended learning" refers to a language course that combines a face-to-face classroom component with an appropriate use of technology, on the other hand, it has a range of meanings: combining pedagogical approaches, [2] a mixture of face-to-face and distance learning. [3] For many, blended learning can be seen as a compromise position, a logical extension of what we already do. [4] The concept is also being understoodas a combination offormal instructions that are usually used in the classroom and informalones such as discussionsviae-mail andwebconferences.[5] Some researches define it as a fusion of face-to-face, online electronic learning (live e-learning) and self-education (self-paced learning). [6] Should we use technology in language teaching? Does it offer any opportunities? We believe that there are many pros from which both learners and teachers can benefit. Firstly, technology, which is a part of students' everyday lives, is motivating. Students like using computers, they prefer multimedia activities as well as they can make their own choices as how to work through the language materials. Secondly, students today have high expectations when it comes to technology. Especially students who are "digital friendly", those who belong to the so-called Net generation expect the technical universities to offer opportunities to use technology in their courses including foreign language courses. Thirdly, it is necessary to emphasize that new technologies have revolutionized students' conception of knowledge – from something they might have, to something which everyone should be able to find.We are living in the world of customization. Having defined the profile of our students we will be able to communicate more

efficiently. Idealists believe that new technologies can radically transform language education. To others, new technologies are a great equalizer. Nearly anyone can construct a level of product that a few years ago was only within the capacity of a few people with specialized training. [7]

2. ESP Course Development

Those foreign language teachers who are faced with a need to create large bodies of teaching materials for the students know that this work is a time-consuming, exhaustive and frustrating process of self-training as teacher-preparation programmes in Slovakia do not include a specific training in the techniques of writing separate teaching materials or textbooks. Thus, the process is accompanied by trials and errors, by success or failure. Preparation of teaching materials in local conditions of the faculties or universities in Slovakia iseven a more complicated process which verifies author's professional skills as well as his enthusiasm. There is a good choice of commercially prepared English textbooks for both business and technical English on the Slovak book market, but in spite of that we were not able to find a single textbook which suited our requirements for the following reasons: they are too general or too specific books for our purposes. It is almost impossible to find one common book for both business English and technical English teaching. While using the textbooks available on the Slovak book market, we may find out that some exercises do not work well, or some types of texts and exercises are missing. Traditionally, the process of course design suggests that materials design or selection should come at a later stage of the process. The sequence of a course design can be summarised as the linear model: needs analysis – goals and objectives – syllabus design – methodology/materials, testing and evaluation. [8] The procedure shows how the teaching contexts and learners' needs provide a framework for the objectives and consequently methods and materials are being chosen. Many teachers may find this method not to be representative and propose more familiar sequence instead. First, institution draw up a very general profile of a particular group of learners where the characteristics of the learners are defined in terms of the learners' preference for a course and the level of their proficiency based on the tests administrated at the beginning of the course. The objective of the course is usually represented in the name of the course (e.g. First Certificate Preparation Course, Oral Communication 1). Secondly, materials are being selected based on available coursebooks. The stages such as needs analysis, goals

specifications, syllabus design and methodology consideration happen prior to materials selection. Exploring teachers' need is crucial when the role division between the materials producers become more evident. The tailored materials may correspond to the needs of language learners, but the colourful appearance of commercial coursebooks is more eye-catching. Tailored materials are more specific for learning situation, have greater face validity in terms of the language dealt with and the contexts it is presented in. [9]. Even though the approaches towards "tailor-made textbooks" for special purposes are different, we have chosen this alternative after years of experimenting and searching for appropriate texts. When adapting materials, the following criteria were taken into consideration: importance of information needed for our students' future career, language adequacy of study material as well as application of already mastered communication skills in different contexts. ESP courses worldwide are very often oriented towards development of reading comprehension. Undoubtedly, such an orientation is appropriate if the students'ideas of their future careers have more or less clear contours expecting that they will get a job in some engineering branch. Many of our future graduates can hardly predict the sphere of their professional activities. This reality has to be taken into account when formulating the principal objective of the English language course at the Faculty – a proportional development of all language skills. In accordance with the current social trends, we should get rid of a rather one-sided view of an engineer as an expert in some scientific field using his English knowledge entirely for reading scientific literature. Engineering activities involve much broader repertoire. We suppose that, in general, the most common macro – activities, in which technicians, scientists, or business persons using English as a foreign language will likely find themselves, are: reading technical publications, handbooks, or journals to keep abreast of professional developments, writing technical publications and technical reports, giving presentations, contacts with business partners from abroad through business correspondence, telephoning, taking part in technical discussions at conferences, seminars, exhibitions and other technical meetings or international events, travelling, social and professional conversations with English-speaking clients and visitors. The basic study material has been carefully selected and adapted in close cooperation with the technically oriented departments of our faculty. The project "Application of e-learning in foreign language teaching at the Faculty of Manufacturing Technologies" is focused on the implementation of modern technology and the improvement of teaching in the study branches and

