



Research Article

INTEGRATED PROJECT MODEL FOR PROFESSIONAL TRAINING OF FUTURE ENGINEERS

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ABSTRACT

This article discusses the consistent implementation of micro-goals aimed at mastering the structural elements of the curriculum of students based on the concept, the development of a number of design technologies based on pedagogical objects, the principles of contextual learning, and modern problems of vocational education. The didactics of the school is discussed, the purpose of the place is listed, the main nature of the worker's activity, what he should be able to do, what personal qualities he should have.

KEYWORDS

Context, didactics, professional school, model, program, diagnostics, project, professional knowledge.

INTRODUCTION

In order to create conditions for the effective integration of education, science and production for targeted and high-quality training of personnel important for the development of our country, an innovative cluster of teacher education has been created, which is considered the main research direction of the Andijan region. Institute of Mechanical

Engineering, is being implemented in practice. The main goal is to ensure compliance of the requirements of state educational standards with international requirements for the quality of education and training. In the development of professional training of future engineers in higher educational institutions, scientific and creative circles organized outside of education are



of great importance, supporting the interest of young people in meaningfully spending time, acquiring knowledge, and mastering a mature, qualified profession. It is known that the reform of the continuing education system in our republic is aimed at forming a new generation of workers with the professional training of highly qualified engineers, creative and social activity, skills of independent adaptation to life, and the ability to determine and decide plans for the future. The purpose of this study is to study the theoretical aspects of the formation of spiritual education of students through the professional training of engineers, as well as the creation of a software cluster that allows calculating the interactions between the structural elements of educational programs.

The goal of the educational process is the consistent implementation of micro-goals aimed at mastering the structural elements of the student's curriculum based on the concept. The use of diagnostics allows you to carry out the necessary reforms in goal setting and achieve the planned result. At the same time, the educational process plays a special role in ensuring a high-quality result of technological development.

METHODS

N.V. Kuzmina, T. Kryukova developed pedagogical and diagnostic skills in the process of professional training of a future teacher. [1,2]. Our research has developed a number of design technologies in relation to the vocational education system, based on four pedagogical objects:

- designing the educational process as a curriculum, curriculum and outcome;
- building a vocabulary learning trajectory for a future engineer;
- development of a methodological training system;

-designing didactic conditions for project activities that will create a workspace for completing the educational process with diagnostics and quality assessment.

In relation to higher education, the expert model can serve as a starting point for a system of pedagogical goals. Typically, this model is based on a qualification characteristic and a system of requirements for an employee is fixed. In particular, the purpose of the workplace, the main nature of the employee's activity, what he needs to be able to do, and what personal qualities he should have are listed. In the specialist model, the requirements for a specialist are projected onto the requirements for the educational process, curriculum, program content, teaching methods, etc., and the preparation of a future engineer becomes a means of solving psychological and pedagogical problems.

The modern didactic concept of vocational education is understood as the interaction of two models: theoretical and instrumental.

The theoretical model is a didactic theory that allows you to gradually build a trajectory of professional training for a specialist based on a certain set of educational subjects. In this case, a methodological teaching system is developed for each subject in the collection, and pedagogical objects can be understood as a result of comprehensive design. It is necessary to rely on the didactic conditions for designing the main pedagogical objects of vocational education.

An instrumental model is a technological design that allows the implementation of this project in accordance with the requirements of the state educational standard. [3, 4].

The main contradiction of any professional education is the need for the student to master professional activities within the framework and means of other activities. To obtain the status of professional professional knowledge, students must initially assimilate information in the context of their own



practical actions. At the same time, actions should be not only academic, but actions close to the scientific, technological and sociocultural situations of future professional activity.

V.I. Kozyr studied the methodological foundations of designing educational systems [5]. But we believe that it is necessary to place the student in pedagogical conditions in a dynamic movement - in the educational activities of the educational institution, right up to professional activities. For this purpose, you can use the principles of contextual learning:

the principle of pedagogical support for the student's personal involvement in educational activities;

the principle of consistent modeling of the general content, forms and conditions of students' future professional activities in educational activities;

the principle of problematic content of training and the logical naturalness of its application in the educational process;

the principle of adequacy of forms of organization of educational activities, interaction and dialogical communication of subjects of the educational process;

the principle of didactic unity of new pedagogical technologies and traditional methods;

the principle of purposeful design of the professional training trajectory of the future engineer.

In contextual learning, there are three main forms: academic activities and educational lectures are its classic examples;

professional activity - the training of a professional trainer is its most obvious representative;

The state educational standard is a system of parameters that are adopted as educational policy standards, reflect the social ideal of literate education and take into account the capabilities of a real person and society to achieve this ideal.

