

PROMOTION OF ENGINEERING STUDENT COMPETENCES IN EXTRA-CURRICULUM ACTIVITIES

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Abstract. The business environment in Latvia has become more dynamic and wider thus requiring from the young specialists besides their professional competences also knowledge not only in business communication, but also in cross-cultural communication, as these competences play an important role in international co-operation. This, in turn, determines the necessity for foreign language competences. At the Faculty of Engineering of the Latvia University of Agriculture, foreign languages are taught only in the first year. The number of sessions is too small to ensure successful development of the aforementioned competences. The ways are being searched for to help promote the competences in extra-curriculum activities and through Erasmus mobile exchange programs. The article gives an insight in the theory of communication and cross-cultural communication describing the role of foreign languages in these processes, as well as the influence of cultural differences and the ways to overcome difficulties, risk factors and barriers to make the process of cross-cultural communication fruitful. An enquiry was carried out among the students on the necessity of foreign language and cross-cultural communication skills for them to be able to participate in Erasmus programs and integrate in the labour market after graduation. Also the graduates – future employers of the students were interviewed to get their opinion on the competences their employees need for hiring them in their work places.

Keywords: activities, foreign language, competences, development.

Introduction

Considering the situation in the Latvian and European business conditions today, it is necessary to find ways of preparing the future engineers being able to integrate successfully in the labour market after graduation from the university. Our previous research shows that besides special professional competences the future engineers need to have other general skills including foreign language and cross-cultural communication skills. The sessions of foreign languages have a great potential to ensure the development of the mentioned skills and competences. Nevertheless, foreign languages at the Faculty of the Engineering of the Latvia University of Agriculture are taught only in the first year (two sessions per week) in the specialities of agricultural engineering, autotransport, technical expert, machine manufacturing and design, and also in the second year in the speciality of agricultural energetics. This number of sessions is too small, and the fact must be considered that the main task of these sessions is to teach the students professional English, meaning teaching of special terminology. A task for the teachers of foreign language arises to use the allowed time more efficiently for teaching the special professional language and at the same time to find a possibility to include the elements of cross-cultural communication. Nevertheless, it is a very difficult task, as the groups of students are not homogeneous; their knowledge of foreign languages may differ greatly within the group. Therefore, the teachers are trying to organise extra-curriculum activities for the students in which they could master not only foreign language skills (mainly conversational language) but also develop cross-cultural competences. The students are also promoted to participate in Erasmus exchange programs by the teachers of foreign languages as studying in these programs is a good way to develop the mentioned skills.

Materials and methods

In order to develop definite competences one should understand what these competences are and how it is possible to develop them most efficiently. Learning of foreign languages is not possible without speaking in the language that is acquired. Therefore, it is necessary to understand the process of communication.

The word “communication” is used quite often today even without thinking about the idea it includes as it has a very wide meaning. The word originates from a Latin verb *communicaris* meaning to talk, share opinions, communicate, co-operate, possibly it, in turn, has originated from the word *communis* giving the origin to the English word “common”. Communication always has a definite aim and meaning, it manifests in the nature of a person and his/her ability to communicate with another

person so that the other person understands what is communicated. Communication is a process where by means of general symbols exchange of opinions between people is carried out [1].

Another definition of communication is given by S. Veinberga: "Communication is a process. Ideas and facts are changed into words (or symbolic signs) that are communicated by one person to another" [2]. These two definitions are considered to be the most suitable for the present research as they reveal the necessary notions that are used for planning the teaching material for students in the sessions of foreign languages aimed at development of their foreign language, communication and cross-cultural communication skills.

Meaning can be communicated via spoken or written language, in a variety of genres - a lecture, a conversation, a shouted warning, a newspaper report, a scholarly article, an email, a posting in an Internet chat room, a blog, or even an old fashioned letter. Many genres are governed by a relatively stable set of linguistic conventions which are appropriate to their cultural purpose. The style of a blog, for example, will not be the style of a scholarly article, just as the style of an informal conversation will not be the style of lecture. As learners become familiar and confident with the conventions governing different genres, their communicative repertoire expands [3]. Teaching the students of engineering specialties the main attention is paid to scientific and technical texts, and the vocabulary consisting of special terms to understand these texts and be able to create their own texts at the sessions, write presentations and articles for conferences, and annotations for their bachelor papers in the fourth year. Often students have a need to translate some documents if they are going to study or work abroad.

Considering communication as a process of verbal and non-verbal interaction two kinds of communication are distinguished: verbal and non-verbal communication. For the present research verbal communication is paid more attention to and ways to improve the skills of verbal communication will be discussed in more detail.

