

# ORGANIZATION OF PROJECT ACTIVITIES UNDER PRIMARY PROFESSIONAL EDUCATION

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## Abstract

The article considers the most important principles of efficient project activities organization in the professional education of the students in the interscholastic training school (Vladimir, Russia). An overview is given on the project actual subject available for implementation by the students in the upper secondary school.

**Key words:** *Professional education, project activities, cognitive motivation, individual educational path, professional identity, microcontrollers.*

## 1 RELEVANCE

A project activity of the students is one of the most important parts of contemporary educational process in Russian schools. Advantages of project method usage is evident that is why it is referred to the technologies of the 21<sup>st</sup> century involving primarily the ability to adapt to rapidly developing conditions of society. Therefore, it has become popular and up-to-date to implement projects at school; primary goal is usually to participate in contests massively, herewith. Best student projects are often seizing the opportunity to show the achievements of the teachers themselves, but the share of work done by the students is minimal. This latest “fashion” can become a stable tendency and may lead to quantitative but not qualitative increase of projects and teachers who use it massively in teaching practice which is not appropriate educationally. Therefore, it is important to give the right answer to a number of semantic questions and draw borders beyond which project activity loses its initial sense more accurately. Project activity has its true value for personal development only if it is focused on its ambitious growth requirements and realized on a high level of its creative activity. Consequently, teacher’s role transformation on the basis of student’s development support principle in the course of project implementation is unavoidable – from a facilitator in transferring knowledge, the teacher becomes an assistant who motivates for cognitive activity. Skillful and effective usage of the project method shows high level of teacher’s proficiency.

## 2 PROJECT

Project method at school cannot be implemented without teacher’s cultural and organizational attitude. Teacher’s creativity to his lessons leads to motivation level increase and is focused on students’ self-activity. An important role of the teacher involves active consultative assistance and correction of academic activity in accordance with individual educational path of a student. Psychological climate at the lesson also changes. From the reliable source of educational information, the teacher becomes a full participant of creative research process and a manager of students’ self-activity. If these principles are implemented the students become involved into an active cognitive creative process of cooperation both with the teacher and other students during fulfillment of project tasks. He becomes a part of the process of work on a creative task, and simultaneously getting new and reminding of already perceived knowledge and skills on the subject of the project implemented. However,

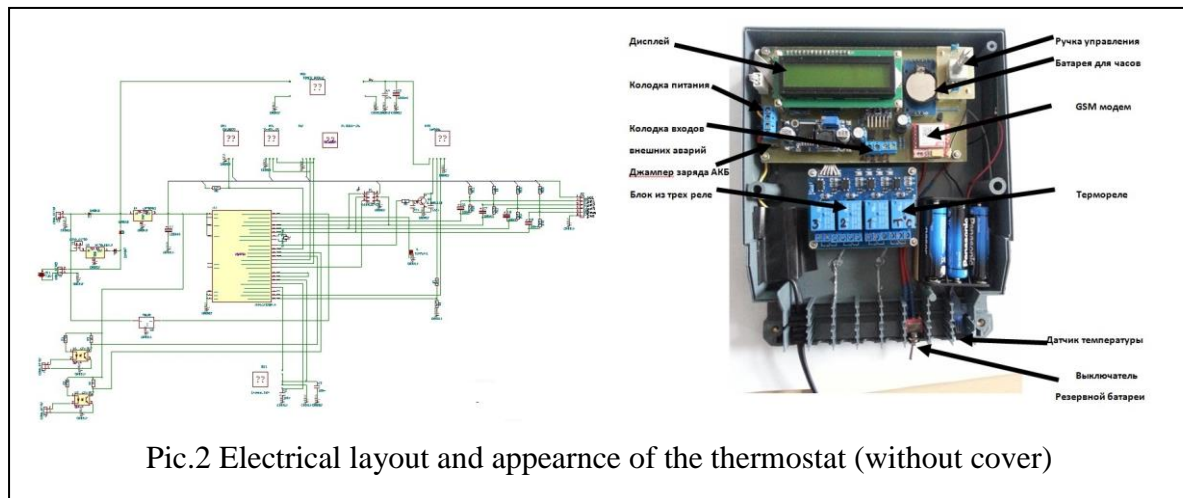
the project has an individual character, as the student solves practical or research problem which has its personal meaning for a student now or which is relevant to his future professional identification. The teacher as a tutor promotes beginning and development of the project, keeps high level of intellectual curiosity and dedication of a student; stimulates research process and self-education being a part of the project along with the student; helps to put questions which will improve knowledge and manage activities for answering such questions. These very principles have become determinant in the development of our experience in organization of students' project activity. The conditions of effective implementation of project technology in the interscholastic training school in Vladimir city during professional education of the students of the high school (10-11<sup>th</sup> grade) have been the subject of our research for the last 7 years. For this period a program of project activity for the class for students' professional education "Electrical machinery wiring" has been developed and implemented. At first projects were implemented by a small group of students, but with every year the number of students eager to participate grew and the level of project difficulty increased. When organizing project activity, we kept to the consequence of the following steps: 1. setting a problem; 2. research, ideas interaction; 3. justification of the project subject; 4. research of the project object; 5. idea development; 6. technological manufacturing; 7. analysis and assessment. In this article we would like to focus on two particularly significant steps: choice and justification of the project subject and technological manufacturing. Subject of the project can be developed in different ways: there are projects which are prepared and planned for several years (CNC machine), some appears spontaneously in line with the necessities of our workshop or students (devices and stands), or the students are eager to solve some technological problem. It is very important that the projects are implemented by the students voluntarily and they can see the end product. Another significant step is technological manufacturing of the part. While working on the project it was noticed that usage of available but already out-of-date material base as well as usual technology of work does not allow to put into life all intentions and fulfil technically difficult and functionally modern projects. Therefore, under the technological step of the project work we had to proceed from discrete units to a new material base – microcontrollers. Microcontrollers allow to increase difficulty and capability of the projects while also decrease time needed for their implementation, which is very important in the process of practice-focused education (pic. 1). New material base caused usage of computer aids which help to speed up



Pic.1

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production of process complicated circuit plates. It resulted in expansion of subject variety of the projects, level of difficulty and quality of the parts. The following project



Pic.2 Electrical layout and appearance of the thermostat (without cover)

subjects have been widely accepted: “Digital microscope”, “Duplicator of intercom keys”, “Digital thermometer”, “ Laboratory stand”, “Picture with RGB lightning”, “Tester for network cables”, “Electronic light-signal”, “PIC controller programmer”, “Magnet mixer”, “Music ring”, “Step motor controller”, “Small size drilling machine” etc.

Students' project “Automated GSM thermostat for house central heating control” is now gaining sympathies and getting awards (Pic. 2) This important device allows to save on central heating payments, its cost is budget-friendly and can be paid back in one season.

### 3 CONCLUSION

Implementation of project education, which is based on appropriate principles of project activity organization of the students, can be named as qualitatively new individually focused educational technology in professional training of the students and development of their creativity. Such experience can be used by teachers of technical or creative crafts who work in the sphere of professional education.

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