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SPECIFIC FEATURES OF TEACHING FOREIGN LANGUAGE PROFESSIONAL COMMUNICATION OF STUDENTS-ENGINEERS TAKING INTO ACCOUNT INTERCULTURAL COMPETENCE

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Abstract

The article discusses the issue of the formation of intercultural communication among engineering students. The need for the internationalization of curricula, the development of intercultural competence skills contributing to being competitive in the global world. It also analyzes the issue of teaching engineering students foreign language communication, which helps to form intercultural communication and discusses the importance of familiarization with the branch of science as engineering psychology, which studies the psychological characteristics of human labor when interacting with technical means. Attention was paid to the choice of linguistic means depending on the type of utterance of engineering English phrases, and frequent, specific, widely used phrases were found. The volume of concepts related to professional intercultural communication is proposed, which includes not only the norms and values of exchange of experience, but also specific forms and methods of interaction between specialists in solving professional (business) issues.

Keywords and Concepts: Intercultural Communication, Foreign Language Communication, Professional Communication, Technical Phrases, Engineering Students, Engineering Ethics, Engineering Psychology, Internationalization, Labor Market, Globalization, Linguistic Means.

INTRODUCTION

Modernization of the economy and political changes in the country, exchange of students and specialists in higher education institutions, joint projects and participation in intercultural communication leads to the need for highly qualified engineers. Currently, special attention is paid to the development of science and technology, as well as the training of engineering and technical staff. A set of measures is being developed in order to increase the prestige of technical and engineering professions. Many universities of the Republic of Uzbekistan train masters for various industries and fields of education. According to the decree of the President of the Republic of Uzbekistan dated July 24, 2012 No. DP-4456 “On further improvement of the system of training and certification of scientific and scientific-pedagogical staff of the highest qualification”, Resolution of the Cabinet of Ministers of the Republic of Uzbekistan dated September 10, 2007 No. 190 “On measures for further improvement and increasing the efficiency of master’s programs in the higher education system of the Republic of Uzbekistan,”

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educational programs are being developed and conditions for implementation are being created. However, scientific works revealing the organizational and pedagogical conditions for master's degrees, in particular in the field of Engineering, which are extremely insufficient.

Aim

The Decree of the President of the Republic of Uzbekistan on the training of highly qualified scientific and engineering staff and their orientation towards scientific activities dated October 29, 2020, particularly highlights paragraph 5, which talks about the organization of various advanced training courses for scientists studying English with the implementation of programs for teachers and students between leading domestic universities and foreign universities for the purpose of retraining and continuous professional development of specialists [1.1-53]. Because in the current environment of increasing globalization, which makes intercultural interaction almost inevitable, it is very important that engineering students understand intercultural aspects and cultural characteristics in relation to foreign language communication. Awareness of cultural components will help in maximizing the understanding of communication, thereby contributing to the positive growth of academic-level engineering students' experiences as well as improving work efficiency. Currently, many universities and the private sector are emphasizing that internationalization of curricula is not only important to remain competitive in a global world, but also to survive through global cooperation. Intercultural competence unites a wide range of human relations skills and culture is referred to here as an aspect of a country or community, the way of life, attitudes, customs and beliefs held by a particular country.

Analysis of Scientific Research on The Topic

According to M. M. Stepanova “The main goal of the “foreign language” discipline for non-linguistic specialties studying in the master’s program is to achieve master’s degree students in engineering and technical specialties - practical knowledge of a foreign language, allowing them to use it in their future professional activities and scientific work.” [2.109-114]. E.Yu. Melnikova notes, in her own scientific works devoted to the training of master-athletes “the need to develop communicative and intercultural competence, which allow future specialists to use a foreign language in professional and social spheres, taking into account the parameters necessary for free communication in conditions international professional activity" [3]. T. M. Tkacheva emphasizes: “A competent engineer can be considered an engineer who, in addition to professional knowledge, owns the methods of scientific and engineering creativity, and also has a good understanding of the integrity and interconnectedness of various processes and is able to predict the environmental, social and ethical consequences of engineering activities” [4.120]. Specialists in a particular field often face various intercultural work-related situations where they must effectively use English to communicate with other specialists or professionals from other countries and thus the demand to learn the language and culture increases.

