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Improvement of Vocational Training of Pupils in Secondary Schools

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Abstract--- *This article reveals the process of research is to improve the process of vocational training in secondary schools. The tasks of the research are following as: improvement of mechanisms of vocational training of students based on the integration of technological and professional-psychological training; development of proposals for new occupations based on the needs of the socio-economic development of the regions; improving the technology of developing and applying a database of students' motivation, resilience, and career aspirations; improving students 'professional knowledge and skills through the development of teachers' professional abilities, skills and competencies. The article consists of from introduction, literature review, methodology of research, discussion, experimental work and conclusion.*

Keywords--- *Vocational Training, Secondary School Students, Engineer-teachers, IT in Education, Special Ways of Teaching.*

I. INTRODUCTION

The socio-economic changes in the world and the growing need for junior specialists in the labor market dictate the need for professional orientation of students at all stages of education. Almost all developed countries have a modern educational system adapted to abrupt changes in the economy, capable of preparing specialists competitive in any conditions. Within the framework of “strengthening and expanding various educational opportunities in training and preparing for the profession”, defined in the international educational concept until 2030, the United Nations considers the issues of improving the quality of education and training for the profession in schools in the context of updates in the educational system, intensification of development.

The world conducts research work in the field of vocational guidance of trainees, the formation of their skills and abilities regarding the choice of a profession, increasing their ability to adapt to professional activities and enhancing professional qualities based on the study of the needs of the modern labor market. Of particular importance is the orientation of students on an independent choice of the types of profession, the realization of talent and opportunities in the professional fields that interest them.

In the educational institutions of our republic, the process of preparing students for the profession is being improved, the effective use of international standards has been established. In particular, an important task was identified - “to pay special attention to improving the system of continuing education, training highly qualified personnel in accordance with the modern needs of the labor market” 1. In institutions of general secondary education, the activity of educational and production complexes is being improved.

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II. LITERATURE REVIEW

Problems of professional orientation of students, in particular, questions of practice and its goals, tasks, scientific and theoretical aspects and the scientific foundations of its organization were studied in the works of such researchers as V.P. Gorlenko [8], G.N. Zhukov [29], I.Ya. Zvonik [30], G.M. Kodzhaspirova [13], N.V. Nevodnichenko [19], V.P. Simonov [24], M.E. Sysoeva [25], I.F. Harlamov [9], V.T. Chepikov [7], T.A. Shangirey [23]. The research works of R.Sh. Akhliddinov [4], U.I. Inoyatov [11], M. Kazakov [12], Sh. Kurbanov [14], R. Turgunbaev [26], S.T. Turgunov [27], A.R. Hodzhaboev [10], and others are devoted to such problems like the management of the educational process, the continuity and continuity of education, new approaches to education, the principles of management of the education system.

Issues related to the continuity and continuity of vocational education, the formation and development of professional skills and abilities, its organizational forms, methods and means, professional training of teacher-engineers are highlighted in the works of B.S. Abdullaeva [3], T. Abduholikov [1], O.A. Abdukudusov [2], D.N. Arzikulova [6], M.T. Ahmedova [5], A.K. Zhalolov [28], A.M. Mavlyanov [15], P. Musaev [17], N.A. Muslimov [18], B.Kh. Rahimov [20], M.R. Rahmatullaev [21], B. Sattorov [22].

III. METHODOLOGY AND DISCUSSION

The aim of the study is to improve the process of preparing students for the profession in secondary schools.

Research Objectives:

- Improvement through the integration of technological.
- Professional and psychological preparation of the mechanism for preparing students for the profession;
- Development of proposals for new types of professions, based on the needs of the socio-economic development of territories, the need for professions that are assigned to students;
- To develop a database on the motivation of students to learn the profession, their adaptation, career and improve the technology of its application;
- Improve through the development of professional abilities, skills and competencies of professional knowledge and skills of students.

Object of study. As an object of study, the process of preparing for the profession of students of secondary schools was determined, 60 teachers and 250 students of secondary schools of Tashkent and Samarkand regions were involved in the experimental work.

