

Methodology of a system of professional competence

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Abstract

The paper is devoted to the problem of the development of professional communicative competence. The paper addresses the structure, content, organization and methodology of developing the professional communicative competence of future IT experts. The basic components to provide integrity for an educational process that increases the efficiency of training students and aims to support their personal development are described. The paper also describes the dynamics of the process of developing professional communicative competence and integrating the proposed system into the educational process.

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Keywords: Computer technologies; Professional competence; Communicative skills; Developing professional skills; IT experts; Higher technical education; Computer technologies in educational process

Introduction

A distinctive feature of modern society is a high level of informatisation characterized by constant introduction of new computer technologies and telecommunications into the industrial sector. This requires appropriate training and professional competence of professionals working with new software systems.

The system of training of competitive specialists in the sphere of information technology has seen a significant increase in the role of foreign languages, which have become an integral part of a specialist's professional competence. This is confirmed by the fact that

all algorithmic programming languages are based on LingvoGrammatical structures of the English language; additionally, speed of memorization and interpretation of programming language constructions depends on English language proficiency [5]. An English-speaking programmer interacts with an operating system during an interactive dialogue much more efficiently, quickly solving debugging, program editing and other problems in his or her professional sphere. Analysis of the problem of professionally oriented foreign language training in the traditional system of education indicates a lack of theoretical development and an insufficient mastery of the English language by graduates who do not meet modern requirements for a specialist in the labour market.

Within the experimental work, a system of continuous training of IT experts in the English language was proposed, the core of which was the course, "Translation in the sphere of professional communication".

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Basic components that ensure the integrity of the educational process have been developed. Structural and organizational components determine the order of the course, “Translation in the sphere of professional communication” in the training of IT experts. The “Translation in the sphere of professional communication” course was introduced as a discipline of choice in the complex of general professional disciplines. The course enables a relationship between general humanitarian and general professional disciplines and strengthens the cross-curricular status of foreign languages.

Substantial components determine the structure of the course, “Translation in the sphere of professional communication”. The course reflects the sequence of introduction of the academic disciplines in the training of IT experts. Based on the analysis of specialties, curriculums were identified for ten professional disciplinary units forming the core of IT engineer training. Disciplinary course units are grouped according to the curriculum of the specialty. Each disciplinary unit has the same academic time and structure within the block. This course reflects integration of the English language and professional disciplines such as basic theory of formal languages, the language of automated information systems and their role in programming [6].

The implementation of the model provides continuous improving of knowledge, special skills and pedagogical monitoring of programmer professional competence. The combination of these is expressed as integral professional ability of the future programmers to use foreign languages in the sphere of professional activity.

The study process within each disciplinary unit is organized according to a unified scheme and consists of three phases [1]. The first is training and consists of lexical training and translation of professionally oriented texts. The second phase is control; it includes a series of tests, a final integrated test and various self-control tests. This phase controls the development of professional communicative skills for each disciplinary unit. The third is professional skill—simultaneously developing and controlling it. The unit includes a case study (educational-cognitive element), which is also the final control of the development level of communicative skills in every disciplinary unit.

The organizational and methodological component determines support of the educational process of the course, “Translation in the sphere of professional communication”. To ensure the didactic process of the development of the professional communicative competence of an IT engineer, we have developed an

educational complex. This provides comprehensive training in various types of speech activity; special attention is paid to the development of reading skills (understanding), compilation of text, and abstract interpretation of essays written on scientific subjects. The grammar material covers basic phenomena of the English language required for the translation of specialized professional and scientific literature.

The text section combines materials from authentic English and American sources and tasks to perform various types of text transformations as well as a system of exercises to test comprehension. To ensure the development of oral speech skills, the textbook contains a case study, mini-dialogues and problem-oriented tasks for stimulating active speech practice by students. The annotation and essay section is aimed at developing the skills needed to create abstracts, papers and essays.

The proposed training complex providing didactic content of the elective course, “Translation in the sphere of professional communication”, is a versatile tool that can be easily adapted to new thematic sections due to its flexible structure.

Information technologies in the educational process

Educational process in the modern university is impossible to imagine without the use of information and educational technologies implemented by a computer. In recent years, computers have become so widely used in education that a special term—“computer technology training”—has emerged. Computer technology in this context means developing the idea of programmed learning, new technology associated with unique capabilities of modern computers and electronic communications.

We consider the term “technology” to represent “a system of psychological, pedagogical, didactic, methodical procedures of teachers and students interacting based on their abilities and aptitudes, aimed at designing the content, methods, forms and means of education, adequate educational objectives content and future professional activity requirements for a professional important quality specialist” [4]. Information technology in teaching usually refers to all learning technology using special computer equipment and software. Modern specialized software designed for learning foreign languages is characterized by a wide range of functionality associated with the presentation of educational material to improve speech and language skills. Such software can be used

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