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Scientific Significance of The Article

The emergence of technology parks and the development of innovation gives impetus to the formation of the creative nature of engineering activity. In order to teach engineering students foreign language communication and form intercultural communication, it is necessary to become familiar with the branch of science such as engineering psychology, which studies the psychological characteristics of human labor when interacting with technical means. When considering the methodological principles of engineering psychology, principles such as the *principle of activity, humanization of work, the principle of activity design, the principle of consistency and the principle of complexity* were studied. In our opinion, when teaching foreign language communication to engineering students, taking into account intercultural communication, the above principles can contribute to the understanding of language barriers and cultural differences between people from different countries. Because from the point of view of engineering psychology, it is important to proceed from the characteristics and interests of specialists, focus on the creative nature of work, as well as the need to develop interdisciplinary connections with other sciences.

Let's conduct a comparative analysis between the principles of engineering psychology and the principles of teaching a foreign language (in our case, English). **The principle of humanization** of work in engineering psychology is based on the characteristics and interests of a specialist who focuses on the creative nature of work and a creative approach to language teaching in non-philological universities lies in the introduction of innovative pedagogical technologies that help to understand the growing role of a foreign language at the present time. According to Strekalova I. V. "the system of modern higher education is engaged in preparing a future specialist for effective professional communication with partners representing different cultures, since the experience of successful intercultural communication in the conditions of intensive integration of science and production of different countries ensures generally successful professional activity." [5.1-7]. This means that a creative approach to language learning develops mobility, social stability of the individual and the ability to adapt to new conditions of modern life. **The principle of an engineer's activity** is not simply in processing information, but in action, while at the same time the principle of activity in mastering a foreign language is successful only if the student actively participates in the learning process. This principle is supported from the point of view of modern psychology, where activity is the main characteristic of cognition. The next principle in engineering psychology is the **principle of planning** an engineer's activities. The results of this stage are the practical implementation of the acquired knowledge into a systematic approach and taking into account not only technical, but also social parameters of production facilities. The planning method of teaching a foreign language is understood as problem-solving, searching and research activities of students aimed at solving didactic problems. As can be seen in both areas, the planning principle is aimed at the practical implementation of set, relevant and significant goals. **The principle of consistency** lies in a chain of actions, or generalized operations such as studying a need, formulating a problem, synthesizing possible solutions, implementing discretion, analyzing the results obtained. This principle is implemented through repetition, generalization and systematization of language material during the lessons. The skills and abilities of engineering

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students to follow the principle of consistency not only in the professional sphere, but also in the study of the English language can be productive, since the gradual solution of problems in engineering activities and in the development of foreign language communication are equivalent. **The principle of complexity** in engineering psychology is considered in two aspects, as man and machine. Creating favorable conditions for professional human activity and machine operation. The principle of complexity in teaching a foreign language is to achieve a minimum speech unit that represents three aspects of the language: pronunciation, vocabulary and grammar. In our opinion, a teacher of special English in technical universities needs to take into account the principle of complexity for engineering psychology and the principle of complexity in teaching foreign languages. Because the lexical material will present professional words, terms and phrases, and also study the parts and components of machines, pay attention to the correct pronunciation of these words and expressions in engineering activities and the correct use of grammar in spoken and written speech. The identical consideration of the principles of engineering psychology and teaching foreign languages leads to an improvement in the formation of intercultural competence of engineering students at the master's level. The pervasive influence of communication skills in engineering education and the international workplace makes intercultural awareness a necessity. The implementation of new public engineering projects has direct implications for engineers who must communicate and distribute tasks across international boundaries, perhaps even within ethnically diverse work groups.

The Object of The Study is the process of developing intercultural competence among first-year engineering students at non-linguistic universities studying English at the master's level.

RESEARCH METHODS

To achieve the aim of the study and solve the assigned problems, the following methods were used: the method of collecting empirical data (analysis of program and educational documentation, generalization of pedagogical experience in teaching foreign languages in universities, observation); method of planning and modeling, method of pedagogical experiment (conducting a ascertaining section and teaching experiment), method of statistical analysis (statistical processing of the results of a pedagogical experiment).

RESULTS AND PRACTICAL IMPORTANCE

To develop intercultural competence of engineers in the process of teaching foreign language communication, it is necessary to take into account the cultural and mental differences of native speakers, which is a necessary condition for a successful dialogue of cultures. In order to do this, we propose to consider the basic canons of engineering ethics. The table below was developed by T. M. Tkacheva, which was used by one of the resources to develop material on teaching foreign language communication taking into account intercultural competence.

