



ANALYSIS OF THE BASIS OF PROFESSIONAL SKILLS OF STUDENTS IN THE PROCESS OF EXPERIMENTAL WORK

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ANNOTATION

The article is based on scientific-theoretical ideas and practical-methodical recommendations developed and based on the research. and other tools to improve the methodological apparatus.

Practical teachers cover the issues of innovative organizational and methodological structure of practical vocational education and the formation of students' professional knowledge, skills and competencies - the basis of professional skills, the organization of theoretical and practical training on practical vocational education.

Keywords: *practice, education, experimentation, supervision, professionalism, skill, qualification, practical training, criteria.*

INTRODUCTION

It is known that in accordance with the "Strategy of actions on five priority areas of development of the Republic of Uzbekistan in 2017-2021" approved by the Decree of the President of the Republic of Uzbekistan Sh. Mirziyoyev dated February 7, 2017 No PF-4947 "On action strategy for further development of the Republic of Uzbekistan" create seats,

Priorities have been identified to ensure the balance of the labor market and infrastructure development, improve the quality of the workforce, train and employ specialists in specialties that meet the needs of the market economy and employers, attract them to private entrepreneurship [1].

One of the main goals of the ongoing reforms in the production sector in the country is a set of measures aimed at the proper organization of labor, further improving the quality and efficiency of products, radically improving production. Therefore, in today's period of renewal and spiritual growth, work is underway to accelerate the development of science and technology, re-equip production with new equipment and technologies, effectively use the existing production capacity, improve the management system and management mechanism and train qualified personnel.

It is known that the system of continuing education is a priority area that ensures the socio-economic development of the Republic of Uzbekistan, meeting the socio-economic, scientific, technical and cultural needs of the individual, society and the state. -creates conditions.

Therefore, the study was based on the idea that the study of scientific and methodological sources and the organization of experimental work on the basis of a special program on the basis of practical hypotheses prepares the ground for objective results. A systematic approach to the content and process of practical vocational education has been developed, and a general program of practical activities aimed at the effective development of the basics of professional skills in students has been developed.

MAIN PART

The development of this program has created a number of conveniences. In particular, the duration of the pilot work was clearly defined, the general practical activity was purposefully divided into three stages, the tasks to be performed were divided into stages, as well as specific goals were set for each stage. In order to provide a positive solution to the research problem, it was assumed that the practical rationale would be thorough.

The following is a project on the organization of practical activities aimed at developing the basics of professional skills of students and its content.

One of the important components of the study of the problem of effective development of the basics of professional skills in students - the organization of experimental work.

In our study, we divided the basics of students' professional skills into 9 criteria and developed ways to shape them in the process of practical vocational education [2].

The main idea of the methodology of experimental work was to highlight the essence of the processes that allow the theoretical aspects of the research to be reflected in practice, and the sole purpose of experimental work was to create pedagogical conditions that allow students to build the foundations of professionalism.

In the process of organizing the experimental work, the following tasks were performed based on the main goal:

1. To study the current state of formation of the basics of professional skills in students. The task is to study the content of directives and regulations that provide information on the activities of professional colleges, to organize individual interviews with interns and students, to organize discussions with them, to conduct questionnaires and public opinion polls, pedagogical observation of the practical behavior of teachers and students during the internship, the study and analysis of the views of managers and other educators on the organization of practical vocational education and the management of these processes.

2. Identify conditions that allow students to develop the basics of professional skills. In the positive solution of this task, the indicators of students' mastery of professional knowledge and skills set out in the State Educational Standards in the field of "Construction of roads, artificial structures and airfields", the existing factors influencing them and the gradual development of professional knowledge and skills in each internship program. a set of topics and training technology played an important role.

3. Identify the need to develop the basics of professional skills in students. Ensuring the solution of this task, a comprehensive understanding of the importance of scientific and methodological efforts to achieve the formation of professional skills in students, ensuring its quality and effectiveness, studying the essence of approaches to the activities of professional colleges, summarizing the personal views of teachers and students .