The subject of the study is the content, forms, methods and means of improving the process of preparing for the profession of students in secondary schools.

Research Methods. In the framework of the study, methods of pedagogical observation, comparative analysis, experiment, study of psychological and pedagogical literature, training programs for the profession in secondary schools, textbooks, teaching aids and recommendations, class monitoring, conversations with students and educational engineers, methods of mathematical statistics were applied. processing and summarizing the results of the study.

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The scientific novelty of the study is as follows:

- On the basis of the continuity of the connection between technological and professional psychological training (the formation of feelings and creative abilities with professional orientation), the mechanism for preparing students for the profession (the functions of a practice leader, methodologist and educational engineers) has been improved;
- The necessity of replenishment through the introduction of new types of professions in preparing students for the profession, based on the needs of the socio-economic development of territories, is substantiated;
- Improved on the basis of demonstration classes conducted by specialists of organizations and enterprises, monitoring the production process, organization of practical training at enterprises, the professional qualities of students, such as motivation, adaptation, and education to create a career;
- Improved through the development of professional abilities, professional skills and professional competence of teachers (independent work, mentoring traditions) in the process of classroom and extracurricular activities, students' professional knowledge and skills.

The practical results of the study are as follows:

- Didactic support for preparing students for the profession was created;
- In the improvement of the process of preparing students for the profession, the development of occupations in the profession "carpenter" was created;
- A diagnostic apparatus has been developed for preparing students for the profession (diagnostic, prognostic, organizational-preparatory, practical, generalizing);
- An electronic textbook was prepared to prepare students for the profession “Modern approaches to the organization and management of educational-production mi in secondary schools” (in Uzbek).

The reliability of the research results is determined by the application of approaches and principles, methods and theoretical data obtained from official sources, relying on the ideas of domestic and foreign scientists on the problem, the experience of practical teachers, the validity of the above analyzes and the effectiveness of experimental work using methods of mathematical statistics, implementation of conclusions , proposals and recommendations, confirmation of the results by the competent authorities.

Theory. The purpose of the process of preparing students for the profession is to strengthen scientific and practical knowledge, apply the knowledge gained in solving scientific, technical, industrial, economic, social problems, prepare students for independent work in modern production, the development of economics and technology.

As a result of the search and analysis of the study, general (typical) shortcomings in preparing students for the profession were identified and ways to eliminate them were identified, the current state was studied and perspective directions were identified, the technological approach to this area was analyzed, the sequential system, implementation methods, and determination criteria were improved the resulting knowledge, skills and abilities, the pedagogical conditions that contribute to the development of students' thinking are determined and the directional I implement them.

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The analysis shows that today the didactic opportunities for preparing students for the profession are not well defined, the processes of mastering and practical application of knowledge, skills and abilities are not sufficiently studied in the scientific and practical aspects, there are shortcomings in terms of providing knowledge from the field of professional disciplines in the content of classes , the formation of students' skills and abilities, in connection with which, it is necessary to include new theoretical and practical knowledge in the content of classes, prepare experienced ped Gogh engineers, spoosobnyh generate the required level of knowledge and skills of students.

As part of the search for ways to improve the content of practical exercises and their structure, to develop didactic foundations, it is necessary to determine the ways of their modern organization, explain to students their goals, determine ways to increase efficiency, justify promising opportunities, expand the educational, upbringing and developmental capabilities of this process based on the organization of complexes, to explore the development of scientific and methodological recommendations relating to all this.

To determine the effective ways of the work to be done, it is necessary to organize classes at the level of modern requirements, pay special attention to clarifying goals and objectives, establishing cooperation between teacher-engineers and students, forming their independent thinking, creative abilities and professional skills at the level of modern requirements, improving organizational, psychological - pedagogical, educational, methodological, informational, material and technical support. For this purpose, a modern model for improving this process has been developed as part of the study. It reflected the main methodological and didactic requirements, organizational and pedagogical conditions, design and modeling of the process, the stages of the study and the functions of the staff responsible for it.

This part also highlights ways to improve this process and put them into practice, didactic and methodological requirements for them, management and control of methodological work, and assessment systems. The basic requirements for improving the process have been developed.

