

DEVELOPING COMMUNICATION SKILLS IN 21st CENTURY ELECTRIC ENGINEERING STUDENTS

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Abstract. Problem. *Communication skills are an essential component in the education of engineering students to facilitate not just students' education but also to prepare them for their future careers. Various important communication skills required of modern engineers, such as foreign language skills, are discussed in this article, as well as multiple elements of communication skills training, such as oral, listening, written, visual, interdisciplinary and intercultural. The impact of emotional intelligence is also presented. Goal.* *The goal of the article is proving the idea that the classes of foreign language can be a combination of learning language and acquiring communication skills. Methodology.* *Methods of analysis, research and development of new solution were used. Results.* *In the result of the analysis it was proven that classes of English can develop not only the language skills but add to the overall development of personality, as well as enhance various kinds of communication skills necessary for the graduate of engineering (in particular, electrical engineering) specialties. Originality.* *Suggestions for communication skills development are made, including the one that communication skills be integrated in the curriculum, so as to reinforce student learning. Practical Value.* *The practical value of the work can be the ideas for improving communication tasks as well as development of the approach which includes both language learning and integration of engineering communication in the process of learning.*

Key words: *communication, abilities, behavior, society, knowledge, international.*

Introduction

The ability to treat people in accordance with the norms accepted in the society is one of the most important factors that determine the possibility of success in professional and social activities. Dale Carnegie once noted that the success of one or another person in his financial affairs, in technical or engineering spheres depends fifteen percent on their professional knowledge and skills and eighty-five percent on their ability to communicate with people. The high level of development of communicative abilities of a worker provides real psychological contact with colleagues, chiefs and subordinates. The ability to overcome various psychological barriers that arise in the process of interaction, determine the fruitfulness of interpersonal relationships, where the business and personal communication levels are harmoniously combined. Inadequate and ineffective communication skills reflect badly on the individual and the profession. An insufficient level of communication skills instruction in engineering education generally serves to undermine the whole profile of the professional engineer. This in turn affects recruitment and retention in engineering studies [6].

Analysis of Publications

Currently, it's hardly possible to find a field of teaching foreign languages, where a communicative approach would not be recognized. The ideas about the phenomenon of communicative competence were expressed by Yu. Zhukov, L. Petrovskaya, Yu. Yemelianov etc. L. Bim, G. Zymnia, G. Kitaigorodskaya, Ye. Passov dealt with developing the potential of a foreign language seeing it as crucial for the creation of a communicative model. A communicative approach in teaching foreign languages was considered by V. Kuzovlev, V. Slastenin, A. Verbitsky, speech activity was the object of the research by N. Zhinkin, I. Zimnya, L. Vygotsky. Foreign scientists, such as S. Beder, D. Jansen, W. Littelwood, M. Riemer, D. Zweig and others consider communication skills crucial for tertiary education, as they are the ones that employers look for. Communicative-oriented approach today is considered a methodical standard, and the creativity of those who study is one of the most characteristic features of a communicative-oriented approach. Among the ways of mastering a foreign language the preference is given now to the ones that develop the potential:

the tasks requiring discussion of different opinions, sharpening the means of their expression, enriching feelings and imaginative representations, improving the culture of communication and social behavior in general.

Purpose and Tasks

The structure of the communication abilities of a worker includes a perceptual component, which distinguishes such components as the ability to adequately assess the personality traits and emotional mood of the partners in communication, interpret the statements and nonverbal component of interaction correctly, determine the nature of the relations that are formed in the process of communication.

It is noteworthy that all these provisions are inherent in the students of the humanitarian higher schools, while the students of engineering specialties need to develop such qualities.

The purpose of the article is to consider and analyze the possibilities of practical classes in English language to solve the problem of development of communicative skills in students of higher technical educational institutions, in particular, students of electric engineering as one of the most modern and competitive specialty for the purposes of bringing up both a strong, intelligent, noble and smart generation of young people and the generation of highly-skilled engineers able to share their ideas, knowledge and emotions with other people.

Developing communicative skills in students of electric engineering specialties

In this age of globalization, international projects are increasing, and cross-cultural communication and collaboration is rising; especially in the now international practice of engineering, in particular, electrical engineering. English is accepted as the most widespread language in the world. The number of people who speak English with at least some degree of proficiency exceeds any other language. This is important for engineering students as this indicates that English may be more useful internationally than almost any other language due to its spread. English is considered the major language of international business, diplomacy, and science. English is the prime means for communication, and it can often serve as the global language between two people from two different cultures where English is not the native tongue. For example, French engineers communicated with Egyptian engineers in English during the building of the Cairo subway [8].

But learning English is not the only task to be solved.

Most graduates feel that they have gained analytical and problem-solving skills, subject-specific knowledge, research and improved decision-making abilities through their degrees. Yet despite this, much fewer feel that their graduate degree has provided oral communication skills, awareness of the social implications of their discipline's developments, management skills, understanding of other points of view and other cultures, confidence and competence to work in international environments [5].

