THE IMPORTANCE OF COMMUNICATIVE COMPETENCE FOR THE PROFESSIONAL FORMATION OF FUTURE COMPUTER SCIENCE SPECIALISTS

The article is devoted to the analysis of the features of communicative competence of future specialists in computer science. It is noted that nowadays the profession of IT specialist is one of the most popular and highly paid in the labor market. A modern computer science specialist should have a professional and key competencies complex. Communicative competence occupies an important place among soft skills. For a future computer science specialist, it is relevant for some reasons: teamwork, communication with customers and clients, networking among non-specialists. It has been found that a lot of attention in the training of future specialists in computer science is paid to foreign language communicative competence and the state language proficiency. The reasons for the importance of foreign language communicative competence for future IT specialists have been identified. These include English-language syntax of programming languages, English-language software interface, employment opportunities abroad, and others. Some examples of word formation in computer terminology have been considered. It is noted that a large part of computer terms contains structural units of the English language. In addition, computer slang, that has specific forming words ways, is often used by IT specialists. It has been revealed that the development of communicative competence of future specialists in computer science occurs in the process of studying professional disciplines, disciplines in English and Ukrainian in the professional field. The means of developing communicative competence include interactive teaching methods, business games, creative work, information and communication technologies, etc. Further research that analyzes more detailed the means of developing foreign language communicative competence of future computer science specialists is planned.

Keywords: programmer; communicative competence; high school; professional vocabulary; computer slang.

Introduction. The rapid development of the information society and radical changes in the educational paradigm have led to increased training requirements for future professionals. In terms of implementing a competency-based approach, the competitiveness of the specialist is achieved not...
only by the accumulation of knowledge, but also by a
general competencies and personal qualities complex.
In particular, this applies to soft skills, including
leadership skills, conflict avoidance, social comfort
and more.

These requirements are also applied in the training
of future computer science specialists. The activity
of creating software in itself involves a systematic
and creative approach to solving the problem. In
addition to subject knowledge, the professional
activities of IT professionals are often associated with
teamwork, communication with customers and other
programmers.

Most of the tasks related to communication and
interaction are solved with the help of developed
communicative competence. At the same time, the
communication peculiarities of computer science
specialists are related to the use of English syntax of
programming languages, special computer terms and
abbreviations, etc. As a result, the development of
professionally-oriented communicative competence
is one of the important components of training future
IT professionals.

**Analysis of key studies and publications.** In the
works of L. Ivanova, E. Skomyakova, V. Kontsedailo,
attention is paid to the soft skill importance in the
process of training a competitive specialist in
information technology. The works of N. Kolotiy,
I. Nazarenko, S. Symonenko are devoted to foreign
language education of IT specialists. The lexical
competence structure of IT specialists as a component
of foreign language communicative competence is
reflected in the work of N. Shandra. The works of
M. Matviichuk, V. Myrosnychenko, I. Shishkova
reflect the issues related to the use and translation of
computer slang. The application of information and
communication technologies for the development of
future programmers communicative competence is
reflected in the works of S. Ruda. At the same time,
the analysis of the communicative competence
peculiarities of future specialists in computer science
and the directions of its formation need attention.

The article aims are to analyze the directions of
communicative competence formation of future
specialists in computer science, to identify the features
of verbal and written communication of IT specialists.

**Presentation of the main research material.**
Today, the profession of IT-specialist is one of the
most popular and highly paid in the labor market. This
is due to the rapid technological development, constant
creation and updating of software, the entry of digital
technologies into the lives of almost every person. At
the same time, in order to ensure their own
competitiveness, computer science specialists should
improve constantly their professional level, taking into
account modern technologies of data processing,
transmission, storage and protection.

The introduction of a competency-based approach
to the educational process has led to the separation
of general and professional competencies for each
higher education graduate, including a specialist in
computer science. They should be able to think
abstractly and logically, self-learn, be resistant to
stress [2, 85], generate new ideas, know different
programming paradigms, modeling technologies [9,
109], be able to use the acquired knowledge in
professional activities and more.

In addition to professional competencies, future
IT professionals should have developed
communication skills that involve the conscious
transfer of ideas among interlocutors and
understanding of each other [8, 137]. At the same
time, within the Internet development, the spread of
virtual social networks, some means of nonverbal
communication in the online communication process
become unavailable [10, 13].

Communicative competence is responsible for
effective communication of people. This is an integral
characteristic, which is based on the individual’s life
experience [12, 34], allows overcoming
communication barriers between interlocutors, use a
variety of communication situations [3, 89] in
accordance with the situation. In combination with
social competence, communicative competence
allows to feel comfortably in a society, to solve the
arisen problems, to reach understanding among people
and social groups, in particular in the virtual space
conditions. At the same time, a lot of attention in the
training process of future specialist should be paid to
professionally-oriented communication and the
development of appropriate motivation [3, 90].

For future computer science specialists,
communicative competence is important for several
reasons. The first is a change in the way software is
developed. In the past, local computer programs were
often developed by a single programmer. Now the
software development provides for the collective work
of several IT specialists [14, 181] (designer, planner,
programmer, content manager, etc.). In turn, working
together by default involves the need for
communication between group members. In addition,
a significant number of professions in the IT area
are associated with communication with customers,
which also involves the communicative competence
development, the ability to use verbal and nonverbal
means of communication.

Successful training of future specialists in the IT
field is based on the practical orientation of the
educational process, its proximity to the conditions of
professional activity [2, 84]. In this case, the future
specialist in computer science after graduating from higher education will be able to immerse themselves immediately in the professional environment and perform their professional functions effectively. If we mean the development of professional communicative competence, then future software engineers should learn clearly to form ideas in writing and oral form, convey information orally to everyone, including non-computer scientists, listen to colleagues, customers, managers carefully, ask relevant issues of a clarifying nature [4, 246]. In addition, a future IT professional should use a variety of communication electronic means (e-mail, instant messaging, etc.) and means of information visualization (spreadsheet, presentations, etc.) to bring information to the interlocutors, even online.