The tasks implemented in the process of preparing students for the profession are identified, the basic principles and stages of increasing its effectiveness are determined. The design of topics, the objectives of classes and the definition of tasks to achieve it, the choice of organizational forms, methods, means and methods is of particular importance for increasing the effectiveness of classes.

Scientifically substantiated are the ways and stages of improvement, increasing the efficiency of the process of preparing students for the profession, the basic requirements for observing and analyzing classes in this process, training teachers and engineers, the principles of improving this process, the levels of educational and cognitive activity of students in the process.

Improving the effectiveness of classes consists of a set of didactic approaches developed in a theoretical aspect, the study identifies the main tasks that are implemented in this process. The principles, the observance of which is important for increasing the effectiveness of these approaches, the stages of increasing efficiency are indicated.

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It has been shown that ensuring the design of classes, defining (concretizing) the goals, clearly formulating tasks performed to achieve the goal, dividing each lesson into certain stages, choosing its organizational form, content, methods and means, is of particular importance for increasing the effectiveness of classes.

The dissertation substantiates the ways to implement the tasks of improving the process of preparing students for the profession, providing it with the new generation of teaching and methodological literature, modern technical means, attracting qualified engineering teachers to this process, forming their innovative and technological approaches, independence, enterprise, initiative and activity students.

The performance indicators of teachers-engineers in the field of effective organization of classes are determined. To this end, the structure and criteria of their pedagogical activity, stages allowing the implementation of work aimed at ensuring the effectiveness of classes have been developed. The significance for the process of improving the lessons, and the possibility of achieving this goal in this way, is substantiated. For this purpose, a class diary, instructions and instructions for students, recommendations and structure of classes are developed, basic principles are substantiated. The factors that must be taken into account in order to turn the material of classes into a means of enhancing the educational and cognitive activity of students, the need to strengthen the professional orientation of the material, the widespread use of independent work to activate them are indicated.

This chapter analyzes the methodology of organizing and putting into practice, the program, lesson plans, and their samples are given in the dissertation. Criteria have been developed, a statement of assessment of knowledge, skills and abilities of students in the classroom.

IV. EXPERIMENTAL WORK

Based on the results of the experimental work on determining the pedagogical effectiveness of teaching the dissertation, the following recommendations were developed: create preconditions in places intended for organizing classes, provide them with teaching and methodological aids, develop students' work skills, improve the methodology and technology of organizing classes, develop problematic tasks to determine effectiveness and student knowledge assessments.

The results of the experiment indicate that the organization of classes on the basis of modern requirements creates wide opportunities for students to independently acquire knowledge, develop their independence, initiative, enterprise and creativity. The description of the experimental work implemented in several stages, the tasks performed on the basis of them, is the content of this chapter.

At the first stage of the experiment, the relevance of the studied problem is not scientifically substantiated, at the second stage in the process of experimental work specific features and the level of complexes are determined, from the point of view of the scientific research, the results are evaluated. During this stage, based on the characteristics of the organization of classes, a textbook on enriching the knowledge of students was created and put into practice. At the next third stage, results in the field of the effectiveness of the developed results were summarized. The dynamics of the organization of classes by educational engineers and the development of student knowledge in the period before and after the experiment is studied.

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The content, structure of the organization of classes and the important requirements for them, types, forms, methods, means and technologies of classes, components of classes, levels of training of educational engineers, questions of students learning are described in detail.

The following basic requirements are taken into account when organizing classes: compliance with the main direction, its current state, the requirements of the state standard, consolidation of practical classes, stimulation of independent work, a clear definition of topics, the presence of the necessary literature, means corresponding to the lesson table and workers plan.

Subjected to analysis, improved programs, lesson plans, samples of them are given in the annexes to the dissertation.

In the framework of the study, the example of the profession of a joiner substantiates the possibility of applying problem-based learning technology in schools, which makes it possible to quickly and at a high level solve the methodological problem of teaching students the independent use of acquired theoretical knowledge.

