TPU PREREQUISITES AND FRAMEWORK FOR CLIL IMPLEMENTATION

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Improving the language training of university graduates majoring in technical field is currently one of the most urgent objectives of the modernization of Russian tertiary education. This is due to the globalization and informatization of modern society, development of innovative technologies, and integration of Russia into the world community, which forces specialists to go beyond their habitual environment. For example, many organizations provide their employees with the opportunity to participate in grants and projects implemented by international groups, which requires knowledge of both the subject area and a foreign language (most often English). This trend is stipulated by the growing number of foreign producers and various joint ventures. Also, there is a need to read authentic literature on the subject area in order to get relevant information, translate texts in the scope of professional domain. There are opportunities for advanced training abroad, sharing professional experience and knowledge with foreign colleagues, engaging in scientific events and publication of their results in international journals. The challenges of modernity make the form and content of classes to acquire the mode of language immersion in professional activities, which requires concurrent acquisition of content in two languages.

Thus, following this globalization trend in the educational sphere, Russian tertiary education attempts to provide high-quality and effective training in foreign languages, other than the official language of the country, and in major cases it is English. Specifically, English is used as a medium to study subject-matter courses, which constitute mainstream educational programs that students are majoring in, and which are originally taught in a native language. One of the reasons for integrating both content and language in learning process is that “it provides exposure to the language without requiring extra time in the curriculum, which can be of particular interest in vocational settings” [3] and, in addition, second language (L2) learners gain the benefit being exposed to both foreign language acquisition and domain-specific language as well. Besides the opportunity of “using a language as a medium for learning content and content as a resource for learning and improving language” [6], it introduces the wider cultural context, prepares learners for international interaction allowing them to learn not only the content and the language but how to communicate on profession-based topics and how to deal with diferent channels of information that is primarely stored as big data in various sources in English. It also results in learners’ higher awareness and ability to find a set of solutions towards engineering challenges through using convergence knowledge. The approach to run teaching within content-language integrated learning (CLIL) methodology gives teachers the academic or didactic freedom in methods and organizational forms of classroom practices.

Tomsk Polytechnic University (TPU) is one of few universities in Russia which has paid much attention to foreign language training over time, (since 1998) and has been experimenting with various ways, means and formats to incorporate foreign language instruction into engineering curriculum and thus, has hands-on experience in advancing education curricula and particular courses in English. However, before proceeding to experience analysis, there is a reason to trace the whole language training history at the university.

Attempts to massively introduce English into engineering curricula at Tomsk Polytechnic University had been made long before this challenge was undertaken by other Russian universities. In 1998, Rector Yuriy Pokholkov initiated a language reform at the university to intensify teaching students English as a Foreign Language across the university. The reform included five times increase in human resource, six times increase in academic workload and significant budget allocations to support all this innovative initiatives and infrastructure. The rector aimed to create a multilanguage environment with the view to expedite academic mobility and internationalization of the university. The new educational philosophy was based on the assumption that “foreign languages are an integral component of an engineering profile because engineering graduates should be able to continue education and work in any country of the world” [2].

The major dispute regarding the reform at the University arouse around the issue of teaching methodology. The university administration and course developers admit that foreign language teaching at an engineering school should not be limited to translating technical texts like it was commonly practiced. The common understanding what “a good English course” should look like was based on the statement-purpose that it must deal with ‘additional and practical values’, useful and required in real-job world. Therefore, the methodology to be chosen should include the activities and tasks which would resonate with real-life situations and professional needs of graduates. In other words, “a good course” should be more learner-oriented.

The first solution offered as improvement concluded in changing the existing system of language training that had been *massive*, where the content of learning had been the same for all without taking into deep consideration students’ needs and a knowledge level. New solution was based on building up a linear educational model and implied division of students into groups based on the level of language proficiency. Professional communicative adequacy was chosen as the leading educational principle and implied the development of competencies eligible and required in professional communication. The commitment to teaching adequate communication entailed designing more pragmatic and profession-oriented content. This concerned personification of knowledge and motivation of students, which for centuries has been considered as the main driving factor and the factor of success in learning languages, just for the reason that a language should not be taught but should be learned.

