Content And Methods of Developing Intellectual Competence of Future Teachers of Pedagogical Universities

Gulnoz Abdukhalilovna Kayumova
Chirchik State Pedagogical University

Abstract

Abstract. In this article, an important methodological basis for the development of students' intellectual competence is the information technology approach. They are aimed at ensuring the effectiveness of the teaching process in terms of their structure and specific characteristics, and depending on the setting of the goal, they lead to the effectiveness of the educational process. For this purpose, the use of strategies to ensure the optimization of the training process of future teachers with informational technological approaches is largely dependent on the personal and psychological characteristics of students, cognitive styles of learning, deductive and inductive methods, comparative analysis, generalization of the learned information and general conclusions was carried out.

Keywords: Emphasis stage, formative stage, evaluative (final) stage, improvement, educational work, mathematical-statistical analysis, teacher and students, and intellectual competence.

Introduction

In many higher education institutions of the world, in the age of information, which is developing more and more, today there is a wide range of information technologies, including motivational mechanisms for the development of intellectual competence and their modelling systems, and the formation of receptivity to pedagogical innovations. scientific research is being carried out. In particular, the criteria for the development of intellectual competencies of pedagogical staff at the National Council for the Accreditation of Teacher Education [1], qualification requirements at the National Board for Professional Teaching Standards, the National Institute of Education (National Institute of Education) is carrying out several systematic works on the development of the intellectual competences of not only future teachers but also pedagogical personnel [2].

In the reforms carried out in the education system of our republic, special attention is paid to the development of the professional competence of the teaching staff of higher education institutions. The action strategy[1] for the further development of the Republic of Uzbekistan on the development of the professional competence of teaching staff of higher educational institutions defines the priority tasks of "increasing the possibilities of quality education services, continuing the policy of training highly qualified personnel in line with the modern needs of the labour market"[3]. These tasks require the development of professional competence of pedagogic personnel of higher education institutions, including the improvement of the effectiveness of the mechanisms affecting this process [4].

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[1] https://strategy.uz/index.php?news=1478&lang=en

I.   MATERIALS AND METHODS

The process of mutual integration of purposeful and meaningful components of increasing the didactic capabilities of developing the intellectual competence of future teachers was developed in this pilot study. shown.

We defined the tasks of the experimental work as follows:

-        Conducting and analyzing questionnaires before and after the research aimed at creating a new product of intellectual competence in the process of cognitive activity of students' creative activity in higher education institutions where experimental work was organized;

-        Mathematical-statistical analysis of the results obtained from experimental work and the ability to organize a lesson based on the creative activity of students and interrelated activities, evaluation criteria and students' creative activity using sufficient content, forms and methods of the educational work of the teacher and the student to determine the effectiveness of diagnostics of the level of development.

107 students of Tashkent State Pedagogical University named after Nizami will participate in the experiment. The participation of this institution, divided into experimental and control groups, is presented in Table 1.

Table. 1.

№	Educational institutions	All students	Experimental group	Control group
1.	Tashkent State Pedagogical University named after Nizami	107	53	54

During the experiment, the following research methods were used: observation, questionnaire, test, expert evaluation method, brainstorming, synectics, nominal groups, and Delphi methods.

The research was conducted in 3 stages:

1. Emphasis stage.

2. Formative stage.

3. Evaluative (final) stage.

This process consists of:

a) improvement of the motivational-value type of creative activity of students;

b) improving the cognitive type of students' creative activity;

c) improvement of students' operative active and creative type;

The intensive stage of the experiment covered the 2020-2021 academic year. Work was carried out to determine the level of improvement of students' intellectual competence. To determine and describe the level of improvement of students' intellectual competence, the following specific tasks were defined:

- Justification of the criterion apparatus for determining the level of development of students' intellectual competence;

- describing the levels of development of students' intellectual competence during the educational process;

- to determine the initial level of intellectual competence development of students in control and experimental groups.

At the preliminary stage of experimental work, we conducted questionnaires among students. Then we formed their knowledge, skills and qualifications through the methods selected at the formative stage, and then at the final stage when we conducted a comparative analysis by conducting questionnaires, it showed the effectiveness and efficiency of our experimental work. We see this in the effectiveness of students' creative activity.

