Technology of Creating an Innovative and Methodological Projects for Vocational Education Teachers: An Example Uzbekistan

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Abstract—This article covers the pedagogical, psychological, philosophical analysis of the concept of innovative and methodological projects in the courses of retraining and professional development of pedagogical personnel in the Republic of Uzbekistan and the ways of their creation and functioning. At the same time, the principles and stages of creating innovative and methodological projects are methodically substantiated. The purpose of the article is to ensure the development of innovative-methodical projects in development of professional creativity of teachers of professional education. The article aimed to the development of innovative activities in the development of investments in the development of professional creativity of teachers of professional education. The principles of using innovation-methodical projects in training courses and the effectiveness of the classification of creative methods are presented in the article. As principles, we have created motivation, methodological, and pedagogical. Stages of innovative and methodical projects, such as innovative-technological stage, methodical-innovative stage, reflective-didactic stage were given and for each stage suggest creative techniques of teaching and learning. During research work, there were teachers of professional education who did lessons in professional colleges. With helping innovative and methodological projects we recommended amount of creative teaching techniques which they could use in pedagogical practice to enhance creative ability of students.

Keywords—courses of professional education teachers, innovation-methodical project, teaching methodology, professional development of pedagogical personnel

I. INTRODUCTION

The reforms carried out in the field of education certainly serve the development of education. Currently, special attention is being paid to the training of educated and qualified personnel in Uzbekistan.

The future of every society is determined by the level of development of the education system, which is an integral part of it and a vital necessity. No matter what changes and innovations are made in the field of education, all this serves and is doing for the development of education. Nowadays, a modern lesson of a modern teacher, pedagogical culture, child-friendly attitude, teaching based on pedagogical technology are the demands of the times.

All these requirements require high responsibility from the teacher. A responsible teacher constantly works on himself, is aware of the news and implements it in practice, uses information and communication technologies effectively.

We believe that the use of innovative-methodical projects in the development of professional creativity of teachers of professional educational institutions in the Republic of Uzbekistan will increase the effectiveness of the educational process.

The purpose of the article is to train teachers of professional education in the courses of retraining and upgrading their qualifications to create innovative-methodical projects and to form the skills of working in them. In this, within the framework of our research, the stages of creation of innovative-methodical projects and the principles and pedagogical-methodological conditions of using creative learning technologies are highlighted.

II. METHODOLOGY

Despite the development and implementation of various educational methods and technologies for the development of professional creativity of teachers in the digital educational environment, the self-development strategy leading to pedagogical professional growth plays an important role.

Muslimov [1] said that self-work and self-development are important in acquiring professional (including

pedagogical) competence. Self-development tasks are determined by self-analysis and self-evaluation.

According to Ref. [2], self-development of a pedagogue means creating conditions for a continuous process of self-design. A four-stage model aimed at developing the professional creativity of the pedagogue has been developed and consists of the following: preparation, understanding, evaluation, activity. It cites the following as the main tasks of the model:

1. Factors hindering the development of professional creativity;

2. Developing methods aimed at seeing oneself as a person;

3. New approaches such as structural, humanistic, cultural, personal, aimed at improving the educational process.

This model is aimed at developing creative self-assessment of the pedagogue, creative pedagogical skills, and the ability to adapt to innovations.

Shumovsky's [3] research aims to create a diary aimed at developing the professional creativity of the pedagogue. In doing so, he creates a workbook called "Creator's Diary" for the training of future teachers and conducts experiments based on it.

Yusupova and Shorakhmetov [4], scientists of our country, said, "As a result of providing the project technology in the educational process, productive activity takes place between the student and the teacher. Because the student learns to plan and organize his activities on the project".

Gizatulina [5] described how to use the Internet to solve the problems of developing and organizing educational projects, including creating or (using) a Google service shell for the project; explores the problems of involving students (teachers) in an already working project.

Yakovleva [6] gave information about variety of methodologies which provided managers with different techniques and tools to use during project planning and implementation. Moreover, substantial lack of systematized approaches to the management of innovation projects and key factors in the selection of appropriate techniques in innovation project management.

Ignatieva *et al.* [7] appreciated the ways of creating projects to the school of pedagogical engineering and engineering thinking, created and implemented in the conditions of management of the development of the university of pedagogical profile is project methodology and philosophy.