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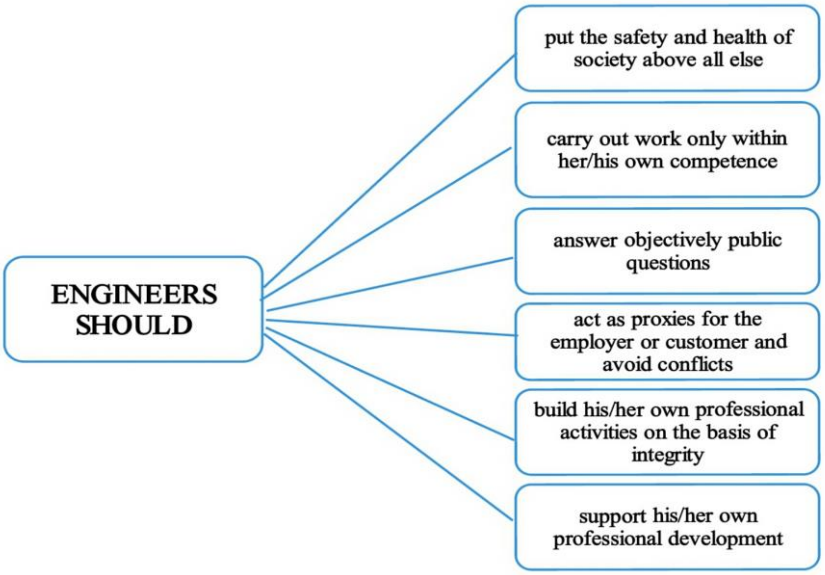

Picture 1: Basic canons of engineering ethics

Based on the data points in the table, we selected the necessary technical phrases to construct holistic, coherent and logical statements of different functional styles in oral and written speech based on the understanding of various types of texts when reading and listening.

Attention was paid to the choice of linguistic means depending on the type of statement of technical phrases of engineering English and frequent, specific, widely used phrases were discovered. For example, the phrasal verb ***buckle up*** is translated as ***fasten your seat belts*** (in a car), and in a conversational style, ***get ready, pull yourself together***. And the phrase "***horizontal engineering***" is equivalent to the meaning of "***to take a nap***." For example, ***I am exhausted and drowsy. It's time for me to do some horizontal engineering***. [6.].

Then these phrases were analyzed and ranked to determine which ones were most useful from a teaching perspective and productive for use in foreign language communication. We believe this approach is useful for engineering English teachers as well as graduate-level engineering students studying English at the academic level (EAP). To determine which phrases are interesting from a learning perspective, Dougal Graham suggests using labeling criteria to distinguish between more trainable and less trainable phrases. The more a linguistic feature differs from standard language or specific English, the more pronounced it is considered to be.

Dougal Graham suggests six tagging categories to identify technical phrases to include in teaching content that help convey communicative content in a communication situation:

1) marked part of speech – that is, none of the words in the phrase have their usual part of speech;
2) marked word form – any word in the phrase does not appear in the most common form of that word;

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3) non-prototypical word meaning – any word in a phrase does not occur in its most prototypical meaning;
4) marked collocations – phrases contain any phrases or co-occurrence patterns that differ from general English patterns;
5) non-literal phrase meaning - phrases that are not exact in the meaning;
6) specialized syntax – a phrase containing or associated with complex or unclear syntax [7.20].

Many words can appear in different parts of speech in different contexts and meanings. Some words in English have more than one possible meaning. This is the most obvious when a word has both a specialized technical meaning and a non-specialized general meaning that differs significantly from the technical meaning. In a nutshell, I would like to note that in order to form intercultural communication among engineering students, it is necessary to pay attention to the study of idioms. The reason for this knowledge of idioms is useful not only for expanding vocabulary, but also for developing knowledge about culture and traditions. Knowledge of idioms helps to think like a native speaker, since they reflect the nature of the language and retain information about the mentality. Here are some examples of idioms from technical English for engineers:

blow a gasket [ˈgaskɪt] – tear and throw (engine gasket – gasket in the engine system)

cog in a machine – small fry (cog of the machine)

well-oiled machine – everything goes as planned

fire on all cylinders [ˈsɪlɪndər] – give all your best

run out of steam – without strength, get tired (steam)

It's not rocket science – easy to understand

blow a fuse – lose self-control, become irritated (blown fuse).