4. Identify problems in the process of developing the basics of professional skills in students and identify measures to address them. The implementation of this task was based on the organization of direct communication, conversations and discussions with students and teachers of professional colleges, interviews, exchange of experiences, etc., and measures were identified.

5. Development of methods for studying the pace of development of the basics of professional skills in students. These tasks include the development and implementation of an improved training system in the process of practical vocational education, the development and implementation of training and production tasks

specific to the content of each type of practice on the technology of construction of roads, man-made structures and airfields, analysis of students' professional skills. determining the level of development of these skills, the analysis of student participation in various competitions.

6. To determine the level of effectiveness of the methodology, which serves to develop professional skills in students by a group of impartial experts. For this purpose, impartial reviews were received from teachers of special technologies, masters, practicing teachers and heads of professional colleges with several years of practical experience and pedagogical skills, but not involved in experimental work, with their participation, interviews, questionnaires , practical activities such as organizing roundtables.

The effectiveness of the methodology developed within the framework of the purpose of the experimental work was studied and evaluated on the basis of the formation of a special expert group consisting of experienced, creative deputy director of industrial education, teachers of special sciences and practice teachers.

Experimental work aimed at the formation of professional skills in students was organized in several stages. At each stage, specific tasks were identified and their implementation was ensured. Particular attention was paid to the establishment of a single unity and interdependence between the stages. In this order, a chronological map of experimental work was developed (Table 1).

It was argued that the experimental work organized in the process of studying the problem of formation of professional skills in students in the process of practical vocational education will give positive results only if it is carried out in accordance with clear principles.

When analyzing the nature of the practical activities of students and the progress of experimental work, it was found that the priority of the following principles will ensure the effective completion of activities in this area:

1. Clarity of the purpose of the experimental work.
2. The organization of experimental work on the basis of a comprehensive approach.
3. Ensuring objectivity in the formation of the basics of professional skills in students.
4. Consistent, integral, systematic and purposeful organization of pedagogical activity on the development of the basics of professional skills in students.

Table 1.
To form professional skills in students focused experimental work
CHRONOLOGICAL MAP

	Stages	Time	Main tasks
	Organizational-preparatory phase (founding experience)	2016-2017 year	1. Definition of experimental sites. 2. Determining the number of respondents. 3. Formation of experimental and control groups. 4. Appointment of practice teachers responsible for the organization of experimental work, giving them insights. 5. Development of a program of

			experimental work
Phase of organization of experimental work (formative experience)	2017-2018 years		<ol style="list-style-type: none"> 1. Development of special methods for the formation of professional skills in students. 2. Carrying out large-scale experimental work. 3. Preliminary examination of the effectiveness of special methods. 4. Enrich the content of the ideas of special methods.
Finalstage (confirmatory experience)	2019-2020 years		<ol style="list-style-type: none"> 1. Re-examination of the effectiveness of special methods. 2. Summarize and analyze the results of experimental work. 3. Re-analysis of the obtained results using mathematical and statistical methods (Bespalko and Student methods). 4. Development of methodical recommendations based on the results of research.

5. Activity of students in the process of developing the basics of professional skills.

6. Creative and technological approach of practical teachers to the process of developing the basics of professional skills in students.

The practical activity organized in the framework of the problem of formation of the basics of professional skills in students in the practical professional process was carried out on the basis of a number of forms, methods and tools.

It is known that activities organized for a specific purpose are carried out by certain means. The following tools were used in the practical work of the research: curriculum, syllabi, journal of practical skills assessment, practical vocational education plan, reports on practical vocational education, minutes and decisions of methodical council meetings, questionnaire among interns and students leaflets allowing to conduct inquiries, etc.