To analyse the notion cross-cultural communication we should understand the idea of culture. This notion originates in the Latin word *cultura* that was developed from the verb to cultivate. Culture describes the kinds of people activities as well as symbolic structures giving a definite meaning to these activities. Culture includes technology, art, science as well as moral systems, behaviour and habits characteristic of a definite group of people. Anthropologists most often use the notion culture to describe the ability of people to classify, code and communicate their experience by means of symbols. Culture is a kind how people live in accordance with their opinions, language, history or the kind how they dress. Culture is the expression of the values and beliefs of a community – and the community, in turn, may be defined in terms of age, gender, profession, ethnicity, social class, nationality, or even affiliation to some social activity such as sport, theatre going, consumption of literature, and so on [3].

Cross-cultural communication is a process of communication between individuals and groups of different cultures and totality of the forms of mutual relations, it promotes the process of globalization and peaceful coexistence between nations. It plays an immensely important role in international business co-operation. This is the reason why we should do the best being teachers to train our students so that they are ready for this kind of co-operation in their professional life.

Cross-cultural communication competence is conceived of as a set of knowledge, skills and attitudes. It is knowing the self and the others; knowing how to relate and interpret meaning; developing critical awareness; knowing how to discover cultural information and knowing how to relativise oneself and value the attitudes and beliefs of others [3].

Language is one of the most important differences between many cultures and due to this reason it can be one of the most difficult barriers in the process of communication. The foreign language competence also plays a very important role in professional and everyday life of today's specialists in achieving their personal aims and making a career. The number of people speaking English for communication purposes in their professional life grows every day. The enquiry among the employers of the graduates from the Faculty of Engineering performed by the authors of the article shows that the graduates who are competent in foreign languages have a higher possibility to find a good job after graduation from the university. Also during the studies at the university the foreign language competence can help in many ways to prepare for the future professional life more adequately. It is

also clear that developing course papers and elaborating bachelor papers the students need to read scientific literature in foreign languages as they have to get acquainted with the research results obtained in other countries in the sphere they are investigating to make their research topical and updated.

In the present time when fast exchange of information due to the development of technologies and globalisation is a common phenomenon the need for specialists being able to cope with it and adapt to the requirements that are also changing very fast becomes very topical. As a fact the exchange of information is possible only through communication.

One of the ways how to cope with the barriers in communication is using a common language understood by both or more parties that are communicating. Here again we come back to the fact that the English language can be a solution. This language is used by people of many countries in business, political, scientific, academic and many other meetings to send and receive information and understand it. The English language is used also in everyday situations if people are visiting other countries as tourists or meeting their friends and acquaintances abroad. If students wish to participate in Erasmus exchange programs or have practice abroad the main requirement is to have an adequate level of knowledge in foreign languages. Often the students need to take special foreign language, usually English, tests before they are included in these programs.

Results and discussion

Observations and enquiries prove that the students of the Faculty of Engineering are not always ready for going to study abroad the main reason for it being inadequate knowledge of foreign languages and sometimes also they are afraid that they will not be able to cope with cross-cultural problems.

According to the data from the International Department of the Latvia University of Agriculture there are only eight students who have studied abroad within Erasmus exchange programs. In 2006 two students studied in Germany, in 2007/08 three students and in 2008/09 three more students studied in the Czech University of Life Sciences in Prague. Only the six students in Prague studied in international groups where the English language was used as the language of instruction, the other two were studying individually.

The authors of the article tried to contact these students and interview them. Five of them (out of six) responded and answered the questions the authors were interested in.

The questions were:

What courses that you acquired at the faculty were most useful while studying in the Erasmus exchange program?

Were the knowledge and skills acquired in the English sessions of any help during the studies abroad?

Is it enough to have only two English sessions per week?

Did you have any problems in communication with your group mates in Prague (cross-cultural communication)?

How did you solve these problems?

Do you think that it would be useful to have sessions on cross-cultural communication at the Faculty of Engineering?

Did you encounter any other problems?