After two years of the reforms, foreign language education at the university expanded by adding into engineering programmes the courses of English for Specific Purposes (ESP) in the amount of 612 hours per year. That was the first attempt to integrate language and content. The main difficulty that the course developers faced was to define the frame of professional competencies and, as a consequence, the learning outcomes because the mandatory State Educational Standards imposed inconsistent and ambiguous requirements to a graduator’s language proficiency, for instance, “to be able to prepare reports, to understand the main rules of corporate relations in international companies and to use a foreign language in

professional activity". A course of a foreign language of that period was typically built across various profession-related situations based on general engineering topics [4].

Unfortunately, the first effort of the university to create a resource base and improve foreign language proficiency by a large-scale training failed to achieve the expected results at full extent. Analysis showed that the practical component of ESP learning materials was not strong enough, mostly due to limited communicative situations and the nature of selected target vocabulary, mainly from the point of its validity. Rather than being rhetorical we conducted the collaborative experimental study on the corpus lexis that was offered within the course "Business English". The vocabulary analysis was carried out with the use of corpus software tools, specifically, AntWordProfile, Complete Lexical Tutor programs. The experiment results unveiled some shortcomings of teacher-created materials and the major part was a small amount of real-life target vocabulary and the type of context itself, which conventionally help learners' to acquire the learning material. The context is to endow the retention of the word under consideration, thus it should be repetitive or include cases of key words repetitions, making them more learnable. In so doing, when selecting the vocabulary to learn, the range and the frequency of it should be counted as one of the top factors. The conducted experiment showed that the course texts contained only 27.4 % of the target lexis that was not enough to speak about efficiency of a course [5].

Student surveys also showed that professional discussions were often limited to problem statement that never found the further development in some practical solutions that could be discussed from the point of professional knowledge growth. Moreover, some inaccuracies and terminology errors were common when translating professional texts. As a result, new knowledge often had only a weak association with professional fields was quickly substituted in the operational memory with the next set of knowledge and rarely developed into a practical skill of adequate professional communication. In other words, in Bloom's terminology, the lessons were targeted at the students' low cognitive levels of remembering, comprehending and applying and not at the high levels of analysing, synthesizing and evaluating, according to B. Bloom's taxonomy of cognitive domains [1].

To solve the problem, content teachers were invited to join a new type of a 'double agent' course also known at Tomsk Polytechnic University as a course of pedagogical tandems. In this mode, a professional English course was taught together by a linguist and by a content teacher. The teaching was based on the model of adjunct/linked learning, where a content teacher was responsible for the development of professional knowledge and skills and a linguist focused on useful language skills of each specific professional context. The approach could be classified as CBI + ESP. Compared to the previous model, the new teaching had a more complex organizational structure and links because of the need for collaboration at the level of two structural divisions.

The focus was done on acquisition of specialized vocabulary to equip learners with the necessary tools for professional communication. The practice was carried out by both content and language teachers. However, the approach failed because it was unable to achieve the desired results and for it there were some obvious reasons:

absence of well-organized and well-suprvised collaboration (between content and language instructors) led to inconsistency between language instructor's classes and content teacher classes;

English as a foreign language (EFL) instructors encountered difficulties associated with content-based knowledge to explain specialized vocabulary;

in addition, the level/command of foreign language of most content teachers was insufficient to develop communicative tasks and organize discussions; translation tasks dominated during the instruction (from a target language into the source one).

To overcome the drawbacks mentioned, after 2 years of general-purpose language instruction, it was decided to incorporate Elective Course Component for 3d and 4th year undergraduates. The course was intended to bridge the gap between language instructors' classes and content teachers' classes. The course presented learners' main subjects taught by a content teacher who decided on the most content part of that subject and taught it in a foreign language. The language instructor's role was simply to consult the content teachers on the choice of tasks format, and help with material development and class planning (a language advisor). However, there was no high degree of consistency across the classes taught in a foreign language and in learners' native language. And afterwards, "Professional Training in Foreign Language" class, that is likely to be framed as CLIL, was introduced in 2016 and is still being taught now. It presents a holistic subject-matter course, instead of an elective course component, which is taught by a content teacher and compulsory for every engineering major (the 3d, and the 4th year undergraduates and Master students). In fact, the university supports the idea of extensive foreign language training, and is still looking for the ways how to incorporate it in engineering curricula, but it faces the problems concerned with insufficient pragmatically-oriented component of the instructional context. And, together with the benefits that ESP/CBI/CLIL possess, the experience gained has shown that implementation of these approaches highlight the following concerns:

dealing with ESP, where the abovementioned approaches might be utilized, teachers always have to confront with issues which are exclusively linked to the specific features of the domain language;

handling the situation when L2 learners have different background knowledge, mother tongue, and are not equally trained in the foreign language but are exposed to academic content in this foreign language (EMI) without any foreign language instructional support on the part of a language instructor;

teaching a vocational context in English implies that a content teacher should be both a competent linguist and an expert in the subject content.