English language classes can be much more than just teaching language. In order to make them help fill the blanks in communication skills, the teachers introduce communication methods of teaching.

Communication methods of teaching are characterized by the following features:

1. The objectives of the training are focused on the components of communicative competence, but not limited to grammatical or linguistic.

2. The organization of linguistic material is oriented not on the form, but on its function, through which the form is taught.

3. The lexical and grammatical correctness of design is secondary, since the main criterion is the transmission or perception of the message.

4. The ultimate goal is to use the language in unprepared contexts under the teacher's guidance, not the control.

5. Characteristic features are the information gap, feedback, choice, authentic and contemporary material.

All these characteristics mean the reception of a signal and an instant reaction to it, the freedom of expression, the discussion of interesting material, which is associated with different spheres of life.

At the present stage, the use of new communicative teaching methods is in keeping with the positions of those scholars who reasonably assume that the formation and development of the individual takes place in co-operation with other individuals.

In many works devoted to the psychology of communication as the main point in optimal communication a communicative situation is considered, when a person has something to say when they are interested in saying it. Therefore, the creation of a situation of communication is one of the methods that contributes to the development of communicative skills of students.

One Polish study found that engineering students displayed greater difficulties in written

communication than with oral. In this case, students require help in organizing and structuring reports and arguments.

Ineffective and poor written communication in engineering workplaces lead to misinterpretation, inefficiency and time waste, thereby adversely affecting problem resolution. Such miscommunication can contribute to mistrust and aggression, as well as appear unprofessional and unproductive [4]. This indicates that poor communicators will have trouble in the workplace, potentially contributing to problems rather than solving them.

Written communication needs to be relevant, properly implemented and of a quality standard; it should also generate feedback and provide accurate assessment, as well as make a positive and permanent impact on student learning. Examples of written communication include: engineering reports, technical writing, essays, reflective journals, peer review, and student conference papers. As the practice show, the most interesting and discussed topics at today's students' conferences are information technologies, electrical engineering, green technologies in transport etc. Thus, electric engineering students come first in this position.

For the purpose of improving written communication for future engineers a networked digital library of theses and dissertations was recently launched in Lithuania, which serves to enhance graduate education by allowing students to produce electronic documents, utilize digital libraries and understand issues in publishing. This initiative significantly increases the availability of students' research for scholars, preserving it electronically. This also makes it possible for students to convey a richer message through the use of multimedia and hypermedia technologies [7].

Communication in general is also one of the most important conditions for the development of personality, in the same student's age it becomes of special significance. Educational activity is mediated by communication in three directions – communication with a teacher, communication with classmates, further – professional communication. In addition, educational activity in higher education environment increases the burden on the psyche of a young person, hence full-fledged communication – both functional and role-based – ensures the mental health of the student. Emotional and personal communication outside the walls of the university (family, relatives, friends, friends) also requires communica-

tion skills and psychological qualities of the individual, ensuring the effectiveness of communication with other individuals.

In order to assess the significance of the foreign language as a subject in the development of communicative skills, one must be well aware what a society will acquire if its citizens speak foreign languages and what a knowledge of a foreign language gives to a person. The most important thing is to determine how learning a foreign language can contribute to the formation of important business and personal qualities.

Foreign language, as well as native, does not exist in isolation. It performs two important functions – communication and knowledge. Foreign language serves as a means of not only interpersonal, but also interethnic, interstate, international communication. With the help of a foreign language we can acquire knowledge which cannot be acquired adequately and in a timely manner in a mother tongue. In recent years, new factors have changed in various spheres of society, which radically change the status of a foreign language as a discipline. Practice has shown that society needs not just translators but also specialists who speak a foreign language.

Foreign language as a subject of study provides a general development of the student, makes a significant contribution to the culture of mental work and has a great influence on the development of creative abilities of a young person. Communicative teaching positively affects the development of all mental functions of a person. It involves organizing the learning process as a model of the communication process. Today, a foreign language is not just another subject of the program, it can promote the culture of communication. Classes of a foreign language become classes for learning communication through communication [3]. In the process of learning, students learn communication techniques, its operational side, learn language ethic, strategy and tactics of dialogue and group communication, learn to solve various communication tasks, be linguistic partners, that is, they master the ability to communicate, establish contacts with other people, learn to take initiative, activity, tact, which is one of the most professionally significant qualities of a modern specialist.