study programmes of the Faculty of Manufacturing Technologies. The aim of the online course is to prepare our students as proficient users of technical English at B2 and C1 level in accordance to the Common European Framework for Languages. The project has been designed to support pedagogical models of education, new technologies, forms and methods. The project is focused on the development of targeted cognitive operations (knowledge, skills, abilities and habits) within new training programmes, which in future would be used in scientific and research areas, eventually in the professional international cooperation. E-learning at the Faculty of Manufacturing technologies is being applied in full-time and part-time study within the compulsory subject Foreign language (English, German, Russian) in Bachelor's degree programme) and as an elective subject Foreign language in Technical Practice (English, German, Russian) in Engineering degree programme) in the form of supplementary teaching based on the Moodle system. The Moodle Learning Management System (LMS) has been adopted by the Technical University of Košice (Slovakia) as one of the e-learning platforms. Moodle is an open source LMS and has become very popular among teachers at the Faculties as a tool for creating online dynamic web sites for our students.Some authors state that use of technology outside the foreign language classroom can make students more autonomous. It allows foreign language practice not only at school, but as well as out of school, at home or in an internet café [10]. Interaction between a teacher and students and between students and educational content has a significant impact on the effectiveness of the educational process. Interaction methods (tests in questions and answers format) simulators, interactive objects (images and shapes) provide possibilities for students to deeper understand the content. To clarify the ideas contained within the learning content we have used for this purpose many different aids such as images, animations, charts, graphs and videos. The main objective of teaching foreign languages at the Faculty of Manufacturing Technologies is to develop productive communication skills via topics that are closely connected with the study programmes of our faculty. The objective is realized through selecting topics and such methodological procedures that enable to create our graduates' profile especially in the field of advanced technologies – to understand the issues of technical documentation preparation and processing, as well as technical preparation of production and to obtain knowledge on manufacturing technologies, materials, production machinery, tooling and fixtures, the control of production processes and their management. Thus, we try to simulate situations that require certain

solution resulting in connection of technical knowledge and creative thinking: dynamical and static description of objects, processes, etc. The purpose of teaching foreign languages at the Faculty of Manufacturing Technologies is to develop productive communication skills via topics that are closely connected with the study programmes of our faculty: Manufacturing Management, Computer Aided Manufacturing Technologies, Advanced Technologies, Automotive Production Technologies, Monitoring and Diagnostics of Technical Equipment, Computer Aided Design of Technical Systems, Renewable Energy Sources.One of the objectives is realized through selecting topics that enable to form our graduates' profile.

Figure 1. Language material needed for each sequence of operations in manufacturing processes

When designing the course we have followed from the skills-centred approach as well as learning-centred approach [11]. We have analyzed the target needs, selected representative texts, adapted the texts to focus on the required skills and prepared the activities to teach the skills. Within the learning-centred approach the learning situation has been analysed and general syllabus of the topics has been prepared. When dealing with the principles of materials development, we followed from the supposition that teaching materials should have impact. The impact could be achieved through up to date topics, video presentations, appealing content etc. Generally said, we are able to design a lot of various teaching materials referring only to one principle – the impact which could be achieved when materials have a noticeable effect on learners regarding various subjects – that is when the students' curiosity and attention are being attracted [12]. When designing interactive teaching materials to meet the needs of the students of the Faculty of Manufacturing Technologies, we have taken into account more principles based on which inspiring and useful materials for the target group of students could be developed. Especially they are the following

ones: attracting learners' interest and attention, including texts and illustrations rather than just texts and selecting materials relevant to the specific topics within the learners' field of study. The Faculty of Manufacturing Technologies focuses its research activities mainly on such advanced machining processes as water jet cutting, electrical discharge machining, laser beam machining, plasma cutting as well as their industrial application. Following from our students' needs analysis and the mentioned principles we have developed interactive teaching materials on various advanced machining processes.

3. Materials Adaptation

The characteristic feature of the language complexity of authentic texts used in ESP courses is that authentic texts reflect the real-life language containing a great diversity of grammatical and lexical elements which means that they are much more abundant in language forms than the texts constructed for language teaching purposes [13]. Internet resources can be considered as a free and easily accessible tool for educational materials adapting. The Internet serves as an indispensable tool for distant learning as well as it gives a great opportunity to use online resources for various language skills development. Adapting materials you have found on the Internet is not technically complicated. Whole pages can be saved and then reopened in the word processor. However, many teachers are puzzled as to how copyright laws apply to material on the Internet. According to the Berne Convention, there is no international copyright protection, so authorised use of material will depend on the copyright laws of a particular country and the rules of the institution.

