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Grundlagen der einsatz der projekttechnik unter den bedingungen der differenzierung der bildung

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Abstrakt: Dieser Artikel beschreibt die Methoden der Durchführung von praktischen Kursen in speziellen Disziplinen unter Verwendung innovativer Technologien, der Arbeit in kleinen Gruppen und des Lernens auf der Grundlage von Projekttechnologie während der Differenzierung des Bildungsprozesses in höheren Bildungseinrichtungen. Die Einführung spezieller Disziplinen, die an Hochschulen unterrichtet werden, in die Praxis wird untersucht, die Ergebnisse experimenteller und experimenteller Arbeiten am Lehrprozess auf der Grundlage innovativer Technologien werden analysiert, mathematische und statistische Methoden, Diagrammtabellen, Schlussfolgerungen sowie wissenschaftliche und methodische Empfehlungen werden hervorgehoben.

Schlüsselwörter: Hochschulbildung, Differenzierung, Technologie, Aktivität, Problem, Student, Aktivierung, Ausbildung, selbstständiges Arbeiten, Ziel, Aufgabe, Kleingruppe, Prozess, Projekt, Bildungsentwicklung.

Bases of using project technology in the conditions of differentiation of education

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Abstract

This article describes the methods of conducting practical classes in special disciplines using innovative technologies, working in small groups and learning based on project technology during the differentiation of educational process in higher educational institutions. The introduction of special disciplines taught in

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higher educational institutions into practice is studied, the results of experimental and experimental work on the teaching process based on innovative technologies are analyzed, mathematical and statistical methods, tables of diagrams, conclusions and scientific and methodological recommendations are highlighted.

Keywords: higher education, differentiation, technology, activity, problem, student, activation, training, independent work, goal, task, small group, process, project, educational development.

Introduction

In the process of educating a harmoniously developed generation, the widespread introduction of innovative technologies into practice is of great importance in the education, professional training of students and their employment.

The results of the study and analysis of research works on the preparation of future teachers of vocational education for innovation activities show that the scientific and pedagogical foundations, the importance and possibilities of effective use of personality-oriented technologies in the formation of innovative abilities of students in the process of preparing for professional activity are not fully disclosed. This requires studying the process of preparing teachers of vocational training for innovative activities based on personality-oriented technologies.

In foreign countries, scientific research on the problems of pedagogical innovations and the use of innovative educational technologies was carried out by such scientists as G.K.Selevko, K.Angelovsky, M.V.Clarin, M.S.Burgin, L.S.Podimova, V.A.Slastenin, N.D.Mashlikina, E.M.Paciulan, A.K.Ellis, M.B.Kinney and A.Nicholls [1].

Our research aimed at fulfilling the points of the general requirements for a bachelor "On mastering the methods of collecting, storing, processing and using information, the ability to make independent decisions in their professional activities" and "On the ability to independently master new knowledge, to work on oneself and organize work activity on a scientific basis" and the requirements for pedagogical activity "the ability to develop and implement non-standard educational exercises

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using modern information and pedagogical technologies" and "the ability to constantly improve oneself in self-education and creative research, in the system of methods, means and forms of the branch of pedagogical activity" through the use of technologies aimed at the formation and development of students, starting from the 1st year, the above-mentioned abilities and orientation of students to innovative activities, confirmed the correctness of the choice of the research problem. The analysis of curricula and programs of disciplines of bachelor of higher education 60711400 – "Automation of technological processes and production" revealed the presence of the following problems:

- insufficient use of personality-oriented educational technologies aimed at developing the abilities of a future teacher of professional education for independent and creative work, good assimilation, from a practical point of view, of educational methods when teaching general professional subjects;

- insufficient attention paid in preparing future teachers of vocational education for innovative activities, training seminars, and development of training materials;

- insufficient attention paid to the formation of knowledge and skills for the effective use of information technologies in the educational process and the creation of electronic educational resources.

In the conditions of innovative education, along with the formation of professional knowledge, abilities and skills in future specialists, it is necessary to bring up in them the ability to acquire knowledge independently, as well as the ability to approach the solution of the task in future creatively and independently. Development of students' independent and creative thinking abilities, as well as activation of learning and cognitive activity are of great importance in forming these qualities in specialists [1, 2].

The main goal of the project technology is that all the necessary cognitive skills to complete the task are studied throughout the process. In this process, the student's task is to develop a new product or find a solution to another problem within

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a given time. From the point of view of students, the task should be difficult and require them to apply their existing knowledge in other situations. The project should serve training, the introduction of theoretical knowledge into practice, create the possibility of independent planning, organization and implementation by students [3, 4].

Students from planning to implementation and decision-making work together as a single project team, distributing tasks among themselves as they perform them [Fig 1].

Fig.1. Steps of realization of project technology in the differentiation of educational process

The teacher controls and systematically manages the learning process [5, 6]. Let us consider the implementation of the project technology step by step.

1. Data collection.

For this stage, the teacher must prepare the following documents and materials:

- project (diagrams, technical drawings);
- definition of tasks related to the project;
- leading questions;

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- information about educational goals.