Based on the analysis of theoretical data and many years of experience in teaching the profession of a joiner, the structure and development of problem classes (organization methodology) for the joiner's profession for students were developed and put into practice in secondary schools of the republic

10-11th classes of general secondary schools, designed for 2 academic hours each.

The study showed that it facilitates the achievement of the goal by observing the following rules when conducting classes: providing students with material available for implementation, including drawings, diagrams, diagrams, tables, problem tasks, practical exercises and control questions related to topics.

The results of the experiment were analyzed using methods of mathematical statistics. This chapter highlights how the results obtained during the experiment contribute to the development of skills and abilities to be learned by students.

Based on the results of the survey and conversations with educational engineers, the following proposals for organizing classes were received: taking into account the level of students' abilities to complete tasks, their experience, interests and opportunities, organizing classes in collaboration with professional colleges and other organizations.

Table I: Results of experimental work

Control group (125 respondents)				**Experimental group (125 respondents)**			
Bad	Low	Good	High	Bad	Low	Good	High
4,0	24,0	36,8	35,2	0	17,6	40,0	42,4

As a result of the experiment:

The number of students who received high marks in the experimental group increased in comparison with the control group by an average of 7.5 percent, the number of students with a low level of assimilation (performance) decreased by 11.5 percent. Taking into account that the indicators in the experimental group are higher, the effectiveness of the research work is proved.

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This chapter also describes the purpose and objectives, presents the results of a pedagogical experiment and provides their analysis using methods of mathematical statistics. The experimental work was carried out in four: diagnostic, prognostic, organizational-preparatory, practical and generalizing stages. In order to determine the effectiveness of the results, they are mutually compared, the final performance indicators of students from the experimental and control groups are analyzed.

Scientifically based proposals and recommendations for improving the process of preparing students for the profession have been developed and put into practice. From the results obtained, there is a high need for experienced teacher educators who are able to organize classes at the level of modern requirements. For this purpose, the textbook “Modern approaches to the organization and management of educational and production activities in secondary schools” and the monograph “Theory, practice and methodology of organizing educational and production complexes in secondary schools (for example, grades 10-11)”.

V. CONCLUSION

Despite the implementation of a number of positive works by the relevant institutions to improve the process of preparing students for the profession in the industry, there are some problems that need to be addressed.

1. As a result of observing practical exercises, conducting questionnaires with educators, engineers and students, organizing conversations, their current state was determined, their effectiveness level did not correspond to modern requirements, their effectiveness was not high enough, their educational and methodical literature was inadequate, the engineers lacked the proper technological approach - teachers to the process, the desire to enrich the process with advanced technologies, techniques, forms, means.

2. Improving the mechanisms for preparing students for the profession through the integration of technological and professional psychological training is one of the urgent problems of today. This process has specific features, and the study of its place and tasks in the context of modern education encourages students to critical thinking, teaches them to independently solve problem tasks and tasks, and apply theoretical knowledge in practice.

3. Of particular importance for improving the quality and effectiveness of this process is the scientific justification, development of a modern structure, phased organization of classes, the application of acquired knowledge in practice, monitoring and evaluation of student knowledge.

4. Determining the level of students' interest in professions, creating favorable pedagogical conditions for students to meet, mastering new types of profession, taking into account the needs of the socio-economic development of the regions, serves to improve the quality and effectiveness of this process.

5. The organizational and pedagogical conditions for improving the process of preparing students for the profession are determined, practical recommendations are developed in the field of increasing its effectiveness, which, in turn, not only forms students' professional skills, but also serves to increase their professional activity.

6. The requirements for the training of educating engineers have been developed, and the levels of educational and cognitive competencies to be learned by students in the course of professionally-oriented classes have been formed.

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7. The results of the experimental work testify to the possibility of demonstrating classes conducted by specialists of organizations and enterprises, monitoring the production process, organizing practical classes at enterprises of students' professional qualities, such as motivation, adaptation, and getting an education to create a career

8. Recommendations have been developed in the field of enhancing pedagogical measures aimed at deep learning by students, the formation of their professional consciousness, creating a consistent system of vocational guidance, substantiating it from a theoretical and pedagogical point of view and increasing efficiency.

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