The pace and level of development of the basics of professional skills among students of educational institutions were determined in three directions. In particular:

- a) on the basis of the final indicators of training and production activities (results of practice);
- b) based on the level and effectiveness of the training process;

c) on the basis of the scientific potential of educational institutions.

Based on the above considerations, the following conclusion was drawn: the success of experimental work aimed at developing the basics of professional skills in students depended on the development of special methodological guidelines and the implementation of its ideas.

At the initial stage of the study, the study of the current state of formation of the basics of professional skills in students of educational institutions revealed the unsatisfactory level of activity in this area and some of its causes. In particular, the relevant curricula and programs, teaching aids, the use of modern pedagogical and information technologies in the specialty "Technician for the construction of roads, bridges, artificial structures and airfields" were studied and analyzed in terms of the problem, the existing shortcomings and deficiencies. detected.

Given that the quality and effectiveness of practical vocational education depends on the experience and skills of existing practice teachers, it is clear that their work experience is important. The analysis of pedagogical work experience of practical teachers working in experimental educational institutions showed that 35% of them have 3-5 years of work experience, 28% have 9-14 years, 21% have 19-24 years, and 16% have more than 24 years of work experience. It can be seen that the share of personnel up to 3-5 years is a large percentage. This figure indicates the weight of the "inexperienced".

The analysis of the capacity of internship teachers working in experimental educational institutions showed that 42% of them are specialists with secondary special education. Seventy-three percent of internship teachers had previously worked in various manufacturing enterprises. These indicators indicate the low professional and pedagogical potential of existing practice teachers.

It should be noted that the need for knowledge and skills of practice teachers is even greater. However, this need is inseparable from the content of training and production practices.

In the next stages of the experimental work, on the basis of the conclusions drawn on the results of the substantiated experimental work, methodical manuals aimed at the formation of professional skills in students were developed and tested in practice.

In the process of formative experiments, activities were organized for practice teachers to identify the factors that allow students to form the basis of professional skills. According to him, practice teachers noted that systematized factors help to ensure the results of professional and pedagogical activities carried out in pursuit of the purpose of the study [3].

In most cases, the success of the practical vocational education process is ensured by the influence of certain factors. Therefore, all the organizational and methodological-pedagogical conditions for the development of professional skills of students were provided in the educational institutions selected as the object of the experiment.

In the course of experimental work, surveys were conducted among practice teachers, and the state of their work on the organization of educational and production activities of students was studied in the course of their training. The questionnaire identified the main motives for the work of practice teachers in this regard:

-45% of practice teachers strive to ensure the quality of students' teaching and learning activities.

-42% of practice teachers strive to ensure the productivity of students in the educational and production work.

-37% of practice teachers believe that it is important for students to master the correct and advanced methods of work in the educational and production work.

-35% of practice teachers strive to form a technical culture in the educational and production work of students.

-28% of practice teachers strive to develop students' independence in teaching and production.

-25% of practice teachers believe that it is necessary to form a creative approach to work in the educational and production work of students.

-21% of practice teachers strive to form a work culture in the educational and production work of students.

-18% of practice teachers believe that the educational and production work of students should be in line with economic and environmental goals.

The analysis showed that none of the internship teachers understood that the above-mentioned motives are the general basis for the development of students' professional skills, as well as insufficient understanding of the essence of systematic organization of practical vocational education in their field. Therefore, in the course of the research, based on the qualification requirements for practical teachers, a system of organizational and methodological measures was developed and put into practice, which allows them to develop the necessary level of practical professional pedagogical skills.

According to the results of emphatic and formative experimental work, it was found that the solution of the tasks identified as important in the activities of experimental educational institutions to promote the ideas of practical vocational education among students has been solved.

When we ask from students: "What do you think the concept of 'professional ability' means?" In response to the question, they noted that this concept has a very broad content, in particular, the acquisition of professional skills through the implementation of appropriate training and production work in the internship process is the result of their activities, the basis for professionalism in their profession. Fifty-eight percent of the students noted that they have formed the foundations of professional skills and are able to organize certain actions in this regard.