In accordance with the requirements of world standards, the parallel development of hard and soft skills of the participants of modern education has been proven to develop ideas related to the field and create projects based on it. From this point of view, the development of various projects by the teachers of the professional educational institution develops their professionalism as well as their professional creativity.

Currently, a number of projects are being developed in education. Including innovative, pedagogical, technological, methodological projects. In the framework of our dissertation, the problems of project-based educational technology and project activities aimed at creating innovative-methodical projects in the development of professional creativity of teachers of professional educational institutions were studied.

Project-based educational technology is a flexible model of organizing the educational process, aimed at the creative self-awareness of the pedagogue by developing intellectual and physical abilities, personal qualities, and creative abilities of the teacher in the process of creating new ideas.

We can see the result of the project activity of the teacher of the professional educational institution in the following sequence:

– Selection and justification of the project topic, pedagogical, psychological, technological information on the project problem, development of structural stages of creation and development of ideas;

– Description of the stages of object selection;

– Choosing a suitable method for the object;

– Technological sequence (for example, didactic materials aimed at the science module);

– Selection of technical equipment and organization of the workplace (if a certain website, platform, or electronic resource is created within the project);

– Using the analysis of republican, CIS and foreign literature;

– Application (sketches, diagrams, technological documents, protective presentation).

Project teaching technology helps to create pedagogical conditions for the development of creative abilities and personal qualities of the teacher, necessary for the creative-pedagogical activity.

Innovative-methodical project is an 80-minute step-by-step system aimed at finding solutions to problems in the educational process of professional education teachers, in which the pedagogue's work experience (professionalism, professional skills), creative competencies (infographic creativity, methodical creativity, ICT creativity) and professional creativity (emotional creativity), individual creativity, intellectual creativity) is understood as a continuous structure.

Innovative methodological projects are created based on three principles (Table I).

TABLE I. PRINCIPLES OF INNOVATIVE METHODOLOGICAL PROJECTS

	Principles	Content (definition)
I.	Motivation	In professional education courses, motivations for educational activities, psychological state, and professional competences of a teacher of professional education are studied, in which the teacher's needs for professional development are studied.
II.	Methodological	The pedagogical professionalism of teachers (professional skills, professional technique, teaching methodology) is paid attention to and developed in the section of training course modules.
III.	Pedagogical	Understand the place of the selected method (methodology) in the pedagogical system; formation of the ability to determine goals, tasks and create didactic materials specific to this.

The above-mentioned principles create the structure of the innovative-methodical project. This requires the creation of an innovation map, innovation plans, and the development of innovation activities. Below we present the stages of the innovative-methodical project aimed at developing the professional creativity of teachers of professional education (Fig. 1).
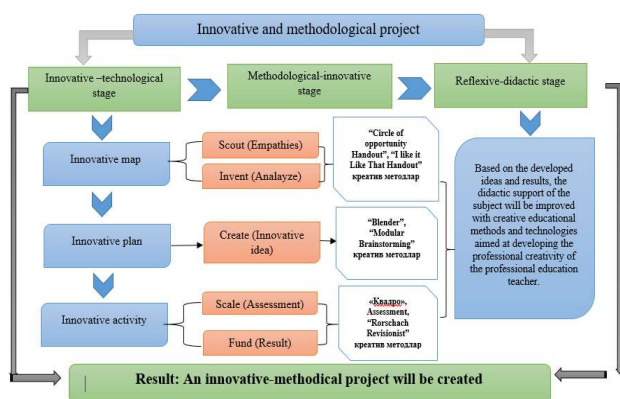

Fig. 1. Stages of innovative-methodological projects.

The innovation map is the main structural view of the innovation-methodical project. We will create a level development map based on the criteria in accordance with the conditions for the development of professional creativity of informatics and IT teachers of professional educational institutions.

III. DISCUSSION

During research work in Refs. [8, 9], it was clearly formulated critics, including the professional teaching staff of the professional creative educational staff, the exact training is taken into account: full-time, selection, and working group.

In addition, the stages (innovative-technological stage, methodical-project stage, reflexive-didactic stage), levels (emotional creativity, social creativity, individual creativity, intellectual creativity) and pedagogical (methodical)-organizational conditions (general organizational and project conditions, conditions aimed at the development of methodical activities) were highlighted. Based on this, we can see the place and role of creative educational methods and technologies in the development of professional creativity of teachers of a professional educational institution, and the practical view of the pedagogical activity arising from this in the creation of innovative pedagogical projects. At the highest level, the pedagogues present the practical aspects of determining the competences for creation or improvement of the author's methods and technologies.

