

METHOD OF PROJECTS AS AN EFFECTIVE DEVELOPMENT OF CREATIVE ABILITIES OF PUPILS IN THE PROCESS OF PROFESSIONAL TRAINING

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Annotation

This article reflects the use of method of project in the process of professional training of high school students in the interschool city training centre No. 2 in Vladimir (Russia).

The proposed material reveals the stages of the work of students in project activities.

Actuality

Training of the students in the subject area "Technology", as the whole system of education, is aimed at solving problems of adaptation and socialization of the younger generation and it is closely associated with the processes of socio-economic changes in society. The economic crisis and associated decline in production negatively affect the organization of educational material resources of labor training. Therefore, the most priority direction in technological training of pupils of secondary schools is the system of education in the interschool city training centre. At the training center, students of 10 -11 classes get professional training in technological education in various professions: designer of artistic works, the operator EC and the CM, the driver of the car, carpenter, chemical laboratory assistant, electrician for repair and maintenance of electrical equipment, the manufacturer of artistic wood products. And in particular they are trained in the profession "Fitter of radio-electronic equipment". Groups are formed from students of different schools of the city with different levels of training and motivation.

At the initial stages of technological education students were directed to the improvement and acquisition of new professional knowledge and practical skills based on traditional teaching methods. However, the achievement of training objectives in the training process should be based on the development of self-education built on the principles of motivation of meaningful learning activities and individual learning paths of students.

Within the framework of traditional education every year it was a problem with a new group of students to get them interested in the subject and the profession as a whole. Gradually in the work with students, we began using the project technology. Initially, the project was made by a small group of students, but every year the number of participants to join the projects became larger. Undoubtedly, it has influenced not only the formation of professional skills of students, but also the development of their creative abilities. This led us to the use of the Method of projects as individual educational trajectory of training of students.

The project

Theoretical basis of project method has long been studied and developed by foreign and domestic teachers: American philosopher and teacher J. Dewey and his disciple W. H. Kilpatrick, was first adapted to the conditions of this country in the early 20th century under the guidance of a Russian teacher S. T. Shatsky.[3] Theoretical basis of the experiences are also the modern concepts of E. S. Polat, T. I. Samovoy, O. P. Kalatchichinoy.[4]

The basic requirements for the use of project method in teaching process are defined during analysis of scientific and educational research:

- projects should be practical ones;
- if possible students themselves choose the topic of the project;
- most of the work on the project pupils perform independently;
- students will complete not one but different projects.

The main stages of work on the project:

- statement of the problem;
- study, interaction of ideas;
- reasons of the project;
- study of a design object;
- the development of ideas;
- technology of the product manufacture;
- analysis and evaluation of works.

The main stages of work on the project are described in this paper (tab. 1).

Stage	Description of stage	The competence generated
The choice of the topic (problem statement)	Pose the problem to the students, offer "Bank of perspectives", reveal the requirement for the project, possible technology implementation and assessment criteria. Equip the lesson with the most successful exhibition of creative projects of students from previous years. The students looking at the finished projects, analyzing what they saw and heard, can already choose the theme of the project. The selection of topics is carried out in accordance with their abilities, needs and interests (cognitive, creative, applied).	To use of information and communication technologies in professional activity. To work in a team, to communicate effectively with colleagues
Research, interaction of ideas	At this stage students investigate the need for certain products and services for homes, schools, recreation, celebrations, birthdays, etc. They rely on their own knowledge and analyze the information sources. Namely: to learn about proposed by me topics, study guides, look through magazines, books, use of computer support, TV information, conduct marketing research, conduct a thought experiment under the motto "I would have done so!" The teacher's task at this stage: observation, consultation. Help	To search for information necessary for the effective performance of professional tasks. Use of information and communication technologies in professional activity. To work in a team, to communicate effectively with colleagues

	students to formulate standing problem, participate in decision making.	
Reasoning the topic of the project	At this stage, when students have chosen a theme, set goals and objectives to be solved. Introduce the analysis of the future activity to the students-making scheme of thinking "schematic representation of components of a creative project". Introduce and teach methods of working with computer programs to be used when performing design work: Word, Excel, PowerPoint, Splan и SprintLayout.	To work in a team, to communicate effectively with colleagues.
The study of design object	Search for different options. Development of sketches. At this stage, offer the students to find alternative models and options. Students perform analysis of product variants, make sketches, pictures, drawings of their alternative models. Put the outline on the sheet "Development of sketches". Drawing design is made in a specialized program Splan, which allows to simplify the process of preparation of drawings, on the other hand to gain new knowledge and effectively use computer equipment.	To use information and communication technologies in professional activity.
The development of the idea	At this stage, students investigate the need for certain products and services for homes, schools, recreation, celebrations, birthdays, etc. They rely on their own knowledge and analyze information sources. Namely: to learn about proposed topics, study guides, look through magazines, books, use of computer support, information, conduct marketing research, conduct a thought experiment under the motto "I would have done so!" The teacher's task at this stage: observation, consultation. Help students to formulate standing problem, Concretize it, participate in decision making.	To work in a team, to communicate effectively with colleagues.
	At this stage consult the students on the problems of technology of manufacturing the product, correct the sequence of operations, processing duties, assembly sequence. Pay attention to the observance of technological discipline, work culture. Watching the process of implementation of projects by the students, I concluded that students skillfully apply the knowledge they received in class technology: -able to perform	To mount printed circuits, interconnection components, inductors, transformers, chokes, semiconductor devices, individual nodes on the trace elements, complex units and devices, electronic equipment. To perform mechanical

	<p>previously learned work operations;</p> <ul style="list-style-type: none"> • understand the properties of the working material; • ensure personal safety; • efficiently organize their workplace; • strive to meet targets and to perform the task at a high level of quality. 	<p>processing (grinding, drilling) parts of electronic equipment. To perform basic plumbing operations.</p>
<p>Analysis and evaluation of works</p>	<p>Devoted to the analysis and evaluation of the works. For this I recommend the students to answer the following questions:</p> <ol style="list-style-type: none"> 1. Did I use the allowed time effectively? 2. What are the strengths and weaknesses of my project? 3. Do I know now where I can go for help? 4. If I had this project to do again, what changes would I have made? 5. Did I solve the problems easily? 6. Did I get through the time? 7. What is the opinion of others about my project? <p>After answering the questions the quality estimation of pupils' project is held and evaluation score is putting.</p>	<p>To analyze the situation, implement the current and final control, to evaluate and correct own activity, to bear responsibility for the results of your work.</p>

Conclusions:

Thus, one can say that if the project activity with the use of computer technologies, allowing to implement more complex, original educational projects, in the process when the acquired knowledge, abilities, skills independently apply, to make a permanent part of the educational process, it will be one of the most important conditions of development of creative abilities of pupils.

The efficiency of a method of projects was shown in the following:

- working on the development of creative abilities of children, they have a stable interest in the subject, which promotes understanding of the studied subject and allows to transfer the acquired knowledge in a variety of situations;
- the level of independence, creative activity, skills of student has increased, there are positive results of the impact of such work on other students;
- children undertake the most complex projects and often find interesting ways of solving them;
- the amount of work in the classroom has gradually increased, attentiveness and learning ability of children has gone up ;
- the children are waiting for new interesting jobs, show initiative in their search.

The psychological climate in the classroom are improving: the kids are not afraid of mistakes, help each other, participate in different events both at the training centre and at the municipal, provincial and national level.

Literature

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