“Just a young gun with a quick fuse” – Just a hot-tempered young guy.

In the era of the digital educational environment and the development of the information society, engineering students at the master's level need to use ICT to solve various communication problems, establish virtual communication and solve research problems. To achieve this, a culture of communication in the online environment should be created. N. V. Petrova argues that “it is necessary for future specialists to develop intercultural communication skills and organize interactions between participants in educational relations in an electronic educational environment using media technologies based on a social constructivist approach.” [8.1-27]. Constructivism in pedagogy is that knowledge cannot be transferred to students in a ready-made form. It is important to create pedagogical conditions for successful self-construction and self-growth of knowledge. Engineering students need to develop constructive thinking, which requires visual, effective components. Considering the curriculum of master's training in a foreign language at the Faculty of World Trade and

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International Economic Relations, we found that the educational process is designed so that students, solving certain communicative problems, feel the need for self-development and self-training in the development of creativity and self-realization. Particular attention is paid to the formation of professionally significant competencies and to the set of integrated personality qualities. Foreign language communication is one of the important indicators of the level of English language proficiency of engineering students at the master's level. The concept of developing foreign language competence among masters includes the following professional skills: communication, research, creative, intellectual, planning, information, axiological and management. If we consider each of them separately and take them into account in curricula and plans, we can achieve the formation of the integrity of foreign language competence. Because communication skills include interaction with specialists from other countries, exchange of information, correctly, competently, intelligibly explain your thoughts and adequately perceive information from communication partners. Research skills consist of formulating a goal, task, subject, object and the ability to see problems. Forming creative skills means developing the ability to reconstruct and bring something new to life. Intellectual skills help to generalize, analyze and compare educational processes. Planning skills contribute to the implementation of purposeful professional activities in accordance with specified quality criteria. Information skills facilitate the collection and selection of information, as well as the generalization and structuring of material. Axiological skills help improve self-development, self-organization and self-regulation. Management skills are a sequence of actions of a management organization following the professional ethics and motivation of employees.

Renowned scholar Marc J. Riemer has emphasized, “Unsuccessful cross-cultural communication can leave business colleagues isolated as well as unprofitable.” [9.197-206]. Rogerson-Revell argued that human influence and lack of intercultural awareness and misunderstandings can have far-reaching consequences and that cultural sensitivity is not only good business, it is an ethical act [10.103-120]. Marina Zoranyan notes that “In business, the cost of intercultural illiteracy can be much higher and can cost the company's reputation.” Anna Maria Stoica points out that international business professionals need contact with other people. To minimize the “threat”, losses emanating from cultural differences. Many scholars have shown that BE (Business English) training is invariably intertwined with a strong intercultural element. Businessmen cannot limit themselves and their expressions to special terms; they often refer to etiquette and try to charm a partner, client or investor.

CONCLUSION AND PRACTICAL SUGGESTIONS

In professional communication, an important role is played by the norms and values of exchange of experience, as well as specific forms and methods of interaction between people when solving various professional problems, stereotypes in the service sector, officials and other behavior patterns. The scope of concepts related to professional intercultural communication, including not only the norms and values of sharing experience, but also specific forms and methods of interaction between specialists when resolving professional (business) issues. Likewise, it is possible and indeed reasonable to consider EAP (English for Academic Purposes) as a sector in education within language education. In our opinion, EAP

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teachers should guide engineering students (at the graduate level) to learn how to organize the classroom learning process, plan the curriculum, and select the necessary materials. Because after graduating a master's degree, many graduates work as teachers in higher educational institutions and can teach subjects in English, that is, integrate the subject with the English language while taking into account intercultural communication. As we know, EAP (English for Academic Purposes) is a pragmatic discipline that includes a wide range of linguistic, applied and educational topics. These include classroom language, teaching methods, teacher education, language assessment, needs analysis, materials development and evaluation, discourse analysis and research. Hence, when teaching engineering students at the master's level, it is not enough to consider ESP (English for Specific Purposes), EPP (English for Professional Purposes), but it is also necessary to consider EAP (English for Academic Purposes). In our view, the EAP program helps students develop communication skills that prepare them for social, intercultural and academic interactions.

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