



## Enhancing Students' Language Competence via ICT and Involvement in Real Projects

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### Abstract

*At present, the experts in various fields of technology are on a high demand. Needless to add, that their skills can be better disseminated via their developed language competence – the higher the language competence the better. One of the ways to ensure a quality training of future professionals at engineering universities for being prepared to operate industry or business sector is to support the language training by ICT and project work. The contribution aims at making familiar with how ICT and project work are implemented at the Slovak University of Technology, Faculty of Materials Science and Technology in Trnava (STU MTF), Slovakia.*

### Introduction

Regarding the foreign language teaching at the universities in Slovakia, the situation was gradually changing in recent twenty-five years: from total refusal of obligatory teaching of Russian and limited choice of other languages, through extreme teaching of just the English language while neglecting the other ones, to balanced offer of foreign languages. Due to various reasons, mostly financial ones, however, many universities had to lower their load of language teaching, the language teachers were allotted to subject-specific departments while the others were made outsource the lessons via Language Centres operating for more faculties. This meant that the network built by enthusiastic teachers is now almost gone. To be clear, this situation relates to teaching of foreign languages at non-philological institutions. At STU MTF, only English language is taught and the number of staff has been decreased to three people.

In this contribution the authors try to find possible solutions in closer interdisciplinary cooperation with subject-specific departments via projects.

### 1. Dealing with new situation

Regarding the new accreditation, the English practitioners at STU MTF, Trnava now deal with how to achieve corresponding language competence within two semesters left for bachelor study.

The concept of English for Science and Technology (EST) taught at STU MTF was developed in the early 90s regarding the thorough needs analysis of students' needs on one hand [1], and the requirements from industrial practice on the other hand. Obviously, the concept is updated on regular basis taking feedback reflecting the current development and innovations into consideration [2]. This is also the reason why the language teaching has to be closely related to subject-specific teaching. Besides, within language teaching we focus also on culture as the awareness of cultural differences and tolerance are the prerequisites for mastering the university study abroad, as well as it is also important for the performance in the companies with different corporate cultures.

In other words, STU MTF English course covers not only the topics according to the syllabi, the students also get familiar also with intercultural issues and are challenged to elaborate their own projects to be presented at the Faculty Student Research Conference [3]. They train their soft skills: learner autonomy, self-motivation, flexibility, or time management, which being developed in the EST classes along with the language skills can be further enhanced via involving the undergraduate or postgraduate students into various projects.

### 2. How to solve the situation

The language practitioners had to find out how to deal with the new situation. First, they did their best to understand what is taught by other teachers at the subject-specific departments. They also visited their workplaces or laboratories, tried to comprehend the functions of related equipment, basic

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operations or technology procedure which was very useful as the language teachers could then refer to real facts in teaching EST.

## **2.1 Solution 1: involve students in real projects**

One of the solutions to the new situation could be found in interdisciplinary cooperation with subject-specific departments. Such a cooperation is practised also by the English language practitioners and subject-specific teachers at STU MTF in Trnava. In these projects not only the teaching staff but also the undergraduate as well as the postgraduate students can be involved if they are attracted by the topic, enthusiastic approach of their teachers, etc.

## **2.2 Solution 2: look for new approaches to language study**

There are many innovative approaches to be used but one of the new approaches we tried at STU MTF in Trnava is to look at foreign language education differently – e.g. via gamification. Computer games can scaffold learning languages while fostering their continued interest in the game for hours, weeks, and even years. As known, game-based learning is not based on entertainment, it uses entertaining features to prepare an attractive learning environment for both studying at schools and studying autonomously at home. Educational games often combine the concentration demanded by challenging activities and the enjoyment. The students at tertiary education are considered autonomous people with their opinions on learning-teaching environment and this feature is also utilised in one of the projects as described below.

## **2.3 Solution 3: Content and Language Integrated Learning**

One of the other possibilities is also to try CLIL (Content and Language Integrated Learning) method which could improve the status of foreign language teachers. Why? The situation in global labour market makes all higher education institutions internationalise their education system so that they can attract foreign students [4]. Therefore, without the option to study at the university/faculty in English, there will not be any increase of foreign students. Implementing English into education at STU MTF became the priority due to another reason: it allows the students as well as the researchers to operate and present their ideas and research results in an international environment [5].

## **3. STU MTF running interdisciplinary projects**

Currently, the following five projects which could be characterised as interdisciplinary ones and which originated due to close cooperation of the English language practitioners and subject-specific departments are:

### **3.1 Project 1: Student online conferences of STU MTF (Slovakia) and University of Niš, Faculty of Electronic Engineering (Serbia) for the purposes of specific English language and other skills development**

The project brought together English teachers, PhD. students and young researchers in IT study programmes with similar syllabi, using English for Science and Technology (EST) as a means of communication. The financial sources of educational institutions are often limited, and the chances of the PhD. students to attend international scientific events are also limited. The project is focused on training their communication and conferencing skills via an inexpensive platform and at minimum expenses [6].

Within the project the doctoral students can exchange their professional knowledge and enrich thus their international experience [7]. The involved students could improve their language and communication skills using ICT, strengthen presentation [8] social and specific technical skills as they also chaired the individual on-line meetings. The PhD. students involved had the real opportunity to present at a real ESP conference in Niš, Serbia.

