CURRENT RESEARCH JOURNAL OF PEDAGOGICS
(ISSN –2767-3278)
VOLUME 04 ISSUE 05 Pages: 28-32
SJIF IMPACT FACTOR (2021: 5. 714) (2022: 6. 013) (2023: 7. 266)
OCLC – 1242041055
Publisher: Master Journals

Journal Website: https://masterjournals.com/index.php/crjp

Research Article

ORGANIZATIONAL AND PEDAGOGICAL CONDITIONS FOR THE FORMATION OF INFORMATION AND TECHNICAL COMPETENCE OF STUDENTS ON THE EXAMPLE OF THEORETICAL MECHANICS

Submission Date: May 03, 2023, **Accepted Date:** May 08, 2023,
Published Date: May 13, 2023
Crossref doi: https://doi.org/10.37547/pedagogics-crjp-04-05-04

Parmonov Abdutolib
Assistant Of The "Applied Mathematics" Department At The Jizzakh Branch Of UZNU, Uzbekistan

ABSTRACT

In the article of "organizational and pedagogical conditions" in the formation of information and technical competence of students is given on the example of the theoretical mechanics of the interdependence of content, methods, means and forms of education and upbringing.

KEYWORDS

Digital technologies, information and communication technologies, higher education system, modern education, digital knowledge, Internet system, distance learning.

INTRODUCTION

The training of competitive specialists who meet the requirements of the labor market is based on the quality indicators and their professional competences. It is necessary to determine the organizational and pedagogical conditions that help the effectiveness of the process of successfully forming professional competences.

Analysis of qualification requirements, fields, objects and types, professional duties, requirements of employers and professional standards of the professional activity of a bachelor of applied mathematics, development and use of modern technologies for the professional activity of a graduate of the bachelor of applied mathematics It is aimed to participate in the design, maintenance and processing of technological production processes based on modern methods and technical tools for the technological modernization of production, and the

CURRENT RESEARCH JOURNAL OF PEDAGOGICS
(ISSN –2767-3278)
VOLUME 04 ISSUE 05 Pages: 28-32
SJIF IMPACT FACTOR (2021: 5. 714) (2022: 6. 013) (2023: 7. 266)
OCLC – 1242041055
Publisher: Master Journals

practical application of mathematical tools in solving problems in production areas.

Methodology of research. In modern didactics, the concept of "condition" is considered as a set of variables of natural, social, external and internal factors, components of the educational process, which affect the physical, moral, mental development of a person, his behavior, upbringing.

According to the analysis of scientific and pedagogical literature, organizational-pedagogical conditions reflect any set of opportunities that contribute to the effectiveness of solving educational problems, as well as measures to develop the procedural aspects of the educational process from the position of goal-oriented planning management.

We will consider the essence of the concept of "organizational-pedagogical conditions" in order to determine and justify the organizational-pedagogical conditions aimed at the formation of information-technical competencies in applied mathematics bachelors. Many foreign scientists (A.A. Volodin, N.G. Bondarenko, N.V. Ippolitova, S.N. Pavlov, etc.) divide organizational and pedagogical conditions into "organizational" and "pedagogical" semantic parts.

In the researches of many scientists (V.I. Andreev, S.A. Dinina, A.S. Belkin, N.V. Ippolitova, M.V. Zvereva, L.P. Kachalova, B.V. Kupriyanov, E.V. Korotayeva, N.M. Yakovleva, A.Y. Nine, etc.), one can find the interpretation of the term "Pedagogical conditions".

According to V.I. Andreev, the teacher can achieve certain didactic goals based on the implementation of pedagogical conditions as the conditions for the purposeful selection, design, application of the content, methods and organizational elements of education, as well as subjective and objective requirements and conditions [1].

N.V. Ippolitova and N. Sterkhova analyzed their views on defining the concept of "pedagogical conditions" and developed a number of important rules:

- conditions are always an integral component of pedagogy;
- Pedagogical conditions include the totality of educational opportunities, that is, the purposefully developed components of educational subjects: content, methods and forms, methods of teaching and upbringing, software and methodical equipment of the educational process and material (educational and technical) equipment, natural environment that has a positive or negative effect on the activity of the educational institution, etc.;
- Pedagogical conditions include internal (affecting the development of a special field of subjects of the educational process) and external (contributing to the formation of the procedural component of the system) elements;
- implementation of correctly selected pedagogical conditions ensures the development and effectiveness of the pedagogical system [2].

A.S. Belkin, L.P. Kachalova, E.V. Korotayeva and others considered pedagogical conditions as an educational process that ensures students to achieve a high professional level, as a favorable environment that pedagogically contributes to the achievement of the educational goal, as a set of measures in the field of education [3,4,5].

Organizational conditions are a set of conditions that ensure appropriate management, planning, organization, coordination, regulation, and control of the educational process [6,7].

