

Improving The Methodology of Formation of Technical Thinking Skills in The Process of Training of Vocational Teachers

Yarlakabov Umirzoq Mamatkulovich

Dean of the "Energy and Radio Electronics" of Jizakh polytechnic institute of Uzbekistan.

Abstract: *The article discusses the issue of new methods of methodology for the formation of technical thinking skills in the process of training professional teachers. In this method, the training of professional teachers plays a key potential in higher and secondary specialized education and the most advanced method for improving the qualifications of teachers in Uzbekistan.*

Keywords: UNESCO, vocational education, industrial revolution, convention, action strategy.

Introduction

The problem of developing independent thinking skills of lifelong learning professionals in the world is relevant in the theory and practice of pedagogy [1]. Creation of innovative technologies of educational services in accordance with the requirements of the labor market in the context of globalization in accordance with the UNESCO convention on technical and Vocational Education (Convention on Technical and Vocational Education) and the development of students' professional thinking and creative creativity skills through implementation [2].

In international pedagogical practice, technical multimedia programs aimed at the formation and development of important professional and personal qualities play an important role in the preparation of students in the field of technology for professional activities [3]. In this regard, in today's context of the Fourth Industrial Revolution, as a result of frequent changes in the requirements for the quality of training of future vocational education teachers, their professional independence and technical thinking skills are important. This includes their professional motivation, diagnostics and ingenuity, technological mapping and modern didactic tools and electronic effective use of information resources contributes to the development of integrative technical knowledge and skills [1]. The education system of our country is reforming the system of training independent and free-thinking, competitive pedagogical staff who meet the competence requirements, thoroughly master the advanced technical and technological experience. The Action Strategy for the further development of the Republic of Uzbekistan sets the priority "to further improve the system of continuing education, increase access to quality educational services, continue the policy of training highly qualified personnel in accordance with the modern needs of the labor market." Therefore, it is necessary to conduct scientific and practical research on the development and implementation of existing methods and tools for the formation and development of technical thinking skills in future vocational education teachers.

Materials and methods

Resolution of the President of the Republic of Uzbekistan dated November 29, 2017 No. PF-5264 "On the establishment of the Ministry of Innovative Development of the Republic of Uzbekistan" and January 25, 2018 No. PF-5313 "General secondary, secondary Decree "On measures to radically improve the system of special and vocational education" dated April 20, 2017 No PP-2909 "On measures to further develop the system of higher education" and Resolution No. PQ-3775 of June 5, 2018 "On additional measures to improve the quality of education in higher education institutions and ensure their active participation in the ongoing comprehensive reforms in the country" This research work to some extent serves to ensure the implementation of the tasks set out in other regulations related to this activity.

The process of training future teachers of higher education is multifactorial and has its own social and psychological characteristics. Despite the fact that a lot of research has been done to solve the problem of improving the method of training teachers of vocational education, the issues of formation of technical thinking skills in them are sufficient in terms of methodology of technical sciences in modern conditions of rapid development of science and technology. not studied. This highlights the need to improve the methods of developing technical thinking skills in future vocational education teachers.

Result and discussion

Comparative study and analysis, modeling (design) of normative documents on pedagogical, psychological and vocational education (STS, qualification requirements, curricula and programs) on the subject in the research process pedagogical-social (questionnaire-survey, test, interview, observation) and experimental work, as well as mathematical and statistical processing of results were used.

The content of organizational and structural components (motivational, figurative, agility and reflexivity) of technical thinking skills has been improved by synthesizing technological knowledge from the qualification requirements of future vocational education teachers on the basis of idea generators and reflection principles;

Opportunities for the formation of technical thinking in future vocational education teachers through the use of invariant teaching methods such as "speed sketching", "information failure" and "time constraints" in the teaching of general subjects (diagnosis, mapping, ingenuity and management) extended; improved techniques for shaping the technical thinking skills of future vocational education teachers through the development of virtual laboratory exercises based on non-standard technical issues and Bennett test visualization aimed at developing technological and creative skills; the level of preparation of future vocational education teachers is optimized on the basis of a system of problem-solving tasks that allow to form technical thinking skills, quality indicators (integrative communication, modeling and practical solutions) and assessment criteria (cognitive, polytechnic and action);

Reliability of research results Articles published in scientific journals listed in the HAC, materials of international and national scientific conferences, practical application of scientific and methodological recommendations; the publication of training materials on a systematic approach, the use of methods appropriate to the research objectives; the results obtained are determined by mathematical and statistical processing and their approval by the competent authorities.

Content the process of developing technical thinking skills.

This component is based on general didactic rules, taking into account the development trends of general professional disciplines and the professional orientation of education. In our study, we relied on the following principles in the selection of teaching materials:

- The principle of communication: the educational material (theoretical and practical) should be based on the study of general and specialized disciplines;

- The principle of reflection: the educational material should reflect the main trends in the development of techniques and technologies and ensure the optimal establishment of interdisciplinary links

The content of the course studied in our study consists of two parts, invariant and variable

The invariant part contains a form of teaching material that is didactically revised and described in a sequence that is convenient for the future vocational education teacher, with elements of the technical content provided for in the study DTS; and the variable part includes professionally important materials that prepare future vocational education teachers to study general and specialized subjects. The purposefulness, efficiency and mobility of these systems of knowledge and skills are ensured, first of all, by the most convenient structure of the content of pedagogical education. "The content of education reflects the essence of the process of personality formation" and is determined by the structure of the activity and the structure of the object of study.

Conclusion

If technical thinking skills were formed in the pre-university period, then the higher education system would be faced with the task of diagnosing such skills only when they are admitted to the first year and choosing the appropriate profession.

However, questionnaires with prospective vocational teachers at the test sites and test results using the Bennett test showed that first-year students had a low level of technical thinking skills. Therefore, the issue of formation of technical thinking skills in students of vocational education in higher education institutions is very important. However, the questionnaires with prospective teachers of vocational education in the test areas and Test results using the Bennett test showed that first-year students had a low level of formation of technical thinking skills. That is why the formation of technical thinking skills in students of vocational education in higher education is very important.

Thinking occurs and is formed in problematic situations, that is, when a learner has to overcome certain obstacles, and it is a situation in which he learns new complex material and problem-solving. Thinking is developed not only by knowledge itself, but also by the process of mastering it and understanding this activity, that is, reflection. Mental development, especially the intellectual development of a person, takes place only in the conditions of overcoming "barriers" and intellectual difficulties.

References

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