Global challenges of cross-border education remain relevant and require quick solutions. Understanding that integration of content and language is needed is growing every day. CLIL being an approach oriented towards achievement of a dual objective, where a foreign language is used as a means of teaching content and is the object of study at the same time tend to meet the challenges of the current requirements posed to university graduates. Expanding practices and raising motivation to generate them will over time develop clearer concepts based on experience and regarding the specifics of the actual educational system. Organizational measures such as the tandems of English teachers and subject teachers,

professional communities of the subject teachers involved in CLIL training, which will culminate in the reinforcement of the interdisciplinary component of the educational process and ultimately will provide a greater quality of education.

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MODERN WAYS OF IMPROVING KNOWLEDGE OF FOREIGN LANGUAGES FOR SUCCESSFUL COMMUNICATION IN CONDITION OF ESSENTIAL ENTERTAINMENT

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As long as new technologies are appearing there will be new ways to learn some information. Discovery of the Internet triggered the development of an entertainment industry. People are used to wasting time for entertainment. For example, there are 400 thousand players of Dota 2 [2] per day and 500 thousand players of Counter-Strike: Global Offensive [1]. These statistics show us that a lot of young people spend their time by playing computer games.

In terms of above mentioned data it is important to learn some ways that would help to learn foreign languages in an entertaining way.

First of all, it is computer games. Since the time of the first games, the gaming industry developed rapidly, and as a result, there is e-sports that involved people from all over the world. Most students prefer to learn vocabulary by playing computer games [3].

As far as single games are concerned, there are a lot of them that do not have a translation. That is why some people can start learning foreign language to play such games. The other way that people which are able to understand most part of the text in the game is that they can only find a translation of unknown words and memorize.

In multiplayer games, people must communicate with each other for a successful game. From time to time, a team consists of players from different countries and then for successful communication they use English based vocabulary, such as mid from middle.

Teacher can make the lesson more interesting, easy to understand and fun through the games. Learning more words by playing games can help students start speaking English and other foreign languages well [6].

Another modern entertainment is manga. There are a large number of genres, so it is possible to find a suitable manga. Unfortunately, it takes time to translate text, and there is not translation for not so popular manga. If a person is interested in a story, he is able to continue reading in foreign language and thus improve his knowledge.

The other way, that manga helps to learn language is an interest in learning Japanese. Some people are inspired by Japanese culture, so they start learning language and at least some words.

People waste a lot of free time in social network. They read posts of most popular accounts that used to be in English. By this, they improve their vocabulary. Other people improve their knowledge to write posts in English for higher popularity. Also there are a lot of interesting youtubers speaking English, so for watching these videos, that are not translated into native languages, a person has to learn a language. By watching these videos with subtitles they are able to improve their knowledge.

A huge number of people listen to music, in this way songs can become a funny way of learning a foreign language. Some people memorize texts of songs in different languages, they also find a translation of texts and in this way they are able to learn foreign language. There is one of the easiest way to support oral language practice, it is karaoke [5]. Songs provide tools to strengthen and reinforce vocabulary, listening, comprehension, writing and speaking [4].

Even book reading has changed with the introduction of new technologies. There are programs that allow people to read in native and foreign languages at the same time. Such programs significantly simplify the understanding of the content and learning new words.

It is possible to note the fact that thanks to technology, a person can instantly find a translation of a new word for him. It simplifies both reading and learning in a foreign language.

Despite the seemingly ideal opportunity to learn foreign languages, by playing, there are significant limitations to these methods. The main problem is learning grammar. The above methods do not allow learning grammar. Other problem is the need for basic knowledge of a foreign language, because these methods help to improve vocabulary.

In conclusion, development of new technologies opened different ways to improve knowledge of a foreign language. It can help a child start learning or improve knowledge to advanced level. Playing computer games, reading and