Analyzing the content of research conducted by pedagogical scientists on "pedagogical" and "organizational" conditions, a number of characteristic

CURRENT RESEARCH JOURNAL OF PEDAGOGICS
(ISSN –2767-3278)
VOLUME 04 ISSUE 05 Pages: 28-32
SJIF IMPACT FACTOR (2021: 5. 714) (2022: 6. 013) (2023: 7. 266)
OCLC – 1242041055
Publisher: Master Journals

aspects can be distinguished: organizational and pedagogical conditions are a component of the pedagogical system; reflecting a set of effective measures aimed at achieving the goal of pedagogical activity;

Taking into account the above analysis, the organizational-pedagogical conditions of the formation of information-technical competence means the creation of a pedagogically favorable environment necessary for the effective formation of the components of the information-technical competence of the bachelor's course of applied mathematics, ensuring the interdependence of the content, methods, tools and forms of teaching and upbringing, we understand the environment for them to achieve a high professional level and strengthen self-education in the professional field.

Thus, the purpose of the organizational and pedagogical conditions for studying theoretical mechanics in a mixed educational environment is to form information-technical competence that combines deep fundamental and practical knowledge, to form career-oriented practical skills, to independently carry out practical activities in the professional field, as well as to develop a positive attitude towards the chosen profession.

The research-reflexive nature of problem-based education contributes to the development of a cognitive style - a style of professional thinking that allows a person to understand his competence or incompetence in performing various tasks of professional activity [8].

The design and improvement of new technical systems, mechanisms and machines, ensuring their smooth operation during their service life is inextricably linked with scientific research activities. Engineering research involves the following basic skills: model making skills; identification and comparison of known parameters with unknown ones; obtaining useful information from new knowledge; critical evaluation of the result; able to show the results of their activity at a high level and so on. The design stage of the above skills allows to optimize the design of technical systems and their elements, increase performance, increase service life, increase efficiency and reliability of technical systems.

The concept of "research activity" includes two independent categories: "research" and "activity".

E.V. Berezhnova and V.V. Kraevskii consider SPA to be a systematic study of objects that uses scientific tools and methods and ends with the formation of knowledge about the studied objects [9].

Ya.A. Comenius, I. Pestalozzi, J. Locke, J.J. Rousseau, N.F. Bunakov, V.V.Davydov, I.A.Kish, P.F.Kapterev, A.N.Leontiev, N.I.Novikov, P.V.Seredenko, K.D.Ushinsky and others made a significant contribution to the study of the research approach to education.

By exploring different approaches to the definition of SPA, we understand the professional and personal creative process of finding solutions to the unknown while studying theoretical mechanics, and this leads to the development of an individual's creative intelligence and technical skills.

O.O. Gorshkova studies the readiness of future engineers for research activities and shows its main functions:

- developing personality (developing cognitive abilities, emotional and spiritual qualities, mastering the ways of intellectual self-development and improvement of future engineers);
- scientific and methodical (mastering SPA technology, search- development of research activity);

CURRENT RESEARCH JOURNAL OF PEDAGOGICS
(ISSN –2767-3278)
VOLUME 04 ISSUE 05 Pages: 28-32
SJIF IMPACT FACTOR (2021: 5. 714) (2022: 6. 013) (2023: 7. 266)
OCLC – 1242041055
Publisher: Master Journals

• value direction (SPA as a condition for the realization of personality the ability to understand the value) [10].

The most effective methodical approach that enables the implementation of the principle of independent cognitive activity is a student-oriented approach that allows the student to fully reveal his abilities, taking into account the individual characteristics, level of development and personal interests of the student.

Enriching the content of theoretical mechanics with a complex of interdisciplinary, career-oriented and research tasks is the first organizational and pedagogical condition in our research work.

Teaching hours of subjects taught to students based on the introduction of the credit-module system of education based on the European Credit Transfer and Accumulation System (ECTS) [11] in higher education institutions of the Republic of Uzbekistan significantly reduced, as well as the professional quality requirements imposed on graduates by employers, as well as the adoption of the credit-module system, new educational standards, qualification requirements, curriculum and science programs today, forces graduates of applied mathematics to look for new ways to organize training is doing.

In addition, the epidemic of COVID-19, which shook the world in recent years, did not leave its impact on the education system. After this plague, the issue of distance learning in the education system of our Republic became urgent.

One of the solutions to this problem is the study of blended learning technology, which allows to maximize the hidden potential and abilities of each student.

There are many definitions of blended learning. For example, S.B. Veledinskaya and M.Yu. Dorofeeva considered mixed education as a model based on combining traditional and electronic educational technologies and some traditional forms of education and other forms of interaction in an electronic educational environment. [12].

The most complete definition of mixed education is given by E.A. Kornilova and A.A. Strijakov, who describe it as "a traditional, electronic, distance and portable type of education that determines the student's own time, place, and educational direction" [13].