To determine the effectiveness of the process of organizing experimental work, interviews were organized with students, among whom were conducted questionnaires. According to the results of the dialogue, the achieved indicators were analyzed.

The activities organized in the course of the experimental work were developed according to the content of the wishes, internal needs, interests and approaches to working with the text of the experimental teachers and students [4].

According to the results of formative experimental work, indicators of the formation of the basics of professional skills in students were developed on the basis of a system of interaction between the content and process of practical vocational education.

In accordance with the requirements for the level and content of training of junior specialists in the field of "Construction of roads, man-made structures, airfields" graduates graduate with a degree in "Technician for construction of roads, bridges, man-made structures and airfields."

At the beginning and end of the experimental work in accordance with the content of technological processes specific to this profession, the level of formation of practical skills in 174 future junior specialists (87 control groups, 87 students of experimental groups) was determined.

The development of the basics of professional skills in students was determined on the basis of high, medium and low level indicators (criteria).

The higher level includes students who have mastered all the components of the basics of professional skills, who are able to correctly and completely perform training and production work in accordance with the established technologies.

Students who have mastered all the components of the basics of professional skills, but have some confusion and mistakes in the implementation of educational and production work in accordance with the established technologies, were included in the intermediate level.

The low level included students who had not mastered almost all the components of the basics of professional skills, who could not perform educational and production work in accordance with the established technologies.

The level of mastery of the basics of professional skills in the process of practical vocational education of students participating in the final experimental test was determined on the basis of the above criteria. The results were as follows (see Table 2).

In this case, it is advisable to reflect the performance of the subjects attached to the experimental and control groups at the beginning and end of the experimental work in separate tables in order to compare them (see Table 3.4).

Table 2

The level of development of the basics of professional skills in students

Basics of professional skills components	Levels					
	Control group			Experimental group		
	over	middle	lower	over	middle	lower
Quality of training	9	1		0	9	8
High labor productivity	0	9		1	4	2
Possession of the right methods of work	8	2		4	6	7
Acquisition of advanced (new) methods of						

work	3	8		5	3	9
Technical culture	8	1		3	5	9
Independence at work	6	2		3	6	8
Creative approach to work	8	0		4	4	9
Work culture	5	2	1	1	6	0
Economic and environmental feasibility of labor activity	6	4		2	5	0
Average arithmetic value:	8	1		3	5	9

Table 3.

The level of professionalism of students at the beginning and end of experimental work

Groups	Levels					
	At the beginning of experiment			At the end of experiment		
	high	medium	low	high	medium	low
Experimental group (n1 = 87 people)	8	29	50	9	45	32
Control group (n2 = 87)	7	30	49	8	31	44

people)							
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In the process of organizing the experimental work, the following tasks were performed based on the main goal:

- to study the current state of formation of the basics of professional skills in students;
- identification of conditions that allow students to develop the basics of professional skills;
- identification of the need to develop the basics of professional skills in students;
- identify problems in the process of developing the basics of professional skills in students and identify measures to address them;
- development of methods for studying the pace of development of professional skills in students;
- to determine the level of effectiveness of the methodology, which serves to develop professional skills in students by a group of impartial experts.

CONCLUSION

We re-analyzed on the basis of formulation according to the method of V. Bospalko [5]. In the experimental groups, the proportion of high-achieving students increased by 12.7 percent compared to the control groups, the proportion of intermediate students increased by 16.1 percent, and the proportion of low-achieving students decreased by 29 percent. At the same time, the share of high-level students in the experimental groups increased by 12.7% compared to the beginning of the experiment, the share of middle-level students decreased by 33.3%, and the share of low-level students decreased by 31.1%.

The obtained results confirmed the effectiveness of the experimental work. This indicates that the experimental work was set up correctly, as well as that the research was done correctly.

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