

THE ROLE OF PEDAGOGICAL INNOVATIONS IN FORMING THE PROFESSIONAL COMPETENCE OF FUTURE ENGINEERS

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Abstract

This article analyzes the opinions on the importance of pedagogical innovations in the formation of professional competence in engineering education today.

Keywords. Pedagogical innovation, knowledge, education, technology, profession, skill, personality, reflection, educational method.

Introduction

In the current period, in order to ensure the full compliance of higher education with international standards and to train professionally competent personnel based on social demand, it is important to train students to act independently, develop, demonstrate and manage themselves, think non-standardly and make reasonable decisions, constantly search for and find new ideas and technologies, and conduct experiments. Also, the effective use of information technologies in the educational process, the development of new innovative pedagogical technologies aimed at creating electronic educational resources, and their preparation for innovative activities and implementation in practice are urgent issues.

Analysis of the literature on the topic

We consider the role of pedagogical innovation in the educational process through the following concepts:

- change in the psychological environment in an educational institution based on the ideas of cooperation;
- introduction and dissemination of original pedagogical systems, technologies;
- resolution of conflicts (integration of innovative programs with curricula and programs, continuous process of personal and professional development and professional development of teachers, the need for new teaching aids, management schemes);
- the spread of innovations changes the status of an educational institution, making it a regular participant in experimental, innovative activities;
- pedagogical activity in the context of innovations acquires a stable creative character;
- work in the order of exploratory and experimental educational systems, in which innovations are constantly implemented [1].



In the Russian dictionary of S.I. Ozhegov, this term is interpreted as follows: “Pedagogical innovation is an idea or project created for the first time, related to the recent past or present, not sufficiently familiar or little known” [2].

In scientific research, “Pedagogical innovations” are often defined as a process of updating and reforming education, as a material (idea, action, form, tool, concept, program), as a method of identifying advanced educational methods and selecting the most appropriate and most suitable for use in modern conditions [3,4].

Some authors also develop “Pedagogical innovations” as a way of introducing innovations into the educational process and improving and changing its quality [5].

In the works of most scientists and educators, pedagogical innovations are grouped as follows:

- by the object of innovation, into innovations in the content of education;
- innovations in the technology of education and upbringing;
- innovations in the management system of educational institutions;
- innovations in the educational environment.

Research Methodology

It is not enough to simply indicate the process nature of “pedagogical innovation”, but it is also necessary to constantly consider its effectiveness. That is, the “creation, mastering, application” of innovations should give a positive (better than before) result. Therefore, we believe that this definition can be supplemented with one more word (Figure 1).

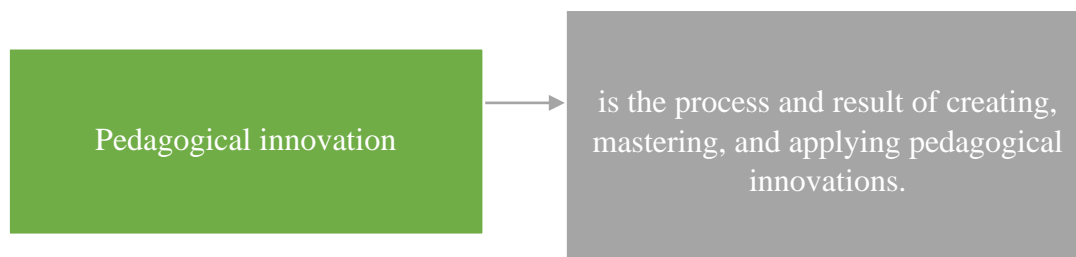


Figure 1. Working definition of pedagogical innovation.

Here, as an “innovation”, both a tool, a method, a methodology, a technology, a program, etc. can participate.

The improvement of the modern educational process, aimed at the formation of effective professional competence in higher education, leads to the development of new technologies with very wide possibilities in the selection of educational material. Therefore, the increasing innovative potential of pedagogical visualization tools allows bringing the methods of visual presentation of educational materials to a modern level in accordance with the requirements of the time at different stages of professional activity.

The role of specialized disciplines in the training of competent specialists for the transport sector is of particular importance. In the process of studying these disciplines, the teacher enriches the educational process using multimedia technologies, which allows for further increasing the efficiency of the perception of educational information in educational material.