Summarizing the answers of the respondents it is clear that the sessions of English had been very important in preparation for studying abroad as all kinds of communication in the exchange program had been in the English language – with teachers, fellow students and also in everyday life talking to people in the streets, shops, student hotels etc. The respondents mentioned also some special courses that had been taught to them at the Faculty of Engineering at our university in Latvian as being useful as they had to continue studies in them in Prague. In studies the terms learned in the sessions of English were of great help, such special terminology is not taught at secondary schools, but it is needed to be able to work in the chosen specialty and also for continuous studies life-long. All the respondents think that it is too small number of English sessions at the university. They would like to

have also a possibility to learn conversational English along with learning the special terminology. Although English grammar is taught at secondary schools, the respondents express the opinion that it would be good also to repeat it as it is not always acquired on a sufficient level while learning at school. As in the second, third and fourth year of studies the English language is not taught any more, students forget it if they do not have any possibilities to use it. Then it is quite difficult to pass an examination in English in the Master course and it is especially difficult to take the promotion examination in the English language in the Doctoral studies afterwards. The respondents mention also the fact that even in the local (in Jelgava, Latvia) enterprises one of the criteria to get a job is adequate knowledge of the English language. The same fact was discovered also in our previous research interviewing the employers of the graduates from the Faculty of Engineering.

Speaking about cross-cultural communication problems the answers of the respondents differed. Some of them consider that they did not have any problems as they are able adapt to new conditions and situations easily because of their open character and personal qualities. Two of them say that it was quite difficult to communicate with people from Africa at the beginning as their culture differs from our culture greatly – they have different opinion about things and phenomena in everyday social life as well as their behaviour is different. There had been no special problems to communicate with students from the European countries. The barriers in cross-cultural communication can be moved away if you learn more about the people with whom you communicate and about the peculiarities of their culture. Then you understand what is what and why they behave as they do. It is also advisable to learn different important facts about the countries which are planned to be visited. It will help in communication with the native people a lot. And you will be able to show your knowledge what is always appreciated by others.

The answers to the question about the necessity to have sessions on cross-cultural communication were quite interesting. Some of the respondents were not sure that they understand what exactly could be taught in such a course. Still all of them think that learning of this course would have helped in studies in Prague or any other place in the world and in their professional life in future. This is an important reason for considering the possibility of introduction of this course in the curriculum for students at the Faculty of Engineering as during the English sessions the allotted time is too short for teaching and mastering these specific competences.

The respondents do not mention any other serious problems, but they say that the system of studies and approaches to learning are different in the Czech University of Life Sciences in Prague. Also the methods of teaching sometimes differ. As an example the sessions of English were mentioned. At our university students are afraid to speak if they do not know exactly that it is correct what they want to say. In Prague international students are more open and feel free to speak. The authors are of an opinion that it is not due to the methods the teachers use for instruction, but due to the mentality of the students as it is a well-known fact that Latvians are not as open as people of some other nationalities.

The respondents also say that the Erasmus exchange program has been good experience of studying and living abroad. Some of them after the studies in Prague have continued international cooperation having on-job training, for instance, in Slovakia or studying further in the Master course in Denmark.

In 2009/10 there are no students studying abroad from the Faculty of Engineering. In 2010/11 there is only one student in Erasmus from the faculty. Obviously, the number of students from the Faculty of Engineering in Erasmus exchange programs is very small compared to other faculties of the university. Nevertheless, the teachers of English are trying hard to motivate the students organizing different extra-curriculum activities. The students are offered a possibility to participate at conferences in other countries. In December, 2010 two first year students participated with their presentations at the St.Petersburg Polytechnic University where there was an activity called The Week of Science organised. It was a good opportunity for the students to learn about research of other students, see the way of life in Russia and get to know more about the culture of the Russian nation. The students of the Faculty of Engineering have attended also international scientific conferences organised in Belarus, the Baranovichi State University where they have presented their reports and published articles in the conference proceedings. The students of the faculty have two times participated on The Future Day at the Copenhagen Technical College where they could get information about different higher schools

from all over the world and they also presented materials about the Latvia University of Agriculture and the Faculty of Engineering so promoting our school.

Every year scientific international conferences for undergraduate, graduate and post-graduate students are organized at the Faculty of Engineering in co-operation with the Faculty of Social Sciences and the Forest Faculty. Last year there were 172 participants from 17 countries. Such conferences are not only a good way to share experiences, but also to establish contacts for future co-operation. It is extremely important for the first year students to participate at the conference and it is sometimes very difficult for the teachers to persuade the students for that as they may be afraid to speak in front of such big international audience and they are not always sure that their foreign language skills are appropriate. A few years ago there was another experiment performed with the students of the Faculty of Engineering that showed that the students had a low level of self-assessment. Only if people are sure about their abilities and wish to achieve their aims, and even have ambitions, they will be able to be successful. If the students still dare to take part at the mentioned conference in the first year, they are participating also when they are in the second, third and fourth years, and surely when being Master and Doctoral students afterwards.