Students are given a description of the project and a task in the form of drawings and diagrams. The teacher engages students to analyze the task with the help of leading questions. Students independently collect information based on textbooks, textbooks and handouts [7]. The purpose of providing technical drawings to students is for them to copy the necessary details from these drawings into their own documents. Then they draw up the stages of work on the implementation of the project.

2. Planning.

At this stage, students independently complete a work plan. This plan specifies information about the stages of work, i.e. their technological sequence and the time allocated to it, the necessary equipment, as well as measures related to labor protection.

3. Making a decision. (Decision making)

Students together with the practice teacher discuss the results they have achieved at the planning stage. Different solutions are compared with each other and the best optimal option is selected.

4. Realization.

Students on the basis of the work plan independently perform the task.

The teacher controls the work process and records the results in a "control" notebook.

The student will be able to apply their academic knowledge in a new situation, and systematically develop them. And also evaluate and choose, as well as find new creative solutions.

5. Verification.

Students independently check the results of their work. For example, you can evaluate the results of work based on quality indicators.

6. Conclusion.

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The student and the teacher analyze the work process and its results together.

The purpose of the project technology is that students, in addition to knowledge and skills in their specialty, will have a personal vision regarding the field of social and personal competence [8].

Accepting didactic requirements in line with the educational goal of the specialist teacher is critical. Requirement levels lead to actual levels in the development of new actions and the development of their design. The teacher of special disciplines performs the functions of directing, corrective and controlling actions. With an increase in the performance of training movements, their levels also increase.

When conducting practical classes in specialized subjects, motivation should initially be awakened. The lesson should begin with providing interesting and thematic information to students or with a conversation.

Motivation for the lesson will help students to increase their interest in specialized science and focus their attention on the educational material. A logical connection is established between the previous subject and the one being studied. Discussions, blitz surveys and conversations contribute to the activation of knowledge.

In support of the aforementioned technology project, we have developed and implemented a teaching methodology "Technology of sewing items, knitwear and gold embroidery".

Based on the selected innovative technologies, it is recommended to awaken students' motivation for learning, to give instructions on the activation of knowledge, the formation of new knowledge; in sequence to analyze and generalize, master and evaluate [9]. Depending on the nature of the specialty of science, it is important to choose those innovative technologies that give the best results in practical training.

Assessment of students' knowledge and skills in teaching specialized disciplines using innovative technologies should be carried out regularly and taking

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into account educational goals. In this case, there was an opportunity to draw a conclusion about what result will be given to us by innovative technologies.

When assessing knowledge and skills, it is important to pay attention to the following:

- intermediate and ongoing monitoring should be carried out regularly with an orientation towards educational goals;

- it should be based on pedagogical and psychological principles, as well as on the evaluation standard.

- prior to the assessment, familiarize the student with the requirements and evaluation criteria imposed on him;

- the results of the assessment of knowledge and skills should be brought to the attention of students as soon as possible;

- it is necessary to discuss the reasons for the low results obtained by the student;

- students with low results should be given opportunities for further study.

When teaching specialized disciplines on the basis of innovative technologies, at the end of classes, assignments for independent work should be given on topics of theoretical and practical training.

The main goal of organizing independent work of students:

- give instructions to provide the student with a solid assimilation of the educational material and demonstrate to him a way of their independent implementation;

- increasing the activity and independence of students in the educational process;

- development of students' independent thinking and creative performing skills.

At the end of the educational process, the results achieved in education are evaluated.

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To assess the level of readiness of a future teacher of vocational education on the basis of innovative activity, we have identified the following complementary evaluation criteria: motivational criterion; activity criterion; cognitive criterion; innovation criterion.

Motivational criterion - interest in the formation of innovative activity (internal desire for active activity); the ability to realize the need for knowledge, skills and abilities in innovation, in solving professional tasks; ***Cognitive criterion*** - the ability to form a system of knowledge about the methodological foundations, types, content and significance of innovative pedagogical activity. ***The procedural criterion*** is the ability of practical application of the functional components of innovation activity, as well as the ability of independent activation and self-management; ***The innovative criterion*** *is* creative ability; the ability to critically consider pedagogical activity; the ability to create non-standard forms, methods and means of education. 7. The levels of readiness of the future teacher of vocational education for innovative activities. On the basis of scientific research, the following levels of readiness of the future teacher of vocational education for innovative activities were determined (adaptive; communicative; intellectual; creative and constructive):

At the adaptive level, such qualities of a student as the ability to adapt to modern information and communication technologies, in a new environment and conditions, in the teaching staff are provided. *At the communicative level*, the formation of the student's skills for relationships in the teaching staff and with the student during the educational process is expressed. *The intellectual level is* understood as the ability of a student, on the basis of a logical and systematic approach, to use his personal qualities and professional knowledge, skills and abilities in pedagogical activity, as well as the ability to correctly assess his capabilities and make quick and optimal decisions in non-standard pedagogical situations. *At the creative and constructive level*, future teachers of vocational education are the highest peak of professional excellence (innovation), which provides for the formation of skills in innovative

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teaching, the development and application of pedagogical innovations in practice, the organization and conduct of research with an innovative approach.

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