The term "materials adaptation" can be characterized as making changes to materials in order to improve them or to make them more suitable for a particular type of learner. Adaptation can include reducing, adding, omitting, modifying and supplementing [14]. When adapting English texts for the online course, we have followed from the idea of using authentic texts in ESP courses suggesting that teachers should expose their students to a great number of short authentic texts not only because they suit the subject matter of their studies. Short texts enable us to remember the lexis and structures easily. Teaching materials should be also attractive to the students in terms of their usability. That is why we have accompanied the texts by visuals as including texts and illustrations rather than just texts which enables technicians to better understand the topic. There are some principles we have followed from when adapting language materials for the online course:

a) Including texts and illustrations rather than just texts is considered to be a multimedia principle enabling us to present a cause-and-explanation. Matching exercises provide students with an engaging way to learn. They provide students with an opportunity to learn objects or words definitions as well as to choose them logically. By using such techniques as inversion, diversion, and the process of elimination, students are able to increase the probability of answering questions correctly. This is an important skill to have, as it is commonly found on nearly all standardized tests.

The following is an example of modifications to the text on Water Jet Abrasive Cutting to create the gap-filling activity. Gap-filling activities are another type of word association practice. In such an activity the students are asked to choose all possible words from a list containing more words than needed.

Figure 2. Matching the components of the water jet machining apparatus with their functions
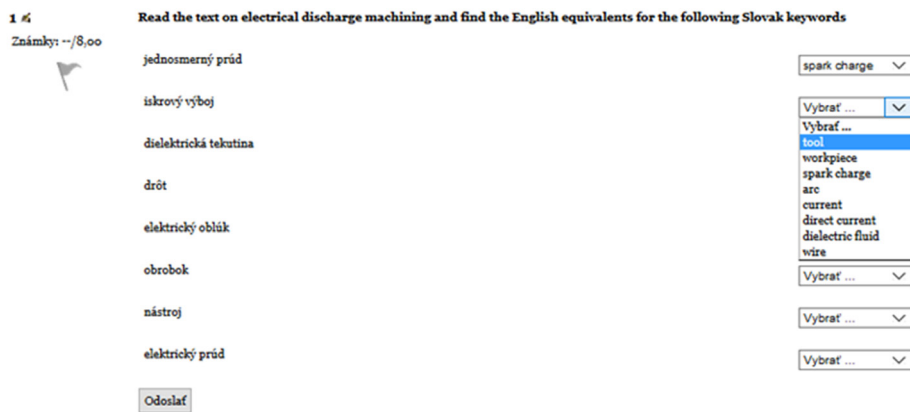
Figure 3. Looking for English equivalents for the Slovak terms

b) Using short authentic texts. Authentic texts do not have to be full-length books. They could also include a piece of material needed to a certain topic, e.g. the main principle of electrical discharge machining process.Firstly, the text on Electrical Discharge Machining (EDM) is being introduced:

The principle of this type of machining is based on the erosion of metals by spark discharges. Whentwo current-conducting wires are allowed to touch each other, an arc is produced. If we look closely at the point of contact between the two wires, we note that a small portion of the metal has been eroded away, leaving a small crater. The basic system consists of a shaped tool (electrode) and the workpiece, connected to a direct current power supply and placed in a dielectric fluid. When the potential difference between the tool and the workpiece is sufficiently high, a transient spark discharges through the fluid, removing a very small amount of metal from the workpiece surface.

The task is to find the key terminology in the text.

c) Opportunity for integrated language use. A lot of attractive and authentic presentations of advanced machining processescan be found on the Internet and consequently adapted for different language skills development.
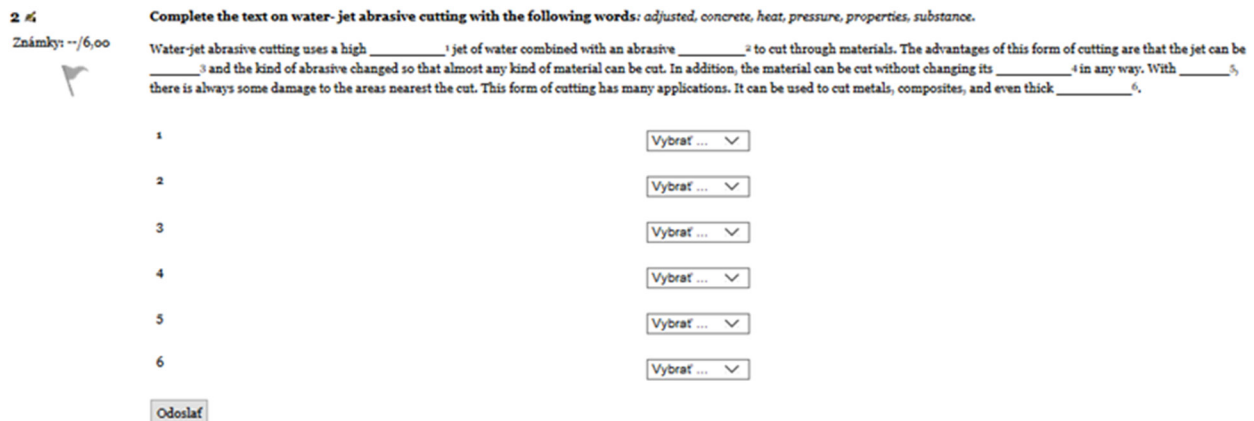