Blended education is one of the models of electronic education, the emergence of which is inextricably linked with the informatization of education. E-learning is the most discussed phenomenon of modern education. It is actively used in distance education and is a type of education based on the use of electronic information-educational environment, electronic educational resources, information-technical competence.

Conclusions and suggestions. In conclusion, it was determined that the concept of "organizational-pedagogical conditions" for the formation of information-technical competence was defined as an interdependent set of content, methods, tools and forms of education and training, which contributes to the creation of a pedagogical and comfortable environment necessary for effective formation. It is theoretically based on the fact that organizational-pedagogical conditions implemented in unity and interdependence help the formation of information and technical competence in applied mathematics bachelors: The content of theoretical mechanics was enriched with a complex of interdisciplinary, career-oriented and research tasks.

REFERENCES

CURRENT RESEARCH JOURNAL OF PEDAGOGICS
(ISSN –2767-3278)
VOLUME 04 ISSUE 05 Pages: 28-32
SJIF IMPACT FACTOR (2021: 5. 714) (2022: 6. 013) (2023: 7. 266)
OCLC – 1242041055
Publisher: Master Journals

1. Andreev, V. I. Dialectics of education and self-education of a creative personality / V. I. Andreev. - Kazan: KGU, 1998. - 238 p.
2. Ippolitova, N. Analysis of the concept of "pedagogical conditions": essence, classification / N. Ippolitova, N. Sterkhova // General and Professional Education. 2012. - No. 1. – P. 8–14.
3. Belkin, A. S. Fundamentals of age pedagogy / A. S. Belkin. - M.: Academy, 2000. - 192 p.
4. Kachalova, L.P. Pedagogical conditions for the education of intellectual motives for teaching students of a pedagogical university: author. dis. … cand. ped. Sciences: 13.00.01 / Kachalova Lyudmila Pavlovna. - Yekaterinburg, 1995. - 16 p.
5. Korotaeva, E. V. Pedagogical interactions and technologies / E. V. Korotaeva. - M. : Academia, 2007. - 256 p.
6. Volodin, A.A. Analysis of the content of the concept "Organizational and pedagogical conditions" / A. A. Volodin, N. G. Bondarenko // Izvestiya TulGU.Humanitarian sciences. - 2014. - No. 2. – P.143–152.
7. Shalin, M. I. Organizational and pedagogical conditions for the development of the competitiveness of the personality of a high school student / M. I. Shalin // Theory and practice of education in the modern world: materials of the III Intern. scientific conf. (St. Petersburg, May 2013). - St. Petersburg: Renome, 2013. - S. 47–49.
8. Adolf, V.A. Designing the educational process of professional development of a specialist based on a competency-based approach / Adolf, V.A., Stepanova, I.Yu. // Higher education in Russia. - 2008. - No. 3. - P. 158-161.
9. Berezhnova, E.V. Fundamentals of teaching and research activities students: textbook for students. avg. textbook institutions / E. V. Berezhnova, V. V. Kraevsky. - 2nd ed., erased. - M .: Publishing Center "Academy", 2006. - 128 p.
10. Gorshkova, O. O. Research activity as an integral component of the professional training of a future engineer / O. O. Gorshkova / Izvestiya VUZ. Volga region. Humanitarian sciences. - 2013. - No. 2 (26). – P.169–176.
11. The Cabinet of Ministers on December 31, 2020 "Regulation on the procedure for introducing the credit-module system to the educational process of educational institutions". www.lex.uz
12. Veledinskaya, S.B. Blended learning: secrets of effectiveness / S.B. Veledinskaya, M.Yu. Dorofeeva // Higher education today. – 2014. – No. 8. – S. 8–13.
13. Kornilova, E.A. Blended learning as a means of implementation of systemic activity approach in school / E.A. Kornilova, A.A. Strizhakov // Bulletin of the Moscow State University. Series: Pedagogy. – 2016.– No. 4. – S. 110–118.
14. QUALIFICATION REQUIREMENTS AND CONTENT OF TECHNICAL-INFORMATION COMPETENCES IN TEACHING THEORETICAL MECHANICS // International Journal of Contemporary Scientific and Technical Research. - 2022. - S. 662-664.
15. KUYCHIEV O.R . et al. Forms, methods and content of labor education // Society. – 2020. – no. 1. - S. 73-76.
16. Parmonov A. Pedagogical necessity of providing modern education to students with the help of digital technologies - 2022. - T. 1. – no. 1. – S. 202-204.
17. Anarbayevich A. R., THE ROLE OF PEDAGOGICAL AND INFORMATION TECHNOLOGIES IN IMPROVING PERSONAL ABILITY OF A SPECIALIST //International Journal of Contemporary Scientific and Technical Research. - 2022. - S. 673-676.