Organization of Interactive Training in a Vocational Educational Institution

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Abstract: Interactive learning is an integral part of modern education system dissemination of which has become relevant again with implementation of new Federal state educational standards. One of the goals of interactive learning is to improve training of students in professional educational institutions by increasing their activity when changing teacher’s role in this process. Activation of student activities to form professional competencies and become a future specialist as a highly qualified professional in these conditions is a complex multifaceted process. Using interactive technologies allows you to make it more productive and interesting for students. The aim of our work is to study interactive learning organization in a professional educational institution. The paper discusses methods to improve interactive training organization and, as a result, professional competencies development. The authors included project method, method of problem-based learning, case study and “round table” method. The authors conclude that when using these methods, interactive learning organization becomes more elaborate and effective for students who become active in this activity.

Keywords: interactive training, professional educational institution, competencies, competence, interactive technologies

I. INTRODUCTION

Socio-economic changes, information development of the entire world community, the reform of education system in Russian Federation require constant review of methods and technologies used in education process [1]. This trend is due to contradiction between the need to master a large amount of information arising in connection with regularly updated information and difficulties in mastering it in full. The development of competencies occurs in conditions of a large information flow in which students have to work [2]. To facilitate the task and increase the process effectiveness, in our opinion, educational institutions should use interactive learning, which is one of the modern ways to improve learning process [3]. In this way, a professional educational institution will be able to provide training for a competitive specialist [4]. Interactive teaching methods allow each student to be involved in learning process. Students using them, take a more active position than teachers [5]. In traditional teaching, it was the teacher who acted as the most active subject of activity, but now his role has undergone significant changes [6]. Under the influence of new Federal state educational standards requirements, organization of interactive training in professional educational institutions is developing quite well today, however, in the context of numerous changes in Russian educational process, interactivity is acquiring new features, therefore, additional attention to this process is demanded. To activate student activity, conditions must be organized that arouse his interest in major and future activities, reveal his creative thinking, and develop research skills as well as necessary professional competencies [7]. The use of interactive technologies in development of future graduates’ competencies is one of the main requirements that were set for professional educational organizations in the development of information society [8]. Information society, in turn, requires specialists who are ready to carry out independent activities at the workplace, skillfully handling necessary skills, easily adapting to changes in the content of labor, able to master new knowledge, acquire new competencies within a short time [9]. This requires organization of a more effective learning process using interactive learning technologies [10]. The use of interactive teaching technologies is also due to the fact that they support and develop a personality-oriented focus of learning, which has become more demanded in demand with the spread of the competency-based approach [11]. The study of interactive learning has been done by many scientists [12]. However, this issue has not lost its relevance and requires additional study, since it takes on new forms in the context of a professional educational institution [13].

II. INTERACTIVE TECHNOLOGIES IN EDUCATIONAL PROCESS

A. Interactive technology in a vocational educational institution

The topic of using interactive technologies to increase educational process effectiveness is one of the most important in search for ways to implement the Federal state educational standards [14]. Today, a teacher is required to organize partnerships with students, which will bring maximum results in necessary competencies development [15]. The activities of a modern teacher should be based on the use of scientifically based and experimentally verified innovations that can increase the level of professional training arrangement [16].
In this case, pedagogical impact, interaction of a teacher and a student is provided by appropriate pedagogical technologies [17].

Technology is a well-thought-out system for transmitting a goal into a specific object or action [18]. The concept of “Pedagogical technology” was considered by various scientists [19]. According to V.P. Bespalko pedagogical technology is called a meaningful technique for educational process implementation [20]. M.V. Clarin believes that this is a systemic totality and order in which personal, instrumental and methodological tools are used to achieve pedagogical goals [21]. In the work of I.P. Volkova pedagogical technology is revealed as a description of process of achieving planned learning outcomes [22]. V. M. Monakhov speaks of pedagogical technology as a thoroughly thought-out model of joint pedagogical activity in the design, organization and conducting of educational process, ensuring comfortable conditions for students and teachers [23].

Based on the said above, we can say that pedagogical technology includes a certain step-by-step set of professional actions [24]. It is distinguished by specificity and clarity of goals and objectives [25]. It is worth saying that most modern technologies are ultimately aimed at increasing effectiveness of student competence development. However, specificity of interactive technologies is more efficient development of student competencies through indispensable organization of equal interaction with the teacher with maximum activation of educational position of the first and his inclusion into the activity [26].

Interactive technologies are the most progressive way of organizing educational process, a holistic system that covers a specific part of educational process which uses project methods, role-playing methods, problem solving methods, brainstorming, case studies, round-table discussion and some other modern teaching methods [27]. Moreover, in comparison with other teaching technologies, interactive ones are aimed at broader interaction of students not only with the teacher, but also with each other and at the dominance of student activity in educational process [28]. The activity of a teacher decreases giving way to students (compared with traditional teaching). Here are the differences between traditional teaching and learning using interactive technologies.