The task of the modern education system is not only to impart knowledge, but also to teach students the general concept of the use of vehicles in the state and national economy, the operational qualities of a moving vehicle and their selection methods, the transport process, cargo and cargo turnover, productivity, etc. In this case, one of the main tasks of the teacher is to actively involve and interest students in the educational process. Experience shows that simultaneously listening to a lecture, viewing the material on a computer screen, and actively controlling its output on the screen increases the quality of learning. Especially if modern methods and multimedia tools are used effectively, it is possible to organize the educational process very effectively based on the full activation of all students with their thoughts and memories.

Analysis and Results

The implementation of educational innovations in the pedagogical process takes place in several stages, which are:

- identifying the problem based on analysis;
- designing the intended educational system;
- planning changes and innovations;
- implementation of changes (Figure 2).

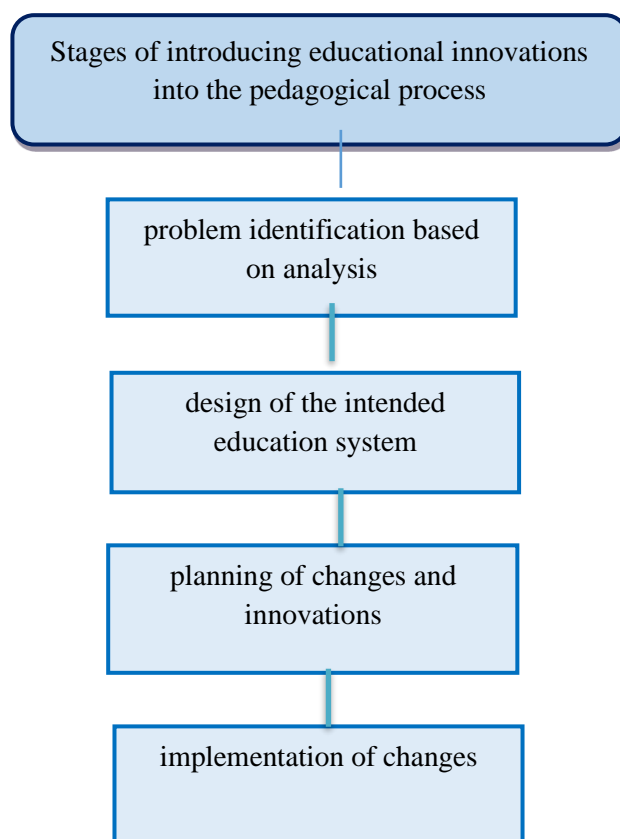


Figure 2. Stages of implementing educational innovations in the pedagogical process.

The effective use of innovations by a teacher largely depends on the professional training of the teacher and his personal experience. Insufficient personal training of a teacher, narrowness of ideas about innovations and personal capabilities can be manifested in the failure to understand the educational problem.

Today, in the preparation of professionally competent engineers, innovative activity plays an important role in positively solving the issues of introducing innovative technologies into the educational process, creating, evaluating and mastering pedagogical innovations. In this regard, it is required that teachers have an innovative approach to mastering the skills and qualifications of innovative activity.

Conclusion

Thus, the success of pedagogical innovation in the training of professionally competent engineers depends on the level of validity of traditionally established approaches, principles, methods and forms of pedagogical activity.

Thus, the development of science, engineering, production and technology leads to fundamental changes in the training of professionally competent specialists in the education system. The modernization of the education system occurs based on the needs of the state and society for qualified personnel, and the individual for quality education.

REFERENCES

1. Andreeva S. M Innovatsionnaya model obrazovatelnoy deyatelnosti. Vestnik BGTU im. V.G. Shuxova. 2014, №5.S238.
2. Ojegov, S.I. Slovar russkogo yazika / S.I. Ojegov; pod obsh. red. prof. L.I. Skvortsova. – 24-ye izd., ispr. – M.: ONIKS 21 vek: Mir i obrazovanie, 2004.
3. Xutorskoy A.V. Pedagogicheskaya innovatika: metodologiya, teoriya, praktika. M.: Izd-vo UNTSDO, 2005. 222 s.
4. Volov V.T. Metodologiya issledovaniya pedagogicheskix innovatsiy. Samara: Izd-vo SNTS RAN, 2004. 225 s.
5. Zagvyazinskiy V.I., Strokova T.A. Pedagogicheskaya innovatika: problemi strategii i taktiki: monografiya. Tyumen: Izdatelstvo Tyumenskogo gosudarstvennogo universiteta. 2011. 176 s.