Figure 4. Creating gap-filling exercise by editing out target language
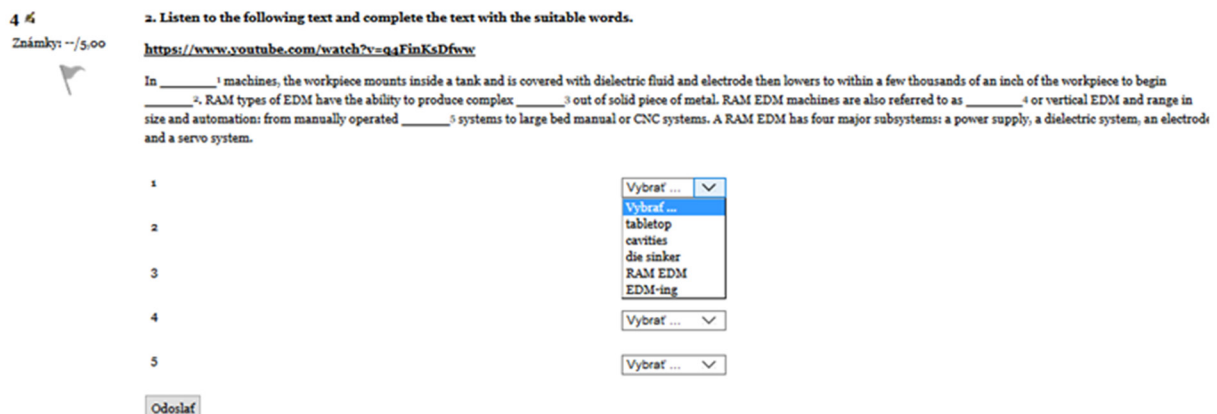

Figure 5.Watching Youtube video on Electrical Discharge Machining and completing the text with the suitable words

4. Concluding remarks

Generally, e-learning refers to the situation where the interaction between the students and the teacher is done online. The students are taught through an online medium, even though the teacher may be in the same building with them. In online learning, the key element is the use of the Internet, consequently, online learning can encompass both e-learning and blended learning, as it generally refers to the idea of using online tools for learning. Blended learning is a combination of distance learning and the traditional face-to-face learning. All these concepts have been developed to support both teachers and students. Consequently, the aim is to choose the learning style that really suits the learners of a particular institution, especially when designing an ESP course. At the Faculty of Manufacturing Technologies we have chosen the blended learning concept that is not really a new one. Teachers have always been usingcombined resources. Basically, blended learning is just a combination of teaching methods, learning styles, resource formats and a range of technologies.Students are given a schedule where they will have to attend a part of the classes at school and for the rest, they can make their own schedule or a schedule arranged by a teacher to do their coursework online.On the one side, especially at technical universities, technology is a part of students' everyday lives as well as teaching of the main subjects is computed-based. Technology students today have high expectations when it comes to technology. Having developed interactive teaching materials,integrated into the Moodle platform, we have offered an opportunity to use technology in English language course. On the other side, blended learning could be viewed as a return to teacher-centred learning concept, as the main responsibility over content structuring, didactical presentation of content, learners support and control remains on the teacher. Thus, the teacher becomesthe course designer, either he is educated or not for such a demanding task. In this respect, we would like to outline the main steps that a course designer could follow when designing an ESP course for a particular group of future specialists in a particular study branch. There are three main stages which should never be neglected when designing an ESP course either online or face-to-face. They are as follows: setting the objectivesof the course on the basis of learning needs analysis; choice of the appropriate teaching theory; and choice of the appropriate teaching materialswhich, in our case, were done through adaptation of authentic texts. By following these steps, a course designer has thechance of designing an ESP course that really meetsthe requirements of the target learners.

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