II.   RESULT AND DISCUSSION

We determined the level of creative activity of students by using motivational-value, cognitive and operative activities of the development criteria of intellectual competence of students during their studies at the university [5]. We also present a description of the split levels approach.

Inability to bring a lower level creative task to a holistic cognitive activity; absence of all necessary structural elements in texts created by students; lack of vocabulary; inability to implement creative ideas; low activity in mastering educational material; inability to manifest in cognitive creativity; characterized by unwillingness and inability to improve work [6].

The average level is the search for mastering the learning material on the subject and partially correct implementation; trying to work with the ability and skills to analyze and draw conclusions; rigidity of speech; a sense of individuality manifested in the choice of vocabulary and topic; the presence of a desire to self-assess the activity; it is determined by the inability to choose to complete the task without the help of the teacher [7].

A high level of creative motivation begins to affect the work of students. There will be an interest in performing tasks creatively. This level is characterized by the development of creative and active work skills in the process of self-education and self-awareness.

In the experimental group, training was conducted according to scientific and methodological materials developed by the author and with special preparation for classes. In the control group, the teachers of the relevant departments conducted training according to the traditional method. Thus, it shows the effectiveness of the rules developed for the statistical processing of experimental test results, improving the professional training of students and improving the integrative professional training of future teachers at the level of using pedagogical technologies.

For example, the results of questionnaire surveys conducted in experimental groups with undergraduate (2-3 year students) students of future teachers show that most of the experimental groups could not answer the questions correctly at the beginning of the study. The above-mentioned formative and evaluation criteria answered the final questions put to them after the experiments, and we witnessed an increase of 13-15%. Fig. 1. shows the diagram of the results that determines the level of student mastery.
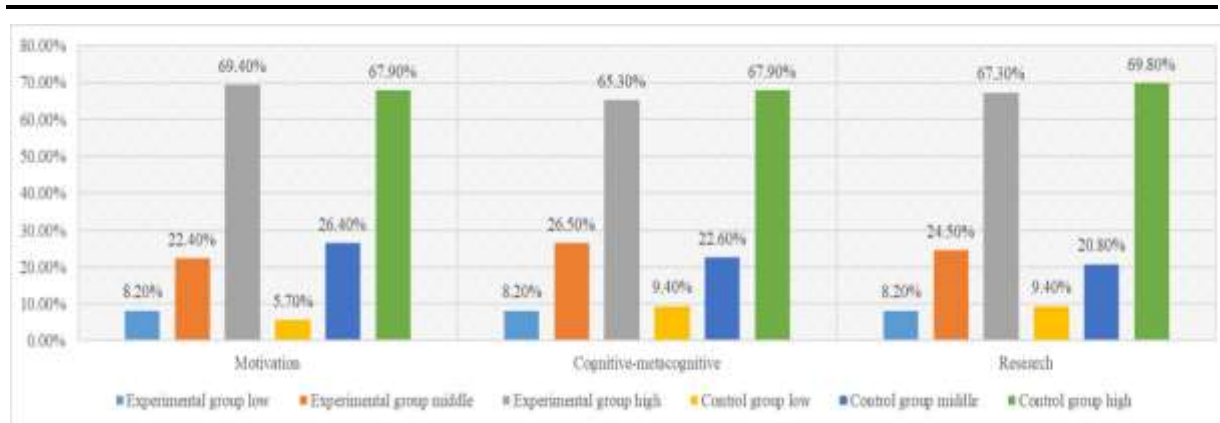
Fig. 1. Levels of mastery of students according to the criteria at the initial stage

According to the analysis of the previous results, the number of students with a low level of mastery is the majority in both groups, their mastery level is 68.8 and 69.1% according to the motivational criterion, and 66% according to the cognitive criterion. 7 and 68.5%, according to the operative criterion – 66.0 and 67.10%, while the secondary mastery indicators were 23.4 and 22.8 according to the motivational criterion %, 25.5 and 22.1% according to the cognitive criterion, and 25.5 and 24.2% according to the operational criterion, high indicators are 7.8 and 7.8 according to the motivational criterion It is 8.1%, 7.8 and 9.4% according to the cognitive criterion, and 8.5 and 8.5% according to the operative criterion. These indicators show that the experimental and control groups are almost the same.