### **3.2 Project 2: ERASMUS+ Transnational exchange of good CLIL practice among European educational institutions**

In this project five countries are involved (Slovakia, Lithuania, Latvia, Italy and Sweden). CLIL method could be the way how to improve the status of the Language department at STU MTF in Trnava.

Within this ERASMUS+ project, we are planning to map and identify the students' needs and requirements and teachers' preparedness for CLIL at STU MTF, i.e. to define which courses could be taught by implementing CLIL principles [9]. Our experts are preparing a manual for interested teachers how to apply CLIL (via a web platform - self-learning environment). In addition, this methodology could open new horizons for the tertiary education in the field of foreign language acquisition.

### **3.3 Project 3: Development of educational application for STU MTF students to enhance the competence of their technical English within managed/controlled self-study focused on Applied Informatics and Automation in Industry study programme**

As aforementioned, while trying new approaches and keeping the holistic approach to learning we integrated gamification and self-learning into the project which focuses on designing an educational application for STU MTF students to enhance their competence at professional English. Three students – participants of the Faculty Students Research Conference decided to design an application for learning professional English. This interdisciplinary team would like to design such an application which will be fully functioning to support students' autonomous learning. The students within the project team are supposed to design the educational application by themselves while the teachers-participants are just their supervisors. The students are supposed to program the application, to implement game features and language content into it.

### **3.4 Projects 4 and 5: University textbook “The means of automated production by interactive multimedia format for STU Bratislava and Košice” and Research and development of a new autonomous system for checking a trajectory of a robot**

These two projects are also the proof of the interdisciplinary cooperation [10], [11]. of English practitioners and subject-specific teachers as within the elaboration of the textbook the language teachers could deploy their experience in various approaches to education [12] which provides a massive help to our colleagues from IT department.

## **Conclusion**

The situation within foreign language teaching is changing and whether we admit it or not we have to deal with the new situation [13]. We all know and the related documents issued by European Commission prove it as well, the ability to communicate in a foreign language is one of the essential competences [14]. It is important not only for the mobility, but it enhances the employability of STU MTF graduates in labour market as well. Nowadays, the competence in foreign language is no more understood only as a mastery of one or two languages. Instead, the aim has become the development of such a language register, where all the language skills find their place and meaning [15].

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## **References**

- [1] Dudley-Evans, T. and St. John, M. J. “Developments in English for Specific Purposes. A multi-disciplinary approach”, Cambridge University Press, Cambridge, 1998.
- [2] Hutchinson, T. and Waters, A. “English for Specific Purposes: A learning-centred approach”, Cambridge University Press, Cambridge, 1993.
- [3] Miština, J. “English for academic purposes course design for natural science doctoral candidates”, Horváthová, B. et al: New directions in teaching foreign languages. Masaryk University, Brno, 2012, pp. 122-137.
- [4] Kováčiková, E. “CLIL Methodology through Project Work within the Environment of English for Specific Purposes“, Horváthová, B. et al: New directions in teaching foreign languages, Masaryk University, Brno, 2012, pp. 103-122.
- [5] Nashaat Sobhy, N., Berzosa, C. and Crean, F.M. “From ESP to CLIL using Schema Theory”, Revista de Lenguas para Fines Especificos, No. 19, Universidad de San Jorge, San Jorge, 2013, pp. 251-267.
- [6] Dahestani, R. and Stojkovič, N. “The Use of Technology in English for Specific Purposes (ESP) Instruction: A Literature Review”, The Journal of Teaching English for Specific and Academic Purposes, Vol.3, No.3, 2015, online. <http://espeap.junis.ni.ac.rs/index.php/espeap/article/view/304/199>
- [7] Chmelíková, G. “Doctoral students and necessary academic skills“, R&E source. Special issue 4, 2015, online, pp. 28-31, <http://journal.ph-noe.ac.at/index.php/resource/article/view/241/280>
- [8] Mironovová E., Waleková G. and Taylor K. “Structuring Internet Meetings for International Student discussion“, Proc. ICEE Conference Proceedings, Vol.1, Gliwice, 2005, p. 817.

- [9] Hurajová, L. "Content and Language - how to integrate them on tertiary level", R&E source. Special issue 4, 2015, online, pp. 105-108, <http://journal.ph-noe.ac.at/index.php/resource/article/view/255/294>
- [10] Chmelíková G. and Božek, P. "Utilization of computer-aided teaching and learning of English and other subjects at STU MTF in Trnava", Proc. IAC-ETeL 2013 [electronic]: International Conference on Education, teaching and E-learning, CD-ROM, Prague, 2013, p. 4.
- [11] Božek P. and Chmelíková, G. "Multimedia in Specialized Subjects and Language Education at STU MTF", Proc. Techničeskije universitety: integracija s evropskimi i mirovimi systemami obrazovanija: materialy V Meždunarodnoj konferencii, Izhevsk, 2012, pp. 271-275.
- [12] Smith B. M., Spargo E., and Pryce H. "Power Reading", Book 2. Providence: P.A.R., 1989.
- [13] Štěpánek L., de Haaff J. et al. "Academic English", Grada Publishing, Praha, 2011.
- [14] Labašová, E. and Chmelíková, G. "Electronic presentations in education", Materials Science and Technology, 10/4, STU MTF, Bratislava, 2011, pp. 31-36.
- [15] Council of Europe. "Common European Framework of Reference for Languages: Learning, teaching, assessment", Cambridge University Press, Cambridge, 2004.