**Table- 1: Comparative characteristics of traditional and interactive learning**

<table>
<thead>
<tr>
<th>Traditional learning</th>
<th>Online learning</th>
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</thead>
<tbody>
<tr>
<td>Determined by physiological development and social coercion</td>
<td>Determined by personal development tasks</td>
</tr>
<tr>
<td>The educational process is planned by the teacher</td>
<td>Learning activities are planned together with students</td>
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<tr>
<td>Learning activities aimed at transferring knowledge</td>
<td>Learning activities are based on the search for new knowledge based on existing experience</td>
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<tr>
<td>Assessment of students in the classroom is carried out only by the teacher</td>
<td>The implementation of joint self-assessment and mutual control with students is widespread</td>
</tr>
<tr>
<td>Using group and individual learning methods</td>
<td>The joint use of group, paired, small groups and individual methods is practiced оцениваня</td>
</tr>
<tr>
<td>The emotional sphere of the student and his individual capabilities are not taken into account</td>
<td>In the practice of learning cognitive and emotional spheres, dialogue situations are constantly combined</td>
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</tbody>
</table>

Comparing the two categories, we can say that the former only refers to the student’s intellect, while the latter involves the student’s personality as a whole - thoughts, feelings, knowledge and interest. One of the main tasks of the teacher today is to create conditions for student initiative development.

The use of interactive technologies involves free exchange of information and opinions of all participants in educational process. This process is communication, cooperation and equal cooperation.

Interactive learning is learning built on the basis of student’s interaction with the learning environment, which is an area of learning experience, where information is obtained in a joint activity through a dialogue between students and the teacher.

We can say that interactive learning is one of the options for communication technology. This is training with well-organized feedback from the subjects of training, with two-way exchange of information between them.

Interactive training organization is designed to solve the following problems: awakening students’ interest in learning; active assimilation of educational material; independent search for solutions to the problem; students’ competencies development.

It should be noted that during interactive training organization, a teacher must not only choose the most effective teaching method for a specific topic, but also trace the possibility of combining them. A teacher should be guided by the following principles: an interactive lesson is the joint work of students on a specific problem; all participants have equal rights regardless of age, experience and social status; each student has the right to express his opinion on a particular issue; criticism of the person is unacceptable (only an idea or incorrect information is criticized).

Interactive lesson organization takes place in several stages. Lesson preparation is the first one. Here selection of topics and situations takes place. The list of necessary conditions is the second one. In the list of necessary conditions we include:

- a clear definition of the goal;
- clarification of problematic issues to be resolved;
- preparation of the lesson program;
- providing technical equipment (the organization of modern interactive training involves the active use of computer technology, they are inextricably linked with the construction of the educational process of today's professional educational organizations);
- selection of key issues and determination of their sequence;
- selection of practical situations from real professional life;
- building a positive trusting relationship between students and the teacher;
- a variety of forms and methods of providing information, forms of activity.
Reflection. Here, an assessment of one’s own activities is carried out, the relevance of the methods used and the chosen topic and general conclusions are made.

As we have already mentioned, the use of computer technology is important in the organization of interactive learning in a professional educational institution. In training students-future builders, it is important to use various training programs that are used in real professional activities. It is they who provide students with an additional opportunity to immerse themselves in professional activity and develop competencies. The combination of interactive and computer technologies can improve the level of training organization and, consequently, competencies development.

III. RESULT AND DISCUSSION

In pedagogical practice such methods of interactive learning as the method of projects, problem-based learning, case study and “round table” are widespread. We considered the process of organizing classes in a professional educational institution using these methods.

- The organization of project activities depends on the type of project, therefore, the following typological characteristics of projects are distinguished: the dominant type of activity (research, search, creative, role); substantive area (monoproject and intersubject project); nature of project coordination (direct and hidden); the number of project participants (personal - between two partners, paired and group); the duration of implementation (short, medium duration (from a week to a month) and a long-term one (from a week to several months). The project is carried out in the constant interaction of students with each other. Everyone is involved in the project process and each is responsible for the result of the whole team.

- There are several types of projects: research (research work); informational (collection, analysis and synthesis of information); creative projects; applied projects (the result of the activity is indicated from the very beginning, has a clear scenario, the distribution of roles). The process of creating a project has the following steps: topic selection; development and organization of a project plan; implementation of planned project activities; presentation; assessment and results analysis.

- Select a topic. The topic should be aimed at developing professional and personal qualities of the student. The choice of topic should be subordinate to specific educational situations, professional interests and abilities of students.

- The development and organization of a project implementation plan is one of the most important stages. Here, students determine the problem, the purpose of work on the project, distribute roles among themselves and are divided into groups, determine the forms of presentation of results.

- The next step is the direct implementation of project activities. Here, students are involved in the selection of information, its analysis and structuring in accordance with the built-up plan.

- The following step is project presentation. Students publicly present their work, state their point of view and offer a way to solve the problem.

- Evaluation and results analysis. During the discussion of the results, the advantages and disadvantages of the project are discussed. The teacher summarizes and evaluates the project.

- The main activity of the teacher during the implementation of the project by students is advisory. A student in project activities is an active subject. He independently performs most of the work, developing his creative abilities in the future professional field of activity.

- The project method is one of the most effective in organizing interactive training, since students, interacting with each other, with the help of a teacher’s advice, become more confident in mastering professional competencies.