Now we present the results of the pilot tests organized in the case that the research ideas were asked in advance according to these criteria and evaluation levels. The ratio of the results obtained based on the evaluation criteria corresponding to the questionnaire questionnaire at the end of the experiment in the final pilot tests is shown in Fig. 2.
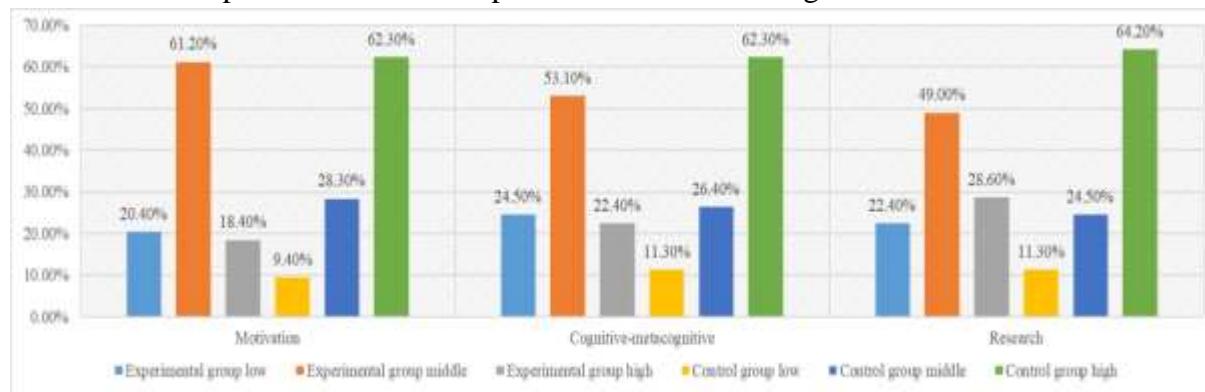

Fig. 2. Levels of mastery of students according to the criteria at the final stage

According to the analysis of the final results, the number of students with a low level of mastery in the experimental and control groups was 20.6 and 63.1% according to the motivation criterion, according to the preliminary results, it was 48.2% in the experimental groups and 6% in the control groups. decreased by 24.1 and 61.7% according to the cognitive criteria, by 42.6% in the experimental groups, by 6.7% in the control groups, and by 24.8 and 61.1% according to the operative criteria and according to the preliminary results, it can be seen that it decreased by 35.2% in the experimental groups and 6% in the control groups. According to

the final results, the average mastery rates were 56.7 and 26.2% according to the motivation criteria in the experimental and control groups, respectively, and 33.3% in the experimental groups according to the preliminary results. and in the control groups it increased by 3.2%, according to the cognitive criteria it was 48.6 and 26.8%, according to the preliminary results, it increased by 23.1% in the experimental groups, and by 4.7% in the control groups, operational criteria and 51.1 and 28.2% according to preliminary results, it can be noted that it increased by 25.6% in the experimental groups and by 4% in the control groups. Also, according to the preliminary results, the high-level indicators were 22.7 and 10.7% in the motivational criterion, which increased by 14.9% in the experimental groups, and by 2.6% in the control group, according to the cognitive criterion, 26, 2 and 11.4%, according to the preliminary results, it increased by 18.4% in the experimental groups, and by 2% in the control groups, and according to the operational criteria, it was 24.1 and 10.7%, according to the preliminary results it was observed that it increased by 15.6% in the experimental groups and by 2.2% in the control groups. These indicators were significantly increased in experimental groups.

III.   CONCLUSION

To calculate the validity of the results obtained in the experimental tests and their efficiency indicators and to draw conclusions, the analysis was carried out using mathematical statistics methods. Pearson's chi-square criterion and indicators for determining the increased effectiveness of teaching and students' knowledge were used for statistical analysis.

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