The important role for software engineers’ professional growth plays English [8, 134]. This can be linked with the English syntax of modern programming languages and databases [5], network technologies, etc. Moreover, lots of software (application, system, tool) have an English-language user interface. As a result, the ignorance of the IT specialist in English leads to a decrease in his professional productivity.

Within professional communication in the IT field, specialized and technical vocabulary, neologisms, abbreviations, professional idioms are often used [11, 191]. Computer terms have certain specific features that are not typical for the Ukrainian language. The signs of English vocabulary remain for such terms: features of the language structure; word abbreviations, or a combination of Ukrainian tokens with English; spelling rules; features of words-names with a combination of words, letters, and numbers. An example of Ukrainian and English combination is the term “file server”. An example of a combination of words, numbers and letters is the term “3D-format”. When it comes to the use of abbreviations in English (eg, URL, LAN, DNS), then for non-professionals, these terms may also be incomprehensible.

In addition to a certain level of English proficiency, future computer science specialists should be proficient of course in the state language. This is quite logical, as a significant part of graduates are employed in Ukraine. Ukrainian language skills are a mandatory requirement for professionals working in institutions of various forms of ownership. They should speak Ukrainian, serve the population, provide information about goods and services, and so on. At the same time, information may be duplicated in other languages.

Computer science specialists need to be able to exchange messages that are professionally oriented. Written communication, including in English, is used in business and private correspondence, during participation in professional forums, chats and conferences, in the process of creating posts on bulletin boards [11, 191], etc. IT professionals often use computer slang. It is usually used to adapt the English term to Ukrainian use. Unlike jargon, computer slang has its own written form and is characterized by the multifunctionality of lexical units. In addition, due to the deep penetration of computer slang into the conversation of non-specialists, it gradually loses its narrow special character and becomes part of the common vocabulary [7, 90].

Methods of computer slang formation should include reduction, univerbation, phonetic mimicry, borrowing from other professional slang, metaphorization [6, 98] and others. Productive types of word formation in computer vocabulary include word formation (combining two or more bases); conversion (transition from one part of speech to another); affixation (addition an affix to the base); reversion (cutting off affixes); contamination (combining the features of several words into one); reduction (truncation of the word) [7, 90]. It should be noted that slang cannot be used during official correspondence. In this case, it is appropriate to use the forms of treatment, terms and concepts that correspond to the corporate ethics of a particular enterprise.

The communicative competence of a computer science specialist goes in different directions and involves oral and written communication. For this purpose, the relevant academic disciplines are integrated into the curricula. For example, the educational program “Computer Science” of the first (bachelor’s) level, which trains future specialists at Dmytro Motorny Tavria State Agrotechnological University, provides students with the ability to communicate in Ukrainian (orally and in writing) and foreign languages. For this purpose, the curriculum of the educational program contains the disciplines “Ukrainian language (for professional purposes)” and “Foreign language (for professional purposes)”. Additionally, within professional disciplines studying (for example, programming), students are introduced to English terms of professional orientation. At the same time, communication in the state language between students and teachers takes place at all levels of the educational process.

The level of communicative competence development depends on the topic of communication, interlocutors [1, 72] and their number, purpose of communication, etc. In the process of communication, the appropriate communicative experience is accumulated, communicative patterns, verbal and
visual means of communication are mastered. In this case, future computer science specialists are encouraged to expand the circle of interlocutors, establish contact with employees and classmates [14, 182], participate in discussions of professional topics on forums and social networks, and so on.

The development of communicative competence occurs indirectly during any communication and specifically through interactive teaching methods (business games, modeling and solving life and professional situations) [13, 165], trainings and master classes. Means of formation of communicative competence can be creative works, use of educational communicative situations, etc. The application of the communicative-cognitive approach has proved itself well during the formation of foreign language communicative competence. In this case, future software engineers master specific strategies, authentic examples of a foreign computer language, form critical thinking and reflection [8, 135]. In the case of creative work, students learn to express their own opinions, defend their own work in front of classmates [12, 33], develop skills of consistent presentation of the material.

Great opportunities are offered for language learning by information and communication technologies (ICT). ICT tools include automated test systems, mobile applications, electronic educational resources, electronic dictionaries of computer terms, computer translation programs [10, 14], etc. Such variety allows you to use the powerful potential of ICT effectively to develop communicative and social competence both in the classroom and independent work at home.

Conclusions and prospects for further research. Thus, the training of modern specialists involves the formation and development of relevant general and professional competencies. Communicative competence occupies an important place among soft skills. It allows people to understand each other and transfer the information between them. The communicative competence of future computer science specialists has its own characteristics due to the profession’s specificity. Future software engineers should be able to communicate on professional topics, work in a team, transfer information to non-specialists. A lot of attention in the training of future specialists in computer science is paid to foreign language communicative competence and state language proficiency. For this purpose, the curricula for the relevant disciplines are provided. Such means of communicative competence development of future specialists in computer sciences as game teaching methods, business games, creative works, information and communication technologies, and others could be applied. Further research that analyzes the means of developing foreign language communicative competence of future computer science specialists is planned.

REFERENCES

МЕТОДИЧНІ АСПЕКТИ ПРОЦЕСУ ФОРМУВАННЯ ІНШОМОВНОЇ КОМПЕТЕНТНОСТІ МАЙБУТНИХ УЧИТЕЛІВ АНГЛІЙСЬКОЇ МОВИ (у контексті “Загальноєвропейських рекомендацій”)