The next method that is actively used in interactive learning organization is the problem learning method. A non-standard problem is put at the center of the task which students must solve in a non-standard way. In the classification of problems, tasks with uncertainty of conditions are distinguished; with redundant or conflicting, partially incorrect data. The main thing in problem education implementation is the process of finding and choosing the right optimal solutions. The essence of the problematic interpretation of the educational material is that the teacher does not provide knowledge in a finished form, but poses a problematic task for students, prompting them to search for ways and means of solving the problem. The teacher knows in advance the most optimal way to solve the problem, but his task is to focus the search process step by step leading students to gain new knowledge and solve the problem. Problem tasks perform a threefold function. Firstly, they are the initial link in the process of assimilation of new knowledge. Secondly, they provide favorable conditions for the assimilation of material. Thirdly, they are the main means of control to identify the level of learning outcomes. According to the degree of independence of students, the use of problematic methods is classified as follows: the statement of the problem and its solution is carried out with the help of a teacher. This process is characterized by a low degree of student independence; the teacher states a problem situation; at the remaining stages students work together with students; the process is built by analogy, that is, students formulate problem situations by analogy and solve them together with the teacher; at all stages of solving a problem situation, students act independently, the cognitive activity is the highest.

The implementation of the problem method has its own characteristic stages: the teacher poses a problem situation; students’ awareness of the essence of the problem situation, difficulties (the teacher formulates the problem problem); students search for a way to solve a problem situation; at the next stage, students prove their hypothesis; the final stage is to verify the correctness of the solution of the task.

The stage of occurrence of a problem situation is characterized by the phase of perception of the material and its preliminary analysis. If the teacher was able to correctly actualize the internal and external contradictions of the problem situation, then objective prerequisites for the development of educational and search activities by students appear, the beginning of which will be the realization of the difficulty and problem statement.

At the next stage, the student,
having assessed the situation, must not only realize the fact of insufficiency of available modes of action, but also the reasons for their insufficiency. Based on this assessment, the problem situation turns into a problem task. After realizing andformulating the problem, a series of problematic questions appears which in turn help transform the task into a solution search model. Further, students are engaged in collecting information about the signs and properties of the problem situation. After this, the stage of developing a hypothesis for solving the problem begins. However, for a more complete and comprehensive development of students, their activity does not end there. Students are invited to substantiate and verify the hypothesis put forward, to check it for compliance with the initial conditions of the problem task. After the hypothesis is proved, students carry out the last stage, at which the found solution is evaluated, its suitability for solving other problems is determined.

The problem learning method allows students to gradually develop the ability to independently solve the problem creatively. In this process, as well as when using the project method, students actively interact with each other and with the teacher, choosing the right strategy for resolving the issue. At the same time, teachers control the process so that each student is involved in this activity and evaluates the results achieved. The next method that deserves attention when organizing interactive training is the round table method.

☐ Within one lesson, three stages are expected. The first stage: the creation of student micro-groups; issue of tasks. Second stage: discussion of the issue; third: summarizing the lesson. At the first stage, the teacher pronounces an introductory word, listens to the introductory word of students, conducts a blitz-survey of those present; holds a discussion on previously issued topics. The second stage: students discuss issues from various micro groups. The teacher monitors the situation and gives some advice to the teams. At the third stage, decisions are being made on the previously put forward issue, and a result is being summarized. The round table method allows students to delve deeper into the topic, independently understand it with the help of questions arising in the group and get timely answers to them.

☐ In the organization of interactive training, this method has proven itself on the good side, since in the process of discussions arising in the classroom, the ability to defend one’s point of view is formed, reinforcing it with the necessary arguments

☐ Case study lessons. This method allows you to activate the educational and cognitive activities of students through direct participation in the discussion of business situations or tasks.

☐ The teacher selects a case, develops a scenario for the lesson, sets the situation. The teacher should select the main and auxiliary materials for the preparation of students. Organizes a preliminary discussion of the case. The group is divided into subgroups. Then, collectively (subgroups) or individually, solutions to the situation are developed. Before presenting various situations to students, the teacher carefully selects the information. The situation should be as close as possible to a real professional one. In this case, the information in the case should be dosed, allowing the student to more easily understand the task. In the process, the teacher provides students with additional information. The final stage is the preparation of answers by students and assessment by their teacher, discussion and reflection.

IV. CONCLUSION

Our study was aimed at studying the organization of interactive learning in the framework of a professional educational institution. The organization of interactive training involves free exchange of information and opinions of all participants in educational process. This process is communication, cooperation, equal cooperation. In the context of interactive learning, students improve the accuracy of perception, mental performance, the ability to analyze, the development of communicative skills and professional competencies. We have identified the project method, the problem learning method, case study and “round table” method among the methods by which interactive learning becomes rich and effective. We considered each stage of the implementation of a particular method. Their use in the organization of interactive learning contributes to the inclusion of each student in the problem-solving activity. The advisory role of the teacher helps to create independence and creativity in solving future professional situations, arouse interest in future professional activities and, as a result, train a highly qualified specialist.

REFERENCES


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