

## Project Work in the System of Teachers' Additional Vocational Education

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**Abstract:** Introduction of new educational standards results in change of a teacher's position and causes the necessity to search effective educational technologies to achieve the planned goals of training. The optimization of additional vocational-pedagogical education and self-education processes and their management on the basis of the design approach provide the efficiency growth and productivity of teachers' advanced training and professional retraining. The article is devoted to the problems and perspectives of teachers' project activity organization in institutions of additional vocational education system.

**Key words:** Design • Training • Planning and targeted approach

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### INTRODUCTION

The federal educational standard in Russia specifies high requirements to the results of learners' acquisition of the educational program of the basic general education. At present, training results are considered not only through the success of an educational subject acquisition, but also through the degree of schoolchildren personal qualities development: their readiness and ability for personal self-development and self-determination, motivation for training and purposefulness of cognitive activity. Besides, the standard provides the formation of metasubject educational results including assimilated by trainees cross-curriculum concepts and universal educational actions (regulatory, cognitive, communicative) and also self-planning and implementation of educational activity and organization of educational collaboration with teachers and contemporaries, creation of an individual educational trajectory [1]. Qualification level of knowledge, skills and competence, which characterizes the readiness to carry out a particular type of professional activity [2].

Such high requirements expectedly lead to a change of a teacher's position in the educational process and cause the necessity to search effective educational technologies to achieve the planned results of training. The success of these processes is directly connected with the increase of teachers' professional competency level, generalization, systematization and transference of

progressive pedagogical experience [3]. There can be singled out the two ways which allow to improve teachers' scientific-methodological potential-it is an ongoing self-education and training in the system of additional vocational education institutions for teachers. In this connection, there arises a problem: how to organize the advanced training of teachers under the current conditions so, that it will make possible not only to acquire new theoretical knowledge and practical skills in the development of modern pedagogy, psychology and teaching methodology of the subject, but also to help the teacher to adapt the obtained material and introduce it into the structure of their educational experience [4]. To solve this problem the specialists of the Privolzhsky interregional center of advanced training and professional retraining of educators (PICAT&PRE) of the Institute of Pedagogy and Psychology of the Kazan Federal university use the technology of system project work as one of the conditions of additional vocational education quality improvement at advanced training courses and professional retraining of educators [5].

### MATERIALS AND METHODS

The combined courses of advanced training on the module-competency basis, realized in PICAT&PRE of KFU, contain 5 modules, where one of which is the module "Project work". The project work takes an important place in the system of teachers' independent work which provides the development of retrainees'

project competencies, their readiness to carry out project activities aimed at the achievement of quality education. At the same time, the project work is the basis of a teacher's portfolio necessary for successful qualification certification.

Besides, the project work is a form of retrainees' final work which is aimed at the retrainees' research abilities development, improvement of their professional competency in a scientific-pedagogical sphere determined by the advanced training courses. The project work is performed by trainees in the period of advanced training courses under the scientific guide of a supervisor and it is an independent research work that results in a specific educational product—a model, syllabus design, complex of instructional materials for lessons, control-measuring materials for assessment of planned results of training, electronic learning resources, methodic recommendations and procedure instructions for lessons [6].

Within the frames of this article, we set the goal to define an optimum algorithm of trainees' project activities in the context of advanced training courses and the formulation of requirements for a project performer professional competency made on the basis of studied models of educators' competency and also on the basis of project practice in the system of advanced training.

The structure of the project work process at teachers' advanced training courses in Kazan federal university, includes the following stages:

- The analysis (identification of actual problems and contradictions of one's own professional activity, establishment of their interrelation with the academic content of courses, search of possible ways to solve the revealed problems);
- Goal-setting (statement of a goal and formulation of project tasks)
- Planning (definition of mechanisms of project implementation, creation of a regulation system and a plan of measures to realize the project goals and tasks);
- Provision of resources (analysis of balance of tasks and conditions of project implementation, compilation of necessary resources list, expenses and revenues estimates);
- Forecasting (compilation of the project implementation expected results list);
- Control and assessment (development of indicators system and efficiency criteria of project implementation, indicators and control-measuring materials for this system, definition of control points and assessment);

- Correction (identification of project implementation risks, mechanisms of project change in case of revealed risks).

