**Formation of professional competence of future teachers in the context of project-based and contextual technologies**

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**Abstract.** This article is devoted to the study and analysis of the use of the project method in the educational process as a necessary pedagogical condition for the formation of professional competence in future teachers. The study conceptualizes motivation as a key factor in fostering a positive attitude toward learning, encouraging deeper engagement with educational content, and promoting a more conscious understanding of future professional activity.

**INTRODUCTION**

In the Republic of Uzbekistan, the issue of training highly qualified teaching personnel for the system of professional education based on advanced pedagogical technologies and in accordance with international standards has become particularly acute [1].

Under the conditions of educational modernization, the transition from theory to practice requires future teachers to be prepared for a special type of professional activity. Such activity is represented by project-contextual practice, the central conceptual component of which is the project itself [4].

**MATERIALS AND METHODS**

The present study focuses on improving pedagogical mechanisms for the formation of professional competence in future teachers through the application of project-contextual technology. The content, forms, methods, and tools for developing the professional competence of future teachers within the framework of project-contextual technology constitute the subject of this research (table 1).

In the process of forming the professional competence of future teachers under project-contextual learning conditions, the main stages of their professional development and gradual advancement toward pedagogical activity were taken into account.

**TABLE 1.** Correlation between the stages of project design and the stages of professional competence formation in future teachers

|  |  |
| --- | --- |
| **Stages of Project Design** | **Stages of Professional Competence Formation in Future Teachers** |
| Motivational | Ability to model the image of an exemplary teacher within the pedagogical process |
| Cognitive | Mastery of the goals and objectives of pedagogical and innovative professional activity |
| Technological | Ability to design pedagogical projects while anticipating the outcomes of professional pedagogical activity |

The technological stage of competence formation was implemented during pedagogical practice, during which future teachers mastered new pedagogical technologies; explored the principles of designing the components of the pedagogical process; and examined the interrelationship between modeling, project design, construction, and forecasting, as well as pedagogical project design [2].

In the course of the study, the curricula of all pedagogical disciplines and teaching practice were analyzed with the aim of updating, expanding, and coordinating the objectives, content, and technologies of traditional courses. The course objectives were aligned with the logic of holistic development of all components of innovative activity, including motivational, cognitive, technological, and reflective components. The content of pedagogical disciplines was supplemented with topics that reveal the essence of pedagogical project design [8].

To determine the level of professional competence formation in future teachers, a set of research methods was employed, including questionnaires, tests, analysis of pedagogical projects, analysis of completed multi-level tasks, observations, and interviews. These methods made it possible to identify the actual level of development of all components of professional readiness—motivational, cognitive, and technological—thus providing a comprehensive understanding of the formation of professional competencies in future teachers under conditions of project-contextual learning.

**RESEARCH RESULTS**

The respondents were future teachers—second- to fourth-year students of the above-mentioned universities enrolled in the faculty of professional education—who had completed pedagogical practice.

**TABLE 2.** Creative value of pedagogical projects

|  |  |  |
| --- | --- | --- |
| **Project Represents a Solution That Is** | | |
| Non-traditional (%) | Continuation of an established approach (%) | Imitation of a well-known model (%) |
| 8 | 40 | 52 |

Based on the results of the diagnostic stage of the experiment, the following conclusions were drawn. The developed criteria and indicators, as well as the applied research methods, proved to be effective for studying the preparedness of future teachers for project-based activity (table 2). However, the level of training based on pedagogical disciplines was found to be insufficiently effective, particularly with regard to the technological and creative components of professional readiness. Only a limited number of future teachers demonstrated the ability to identify pedagogical problems and propose solutions through pedagogical project design, and the overall creative value of pedagogical projects was relatively low [5-9].

To develop reflective skills aimed at self-determination in future professional activity, evaluative learning situations were employed, such as “I am a teacher,” “Which professional qualities do I appreciate in my favorite teacher?” and “Me and my favorite teacher.” Educational situational tasks were discussed that enabled future teachers to engage in diverse scenarios involving the expression of attitudes toward themselves, the teacher, and the teaching profession as a whole (table 3).

**TABLE 3.** Results of Students’ Knowledge Levels in “Pedagogical Practice” in the Control and Experimental Groups

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Experimental stages** | **Number of Students** | | **Achievement Level** | **Experimental Group** | **Control Group** |
| **Experimental Group** | **Control Group** |
| **First stage** (2017–2018 academic year, beginning of the semester) | **25** | **25** | Excellent (86-100%) | 6 (24%) | 4 (16%) |
| Good (71-85%) | 12 (48%) | 11 (44%) |
| Satisfactory (55-70%) | 7 (28%) | 10 (40%) |
| **Second stage** (2017–2018 academic year, end of the semester) | **25** | **25** | Excellent (86-100%) | 15 (60%) | 7 (28%) |
| Good (71-85%) | 8 (32%) | 10 (40%) |
| Satisfactory (55-70%) | 2 (8%) | 8 (32%) |

Project evaluation was conducted through peer review and public defense during a project-design seminar. The quality of the presented projects was assessed according to the following criteria:

1. theoretical justification and relevance of the project;
2. creative originality of the project;
3. level of technological development;
4. adequacy of the diagnostic tools employed;
5. effectiveness of the project outcomes.

These criteria made it possible to assess the outcomes of the holistic process of developing pedagogical project design skills, as well as the status of the individual, reflecting the degree of mastery of this type of pedagogical competence (figure 1) [6].

**FIGURE 1.** Generalized scheme for qualitative assessment of students in pedagogical practice in control and experimental groups.

**CONCLUSIONS**

During the experimental work, the formation of all components of readiness for project-based activities was designed simultaneously. At each stage of developing the professional competence of future teachers, no single component was given priority; instead, each functioned within a comprehensive framework, utilizing technology that facilitates the resolution of professional and pedagogical tasks. During the first stage of teacher preparation, an increase in the motivational level was observed. Analysis of the results at this stage led to the conclusion that the preparation process was intended as a holistic formation of all components.

The analysis of diagnostic results allowed us to infer that the positive outcomes observed at the motivational stage can be explained by the fact that motivational factors precede the acquisition of professional skills in the future profession. The development of motives is influenced by the processes associated with the formation of other components.

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