The authors of the article are organizing the English Club at the Faculty of Engineering where English speaking people from different countries are invited to participate. Last year the English Club celebrated its 20th anniversary. The meetings of the Club are organized so that the atmosphere is free and cosy to encourage the students not to be afraid to speak. In these meetings it is possible not only to train and master the foreign language skills, but also to develop cross-cultural communication competences because people of different countries represent different cultures. Our students get to know new information about these cultures, habits and traditions; they can learn about different kinds of behaviour and compare it to their own culture. At the same time they can pass information about their own cultural peculiarities to foreign people. This exchange of information is very fruitful for future activities on international level. The English Club has some traditions developed during its existence for such a long time, like celebration of Valentine Day, Thanksgiving Day, and Halloween etc. These are new traditions for Latvian students as such festivals are not celebrated in our country. Through these activities together with people from the countries where these days are celebrated the students get to know the history and culture of these countries closer. At the same time the students introduce our Latvian traditions and festivals to the visitors so disseminating information and knowledge about Latvian culture among people from different places in the world. If we consider the fact that the Club is already 20 years old, it is clear that it has been of a great importance to the people who are attending it. Here it should be mentioned that the students of the Faculty of Engineering are the most active English Club comers. They often help in organisation of the Club. By the way, students from other countries being guest at our English Club have taken over our experience and are organising similar clubs at their universities as it is in St.Petersburg, for example.

The teachers of foreign languages are also organising guest lectures for the students. It is a possibility for the students here, in Latvia, to get acquainted with the methods of teaching in other countries and to hear the English language pronounced by another person, not their teacher of English whose pronunciation they are used to and understand. And, of course, they can ask questions and get to know many things they are interested in.

Beside many other contracts our university has signed a contract with Alytus College in Lithuania. Co-operation with this school is lasting already for many years. Several times the students of the Faculty of Engineering have visited Alytus and students from Lithuania are participating at the above mentioned conferences at our faculty every year. They have attended also the English Club meetings. Communication in these meetings is in English so the students can train their conversational language skills, and they can also get to know much about the studies, free time and sports activities in their countries. As Latvia and Lithuania are neighbouring countries there are no problems in this communication process. Observations show that the students who are actively participating in the mentioned activities improve their foreign language and also cross-cultural communication skills and they are not afraid to get involved in further co-operation internationally, their skills develop faster and they are more stable after being trained.

If we compare the English language knowledge and skills of the students at the Faculty of Engineering before and now, it clearly manifests that this knowledge is on a comparatively high level.

There will always be students, who know the language better or worse than the others, but it is a natural phenomenon and the same situation is observed in every other study course. At least, today the students are motivated to acquire foreign languages and it is very promising for further development of their skills and competences. Encouraging by the teachers makes this process faster and easier, and the obtained results are more stable.

Conclusions

The requirements for the graduates from the universities are quite strict today. Besides being highly professional in their chosen specialties they need to have developed communication and foreign language competences as the employers prefer such employees to the ones who do not have these skills. It has been stated in many enquiries among the employers of the graduates from the Faculty of Engineering.

Considering the conditions of the open labour market, cross-cultural communication skills of the graduates are also of great importance.

Communication, cross-cultural communication, cultural and foreign language competences are closely related and supplement one another. Unfortunately the time allotted for the sessions of foreign languages is too short to master them adequately.

The interview of the students from the Faculty of Engineering who have participated in Erasmus exchange programs proves that the number of English sessions at the Faculty of Engineering is too small. It is worth considering introducing a course of cross-cultural communication at the faculty. It would help a lot to train the students for being ready to integrate in the local and also international labour market.

The activities organized for the students at the Faculty of Engineering by the teachers of the English language to promote the development of foreign language and cross-cultural communication skills are yearly international scientific conferences organized at the Faculty of Engineering, the English Club meetings, guest lectures, co-operation with other higher educational establishments, like Alytus College in Lithuania, St. Petersburg Polytechnic University in Russia, Baranovichi State University in Belarus, Copenhagen Technical College in Denmark, attending international student conferences and other activities in Latvia and other countries.

The knowledge of foreign languages of the students at the Faculty of Engineering is generally adequate, but more time should be allotted for mastering their knowledge and skills not only in the English language but also in cross-cultural communication for them being able to make a carrier in their professional lives.

The teachers of foreign languages should plan the time at the sessions to manage to join teaching not only professional language and special terms but also within the limits of possibility some traits of cross-cultural communication.

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