However, in our opinion, teachers who creatively used existing pedagogical tools, directed them according to the established pedagogical goals and educational tasks, can be included in the highest level of professional creativity.

A teacher with high professional creativity should have the competence to use modern technologies in the teaching of informatics and IT science and practice module, to create a creative environment with their help,

to use original educational technologies, ICT software, and tools to convey the presented materials to the learner.

At the secondary level of professional creativity, the teacher must have competencies for the formation and orientation to the specialty of the skill of teaching didactic materials based on innovative and creative educational technologies, ICT tools in order to give unusual solutions to problems in pedagogical activity, to study the comprehensive state (psychological, pedagogical, philosophical) of educators and to improve this activity.

At the initial level of professional creativity, the teacher uses existing educational technologies to solve pedagogical problems. Its activities can include elements of pedagogical creativity, for example, existing projects when developing educational projects, it is necessary to have the skills to use software tools.

Based on the above-mentioned innovation-methodical project map, the trainees (professional education teacher) organize the stages of the innovation plan in a group or individual form (Table II).

TABLE II. AN EXAMPLE OF INNOVATIVE PLAN

Innovation-methodical project name	"Methodology for the development of professional creativity of teachers of a Professional educational institution"
Head of the project	Pozilova Shakhnoza
Tasks of the project	- Development of trends in the development of professional creativity of teachers of a Professional educational institution; - Development of stages of development of professional creativity; - Inclusion of a module in the training plan called "professional creativity and methods of its development; - Enrichment of the content of the included module with creative educational technologies; - ....
Participants	1. Sattarova 2. Alimov 3. Abduxolikov 4. ....
Stages of the organization of work on the project	✓ Scout ✓ Invent ✓ Create ✓ Scale ✓ Fund
Creative learning techniques and technologies aimed at solving the problem	✓ "Circle of opportunity Handout", ✓ "I like it Like That Handout", "Blender", ✓ "Modular Brainstorming", «Квадро», ✓ Assessment, ✓ "Rorschach Revisionist", ✓ Edutainment
Evaluation methods and tools	Infographic presentation, Interactive survey, pre-vodcasting, flipchart

Based on the above-mentioned innovation-methodical project plan, the trainees (professional education teacher) carry out innovative activities in a group or individual form.

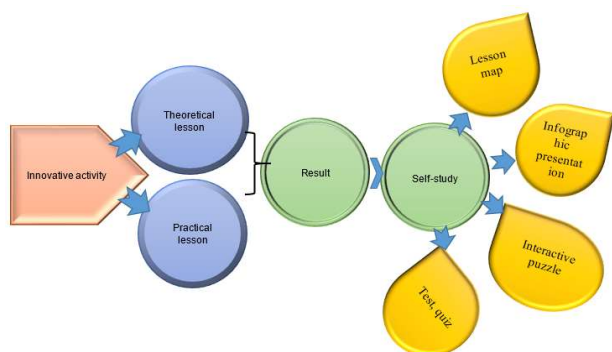We can interpret the innovation activity in the following sequence (Fig. 2):

Fig. 2. Innovative activity of the teachers of professional education.

IV. CONCLUSION

In the environment of the digitized society, it is possible to evaluate the personal abilities and professional competences of the teachers of professional educational institutions depending on the level of professional creativity. Taking into account the level of professional creativity of the teacher, the creation of organizational and methodological conditions created at each stage of the development and implementation of innovative-methodical projects gives the following conclusions:

- Full methodological support as a result of determining the professional creativity of the teacher;
- The correct selection of educational technologies, tools, methods, and forms according to the interest, needs and requirements of the teacher;
- Based on the pedagogue's work, creating creative ideas for innovative-methodical projects, developing projects, and developing the efficiency of innovative activities.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHOR CONTRIBUTIONS

Pozilova: Conceptualization (formulated the research question or idea), Investigation (conducted experiments, surveys, interviews, or observations); Zakirova: Funding acquisition (obtained financial support for the project); Mirsoliyeva: Methodology (developed or designed methods, models, protocols, or algorithms); Zaripova: Supervision (mentored or guided the work of others), Validation (verified the accuracy or quality of data or results); Qayumov: Visualization (created figures, graphs, maps, or other visual representations); all authors read and approved the final manuscript.

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