Modern problems of vocational school didactics were studied by G.I. Ibragimov. [6]. This approach allows us

to strengthen the professional orientation of training courses and the entire educational process as a whole. The specialist training plan must include the student studying the following subjects:

1.0. Humanities and natural sciences.

2.0. General professional sciences.

3.0. Specialization of Sciences.

4.0. Additional items.

RESULTS

As a result of our analysis of the state educational standard, within the framework of this approach, we promoted and clarified the speech standards of the requirements for constructing the goals of professional training for an engineer. The following: "...it is necessary..." (conditional) speech expressions are speech norms:

the main thing... is to know...;

be able to implement...;

able to build...;

be able to design... ;

purchase a system ... ;

be able to find a way to understand..;

be able to work;

understand ...

be ready to decide...;

readiness for professional adaptation;

be ready to produce... [7, 8].

Thus, the language of publication of the state educational standard becomes a form of description of the professional activity of the future engineer. Through state educational standards, the amount of professionally relevant knowledge is minimized while simultaneously clarifying the requirements for professional education.

The main function of higher educational institutions is to improve the quality of training of vocational education specialists in accordance with international requirements and educational standards of Uzbekistan. It is necessary to design the trajectory of



professional training of future engineers, noting the category “professional activity” and choosing the concept of “content of professional activity” as an invariant.

In our study, we believe that the educational process, which should be built using a technological approach, will be divided into groups, the number of which will be equal to the micro-goals of an individual subject, which will demonstrate logical logic. structure consisting of a system of lectures, practice and laboratory classes. The curriculum in pedagogical sciences (“Professional Pedagogy”, “Educational Technologies”, “Methodology of Vocational Education”, etc.) is designed for the entire three-semester period of study. The distribution of hours for classroom lessons and independent work of students with a teacher is carried out in accordance with the working curriculum of each specialty. The logical structure of the educational process consists of subject sections and topics that make up each section. [9, 10]. The distribution of classroom and independent hours in each subject is carried out in accordance with the choice of structural elements of the curriculum. Due to the fact that the topics of the sample curriculum and future professional activities are not of fundamental importance, students are given a general introduction in the form of informative lectures or self-study.

The content of the theoretical discipline reflects a consistent presentation of the structural elements of the curriculum in the context of all possible logical interactions between the structural elements of individual topics and departments. The requirements of the state educational standard for the skills and abilities acquired by students correspond to the micro-goals of each subject, which is a structural element of the educational program of pedagogical sciences. The list of topics of lectures and practical classes that develop the skills of each micro-goal is also presented

in the work program of pedagogical sciences for each specialty of vocational education.

The real goal of integrated instructional design is for students to securely master the professional skills that enable them to make responsible decisions in carrying out operational tasks. This holistic design of the future engineer can be determined in the process of performing simulated tasks that allow one to reproduce real practical situations. The motivational and methodological training system allows the future engineer to achieve a guaranteed level of professional competence.

REFERENCE

1. Крюкова Т.А. Моделирование педагогической практики в современных условиях на основе идей целостного подхода В.С.Ильина // Материалы методологического семинара “целостный учебно-воспитательный процесс: исследование продолжается”, посвященного 90-летию со дня рождения профессора В.С.Ильина. – № 6 (33), 2014. – С. 83-86
2. Кузьмина Н.В. Методы исследования педагогической деятельности. – М., 1999. – 121 с.
3. Mahammadovna S. I. Features of Cluster Design in Modern Paradigms of Education //Telematique. – 2023. – Т. 22. – №. 01. – С. 348-355.
4. Сирожддинова И. Методика смешанной отборки при комплексном проектировании профессиональной подготовки будущих инженеров //Общество и инновации. – 2022. – Т. 3. – №. 7/5. – С. 87-92.
5. Козырь В.И. Методологические основы проектирования образовательных систем // Междисциплинарные исследования в педагогике. – М., 1994. – 138 с.
6. Ибрагимов Г.И. Современные проблемы дидактики профессиональной школы // Казанский педагогический журнал. 2013. № 5. С. 10–26.



7. MAXAMMADOVNA S. I. Таълим жараёини мониторинг тадқиқ қилиш учун ташхис материалларини ишлаб чиқиш //Results of National Scientific Research. – 2022.
8. Sirojiddinova I. TECHNOLOGICAL CHARACTER OF THE EDUCATIONAL PROCESS WHEN DESIGNING PEDAGOGICAL OBJECTS //Solution of social problems in management and economy. – 2023. – T. 2. – №. 2. – C. 130-132.
9. MAXAMMADOVNA S. I. PEDAGOGICAL OPPORTUNITIES FOR THE DEVELOPMENT OF PROFESSIONAL AND CREATIVE ABILITIES IN STUDENTS //International Journal for Innovative Engineering and Management Research.... – 2021.
10. Mahammadovna S. I. DEVELOPMENT OF A METHODOLOGICAL SYSTEM OF TRAINING BASED ON THE CLUSTER APPROACH //Archive of Conferences. – 2022. – C. 30-33.