**Main Part:** The researches conducted in the Privolzhsky interregional center of advanced training and professional retraining of educators, showed that such algorithm of trainees' project activities allows to optimize significantly the process of projecting and reduces the risk of trainees' formal attitude to the project implementation. On the whole, the results of questioning showed that the project work influences both the quality level of additional vocational education and trainees' contentment with advanced training courses to a great extent. As for the positive results of project work implementation at the advanced training courses there should be noted, in particular, the increase in the level of teachers' goal specification and professional activity tasks in new conditions, definition of professional-personal self-development and self-improvement guidelines, creation of own unique solution mechanisms for actual problems of education at work places, improvement of professional competency level in the sphere of generalization and transference of pedagogical experience, definition of the system of indicators and criteria of professional development planned results achievement.

There should be noted specially such a positive result of the project work as the acquisition of the project work technology with its further use in their own teaching practice. It is provided with methodological materials (project workbook, presentation "Project work in the system of education", project expert assessment sheet) which trainees receive within the frame of distance courses before starting their project work. According to trainees' assessment, such materials help to systematize and optimize the process of pupils' project-research activity at lessons and in extracurricular work, significantly facilitate teachers' activity as a tutor in the work on pupil's projects.

Besides, in the modern system of education the increasing value is gained by competitive movement and grant support of teachers, within the frame of which, the development and defence of projects is required as a rule. Project work competencies acquired by trainees at the courses, help to succeed in professional competitions and receive grants. After graduation teachers often apply to trainers and instructors of PICAT&PRE with the request to continue their mutual work on the project so as to bring it in compliance with the competition requirements in the sphere of education.

When we observe and assess the positive changes taking place in student, student in terms of educational activities, we state the fact of its development, development of knowledge, skills, creative abilities [7]. Teachers as the authors of a project work have to meet the requirements that we consider from the point of view of their professional competency in the sphere of project activities:

#### **Basic Knowledge and Skills in the Field of a Project Work Necessary for Teachers to Implement Projects:**

- Theoretical bases of project work in education;
- Technology of project work: problem analysis, goal statement, task definition, assessment of resources, development of criteria system to assess the project efficiency etc.;
- Algorithm and project mechanisms;
- Criteria of project evaluation
- The structure of project work arrangement
- Procedure of project defence.

The trainees' work on the project can be carried out individually or in groups. To make the work productive, the group should include no more than five people. The selection of project form depends on the volume of the project work and is performed with trainees' possibilities and interests and personal preferences taken into account. It should be noted that each of the designated forms has advantages which have to be considered when the form of work on the course project is defined.

#### **Advantages of Individual Projects:**

- The goal, tasks and contents of a project are defined by the author's intention and completely meet the interests connected with the solution of real problems of pedagogical activity [8];
- The trainee as the author of the project on his own under curators' guidance masters the technology of project work step-by-step-from problem analysis and search of its solution to technical drawing up and project presentation;
- It is easier for a curator (tutor) to manage the trainee's project competences formation in the process of individual consultation.

#### **Advantages of Group Projects:**

- A project group provides the development of collaboration and co-authorship skills which often make the basis of further collective scientific-methodical activity within the frames of program, teaching complexes and methodical recommendations development;
- Group project gives less experienced teachers the opportunity to work at rather complicated projects with the support of more skillful colleagues;
- In case of group project work there is an opportunity to divide authorities and responsibilities between the members of the group to optimize the process at each stage of project work and to create more extended and comprehensive methodical products.
- In the process of group work, more innovative ideas are brought forward that positively influences the quality of project work implementation;
- Working in a group, trainees intensively share practical experience of professional activity that has positive influences on the effectiveness of the courses and trainees' satisfaction with their contents;
- Group work on projects promotes trainees unity and positively affects the emotional microclimate in a group.

It should be noted that according to E.S. Polat, the project work is mostly effective when "technologies of work in groups of collaboration" [9] are used.

The analysis of trainees' performance results within the frames of work on projects allowed to reveal the following *organizational and pedagogical conditions of effective project work*:

#### **The Availability of an Actual Problem for the Project**

**Work:** The subject of the project has to be formulated by trainees on the basis of the analysis of actual problems of teaching practice, only then the project work obtains personal meaning for the trainee, positive motivation for project work is formed, the quantity of plagiarism in works decreases [10]. The head of the group can certainly offer trainees the recommended list of themes, but in no case it is impossible to limit the search and creative activity of trainees by the frames of these themes.

