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PEDAGOGICAL PROBLEMS IN TEACHING TECHNICAL SCIENCES IN HIGHER EDUCATION INSTITUTIONS

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A R T I C L E I N F O.

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techno-ethics, technological problems, axiological factors, methods, pedagogical-futurological principles of technical sciences.

Annotation

this article describes the methods of identifying and analyzing pedagogical problems in the training of future engineers, teaching technical sciences in students of technical higher education institutions in the current era of globalization, the development of technological culture using axiological, futurological methods.

INTRODUCTION

Technological education, being a part of the higher education curriculum, is presented as a factor and a means of students' socialization and as "a process and a result of active learning by higher education students the general and professional technological culture, general and special ways of technological transformation of reality, and the development of technological competency and creative abilities of a person".

The integrative approach of teaching Science, Technology, Engineering and technical sciences has been advocated as a pedagogical means to advance education for the 21st century. However, there is a lack of validated instruments that are theoretically grounded to account for the various forms o f knowledge that teachers need in order to effectively implement techno-ethic education. This study adopts the technological pedagogical content knowledge framework to develop the Technological Pedagogical techno- Knowledge Survey to assess teachers' self-efficacies of the proposed dimensions of knowledge. It also investigates the interrelationships of the four knowledge dimensions (i.e., technological pedagogical science knowledge, technological pedagogical mathematics knowledge, technological pedagogical engineering knowledge and integrative) proposed in this paper. [1].

Educational Technology and Society seeks academic directions, articles on issues that affect the developers of education systems and the teachers who implement and manage such systems. The articles should discuss the prospects of both teams and their relationship to each other. The purpose of the methods in this article is to help them better understand each other's role in the overall process of learning and how they support each other. The modern system of teacher education does not imply fundamental technical training and the training of technical specialists does not require the formation of psychological and pedagogical competencies. The approaches to solve the problem can be drawn from the theory and practical application of vocational pedagogy.

Fig. 1. Scheme of effective methods of teaching technical sciences

Primarily, engineering pedagogy is intended to ensure the quality of personnel of teaching community in engineering institutions. The aim of the present article is to justify the appropriateness of using the methodology of engineering pedagogy in the training of teachers of technological education and the need for expanding of relevant educational programmers in graduate school and in the continuing education system in technical universities opposite directions.

Scientific grounds for the development of engineering pedagogy in terms of training of teachers of technology are identified[2]. The triplicate of such training is demonstrated: the qualification required to be a technology teacher implies possession of effective educational methods, knowledge of child psychology and competences in the field of modern digital technologies and technological equipment. The constantly growing level of knowledge intensity of the latter and the specific intertwining of humanitarian, natural science and applied components in the work of the technology teacher show that the system of his or her continuing education, retraining and advanced training should be organized.

The main forms of problem-solving technology:

- problem-solving - Demonstrate the scientific-logical solution of the problem posed to the student by the teacher;
- partial-research activity - stimulating the student to act independently to find the ideas and answers to the problem by asking the teacher special questions;
- research activity is to organize the learner's own independent search for ways and solutions to the problem.

Advantages:

- achievement of the highest level of intellectual development of students, formation of independence of knowledge;
- increasing their interest in learning activities;
- ensuring robust learning outcomes.

Disadvantages:

- high time required to achieve planned results;
- suet Poor management of cognitive activity by the student

A problem situation is didactic only when the problem task (learning task, questions, practical task, etc.) corresponds to the student's intellectual abilities, encouraging them to solve the emerging problems and get out of the problem. Indeed, the widespread use of problem-based learning technology in the learning process will allow future professionals to develop the ability to quickly find solutions to unusual situations, to develop self-improvement and self-development skills. This is one of the main requirements of the modern educational process. [3].

On the basis of the technical specialty received earlier, the opportunities of such an organization, including technical universities, are presented. The operation of this cluster will contribute to the rapid spread of modern technologies and it will provide their accessibility and continuity of technological education in school, as well as in secondary vocational and higher education. [4].

CONCLUSION

In conclusion, the analysis of the introduction of the credit system in the educational process in the education system of the Republic of Uzbekistan, technical higher education institutions, the identification of pedagogical problems in its future and prospects through the proposed methods was considered. This article is a key position in the modern evaluation system in the field of education. The introduction of a credit-module system makes it necessary to compare similar stages of modernization in the experience of other countries. The introduction of the credit system in Uzbekistan requires a comprehensive analysis of the optimal approach to its implementation. This article reflects the educational practice of introducing a credit system for the assessment of knowledge gained on the basis of experimental work in countries with economies in transition. The common information space provides coordination of instrumental learning elements using distance technologies, comparison of methodological approaches, and development of person-centered approaches. In addition, the digital cluster will become a mechanism for the selection and retraining of technology teachers in higher education by creating a database that reveals the theory of the introduction of modern pedagogical approaches and interactive methods with unique competencies. lib can serve.

PRACTICAL SIGNIFICANCE

Based on the experiments conducted, it can be concluded that this research can be useful for the development of alternative methods and forms of professional and pedagogical training.

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