Due to the fact that the effectiveness of mastering a foreign language directly depends on the strategy of learning, an important factor in achieving the goal is to increase the effectiveness of the teacher's influence on students, their communication in a full social-psychological

compatibility. Students perceive a foreign language as something abstract when they do not see goals in their actions until they have a motive to perform each exercise or task. Motivation plays a crucial role in learning a foreign language. Formation of motivation is, first of all, the creation of conditions for the expression of internal motivation to study [2]. As a rule, when beginning to study a foreign language, a person shows increased interest in the subject. Then the interest may weaken, or disappear completely. One possible reason can be incorrect understanding by students of their responsibilities. Some students believe that the task of the teacher is to convey knowledge. But one cannot force a person to know something until he realizes and does not perceive himself as the main actor in the learning process [1]. After all, the motive is the basis of any activity, and in the process of formation of motives, the internal motives of a person and external conditions, which are aimed at achieving the final result, take part. The task of the teacher is to create conditions that are responsible for maintaining the interest in the subject. The teacher must build his activities in the way that students see the perspective in the use of the material and subsequently try to achieve linguistic competence. If the center of the learning process is not the one who is passively taught, but the one who actively learns, he feels a participant in certain communicative situations and learns to independently solve the necessary communicative tasks. Problem-setting tasks work very well when students deal with real problems that are taken from life. The most natural and productive form of free speech practice for those who are learning a foreign language is the group discussion of the problem in the process of mutual exchange of ideas, in other words, a discussion. Participation in the discussion causes the students to express their position in the most vivid and convincing form, to find such words, expressions, and arguments that would more accurately reflect their moral attitude – all in a foreign language. This determines the tremendous value of the discussion in the process of learning the language.

The ability to communicate involves a psychological factor. There are stiff students and there are their antipodes – impulsive, ready to risk. The students' stiffness is usually caused by the fear of errors, which adversely affects communication. Impulsive students, by contrast, are not afraid to make mistakes or fear to speak. An optimal solution in such situations lies in the balance of the discussion – the encouragement of

stiff and some containment of impulsive students so that they do not dominate communication.

In addition, people are divided into introverts and extroverts, and here their communicative competence may be in favor of extroverts in oral communication, and the written result may be the opposite. The main goal of the teacher is to establish such relationships in the group that would promote self-esteem, relaxation, sympathy, the desire for dialogue, attention to another thought.

Conclusion

The already crowded engineering (in particular, electrical engineering) curriculum still needs to incorporate additional competences, notably international (or intercultural) skills, especially communication. Fitting in a new subject will, in most cases, be difficult, but with regard to the competence being taught, very important. But the incorporation of language and communication improvement courses is a way out. This should facilitate advancements in engineering education through streamlining fundamental communication skills.

Learning communication requires an artistic approach to learning of a foreign language in the absence of a natural linguistic medium. The main function of the principle of communicative orientation of classes is the creation of conditions for communication: the motives, goals and objectives of communication. Interesting communication tasks increase the motivation of learning. Communicative-oriented approach is the process of learning communication through communication. The training should be organized in such a way as to prepare students for natural communication, since in technical universities foreign language lessons have the goal not only to teach the language but also to prepare students to overcome psychological barriers in communication, give them the ability to get along with people, to find the way out of any conflict situation.

Література

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Розвиток комунікативних навичок у студентів електротехнічної спеціальності 21 століття
Анотація. *Комунікативні навички є невід'ємним компонентом освіти майбутніх інженерів для*

того, щоб не тільки покращити рівень освіти, але й підготувати їх до подальшої кар'єри. У статті розглядаються різні важливі комунікативні навички, яких потребує сучасний інженер, такі як іноземна мова, а також інші елементи навчання комунікації: усне мовлення, аудіювання, письмова комунікація, візуальна, міждисциплінарна та міжкультурна. Також приділено увагу емоційній складовій. Ціллю статті є доказ ідеї того, що заняття з іноземної мови можуть бути комбінацією вивчення мови та набуття комунікативних навичок. Використовувались методи аналізу, дослідження та розробки нових рішень. В результаті аналізу було доведено, що заняття з англійської мови можуть розвивати не тільки навички володіння мовою, але й додавати до загального розвитку особистості, а також покращувати різні види комунікативних навичок, що необхідні для випускника інженерних спеціальностей (зокрема, в області електричної інженерії). Зроблені пропозиції щодо розвитку навичок комунікації, включаючи такі, щоб навчання таким навичкам було включено у навчальну програму для мотивації студентів та покращення рівня освіти. Практична цінність роботи у тому, що в ній пропонуються способи покращення комунікативних завдань, а також використання підходу, який включає як навчання самій іноземній мові, так і інтеграцію інженерної комунікації у процес навчання.

Ключові слова: *комунікація, здібності, поведінка, суспільство, знання, міжнародний.*

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Развитие коммуникативных навыков у студентов электротехнической специальности 21 века
Аннотация. *Навыки коммуникации являются неотъемлемым компонентом образования будущих инженеров не только для того, чтобы повысить уровень образования, но и для их подготовки к дальнейшей карьере. В статье рассматриваются важнейшие навыки коммуникации, необходимые современному инженеру, такие как иностранный язык, и на его основе навыки устного общения, письменная коммуникация, визуальная, междисциплинарная и межкультурная. Уделено также внимание эмоциональной составляющей.*

Ключевые слова: *коммуникация, способности, поведение, общество, знания, международный.*

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