### **Instructor's Professional Competency in the Sphere of Project Problem:**

All participants of the project group have to possess a high level of subject competency in the declared project issue, have a certain level of experience in problem solving, similar to problems of the project. In case if in the group there are trainees with different level of professional competency, it is better to form mixed project teams to intensify the process of trainees' interactive learning and to avoid the heterogeneity of projects quality.

### **Methodical Recommendations for Trainees in the Sphere of Project Work:**

Trainees should be provided with comprehensive but small in volume methodical material on project technologies (presentation, instruction, workbook, etc.) at the beginning of courses or before by e-mail. Such material will help to systematize theoretical knowledge and practical skills of project work, to remove anxiety and lack of confidence in their knowledge, connected with the insufficient readiness for project activity, besides, the methodical material in the form of workbook (appendix 1) helps to achieve uniformity of projects that considerably simplifies the procedure of their assessment, systematization, further methodical supporting.

### **Positive Motivation Formation for Project Work Implementation:**

From the very beginning it is very important to describe perspectives of development and advance of methodical product which is developed by trainees at the courses. Today in education, very many competitive events take place in the form of projects defence; application for grants to get a financial support is often connected with project development and its implementation. Understanding that the project developed at the courses can make the basis of a competitive product, helps to increase trainees' motivation significantly. But, certainly, it is necessary to warn developers that in the period of two-three weeks it is almost impossible to create a high quality project, i.e. the project developed at the courses is educational and needs in serious subsequent completion under the experts' scientific guide.

The technology of project work developed and approved in the Privolzhsky interregional center of advanced training and professional retraining of educators (PICAT&PRE) of KFU, allows to present trainees' project activity in the form of step-by-step actions system:

*The first step.* Identification of contradictions of modern education, definition of a problem and project subject. This step assumes that trainees study state, regional, municipal standards and requirements and also scientific and methodical literature on project work issues.

*The second step.* Definition of a goal and project tasks, modeling of its expected results and criteria of efficiency, assessment of possible risks connected with the project implementation.

*The third step.* Analysis of resources system and conditions for project implementation. Outlining of project strategic lines.

*The fourth step.* Development of project stages and program of actions within the frames of the project.

*The fifth step.* Development of the complex of diagnostic materials for project efficiency assessment.

*The sixth step.* Presentation and report preparation for project defence.

*The seventh step.* Expert assessment and project defence at advanced training courses.

*The eighth step.* Post-course scientific and methodical guidance of project implementation.

## **CONCLUSIONS**

It should be noted that not all projects pass the eighth step, in total about 15% of trainees' works further obtain the form of competitive, grant or research work. Therefore, it is necessary to develop organizational and methodical activity of institutions of additional vocational education in this direction, namely:

- To set up electronic bases and banks of project works.
- To develop and introduce effective systems of an expert assessment, selection and scientific-methodical guidance of perspective projects.
- To develop normative basis of scientific-methodical guidance of projects.

The researches conducted on the basis of general and correctional pedagogy and psychology department of PICAT&PRE of KFU showed that only 8% of trainees have no difficulties performing a project work.

The analysis of trainees' works allow to state that difficulties teachers experience in their project work are connected with the following aspects:

- Definition and formulation of project subject (often project subjects are deprived of problematic character, content-richness, addressing);
- Project activity logical construction (there is a problem with the general logic of projecting: the stated goal does not correspond to the declared subject, tasks do not correspond to the expected results, program of actions does not correlate with the solution of assigned tasks);
- Structuring of the project (to place project content structural elements into modules (blocks, parts, components));
- The solution of organizational questions connected with the interaction of goals, contents, structures and arrangement.

To eliminate these difficulties, it is necessary to deliver lectures and practical training on the theory and technologies of project work, grant trainees methodical materials for independent project development at the beginning of the courses and also project work of the group should be maintained by systematic methodical support of the head of the courses.

Thus, the main task of project technology within the frames of advanced training courses and professional retraining is to provide course participants with skills of project technologies, modeling, project engineering and forecasting, planning from the position of system-activity approach as fundamental. To increase the effectiveness of project work and eliminate difficulties connected with the project work implementation it is necessary to deliver lectures and practical training on the theory and technologies of project work, grant trainees methodical materials for independent project development at the beginning of the courses and also project work of the group should be maintained by systematic methodical support of the head of the courses.

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