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# The goals and tasks of conducting pedagogical experiments and tests in the formation of cognitive competence of students using innovative educational technologies and methods

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**Abstract.** Experimental work aimed at forming the cognitive competence of students based on innovative educational technologies and methods is organized in several stages. Specific tasks are performed at each stage. Particular importance is attached to the determination of a single unity and interrelation between the stages. In this context, the chronological map of experimental work and the technologies of forming students' cognitive competence based on innovative educational technologies and methods will be developed.

**Key words:** Innovation, cognitive, educational technologies, experiment-test, stereotype, improvisation, objectivity, subjectivity, special methodology.

#### Introduction

It is determined that the technologies developed for the formation of students' cognitive competence using innovative educational technologies and methods have a direct impact on students' acquisition of methods of working with text.

Based on the study of the content of the existing sources related to the research problem and familiarization with the ideas put forward in them, a conclusion was formed on the achievement of the purposeful organization of practical experimental work. During the last five years, in most of the research works carried out in the theory and practice of pedagogy, in the implementation of research on a specific problem, the organization of experimental work on the basis of a general program prepares the ground for obtaining effective results was deemed appropriate. As a result, a general program of practical activities focused on the formation of cognitive competence of students using innovative educational technologies and methods was developed.

### **Results and Discussion**

In the program, attention was paid to reflecting the general essence of experimental work. In the process of teaching the German language, the development of the methodology program for the formation of cognitive competence of students using innovative educational technologies and methods has created a number of conveniences. For example, the general term of experimental work was clearly defined, the general practical activity was purposefully divided into three stages, the tasks that needed to be performed were divided by stages, and specific goals were determined for each stage.

During experimental work, teachers are afraid of innovations, because they lead to the acceleration of work and the need for retraining; they may reduce their importance and change their main role in the educational process; limits improvisation and creativity in the work of the teacher. Among the social reasons for the rejection of innovations, the teachers mentioned:

- 1. Desire to maintain usual social relations and, consequently, their status (40%);
- 2. I am afraid that the innovation will change functional tasks and reduce job satisfaction (30%);
- 3. dissatisfaction with the weakness of personal participation and the insignificance of its role in the implementation of innovations (20%);
- 4. belief that innovations are beneficial to the organization, not to the society, not to the employee (5%).

These are the unique features of the introduction of innovative processes in education:

- The orientation of many employees is not to achieve success, but to avoid failure;
- Fear of danger and difficulties;
- ➤ Low level of claims;
- > Any initiative will be punished;
- A lack of interest in self-development;
- > In particular, general and low empathy in relations with students, rude communication culture;

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- > Insufficient communication skills;
- Low ability to follow stereotypes and improvisation;
- Lack of understanding of their professional goal (their academic task) and, as a result, lack of self-activation at work;
- Failure to reflect on multiple levels and resulting emotional strain after 10-15 years of teaching.

In order to provide a positive solution to the research problem, it was assumed that the practical foundation should be thorough.

The project of organizing practical activities aimed at forming the cognitive competence of students using innovative educational technologies and methods and its content will be discussed.

One of the important components of the study of the problem of forming the cognitive competence of students using innovative educational technologies and methods was the organization of experimental work. In this place, the contents of the methods for the implementation of experimental tests, which were covered in the researches carried out in the initial pedagogical direction, were introduced, and a special methodology was formed based on them

The main idea of the special methodology was to shed light on the general essence of the process, which allows the theoretical views on the formation of cognitive competences for working with texts in students to be reflected in practice. Based on the main idea of the methodology, the single goal of experimental work was formed, which is to create pedagogical conditions that help to form competences for working with texts in the German language.

In the course of organizing the experimental work, the following tasks were performed based on the main goal:

- 1. To study the current state of the formation of cognitive competence of students using innovative educational technologies and methods. For the realization of this task, it is necessary to study the content of directives and regulations that provide information on the activities of learning the German language, to organize individual conversations with students, to organize debates with their participation, to conduct questionnaires and social surveys conducting pedagogical observation of students' educational activities and their behavior outside the classroom and university, dialogues on the formation of students' cognitive competence using innovative educational technologies and methods provided due to the existence of situations such as studying and analyzing students' feedback regarding the current state of organization, educational and educational work.
- 2. To determine the objective and subjective conditions that allow the formation of cognitive competence of students using innovative educational technologies and methods. In the positive solution of this task, the indicators of knowledge, skills and competences determined by the State educational standards for geography education, geographic knowledge in the educational programs prepared for the subject of the German language, and topics that serve to form the skills of working with texts from the German language took place among students. In fact, the role of information, information and evidence is incomparable in thinking about a specific problem, putting forward opinions and coming to scientific conclusions.
- 3. Determining the level of need to form cognitive competence of students using innovative educational technologies and methods. To provide a solution to this task, to implement the formation of the skills of working with texts from the German language on a large scale, to fully understand the importance of methodological efforts to ensure its quality and efficiency, and higher education institutions in this regard, the study of the nature of the approaches to the implementation of their activities, the summarization of the personal opinions of the practicing German language teachers and students was carried out.
- 4. Identifying the problems that arise in the process of forming the cognitive competence of students using innovative educational technologies and methods and determining the measures to eliminate them. The implementation of this task was carried out on the basis of direct communication, discussion and debates with students and teachers of the German language of higher education institutions, interviewing them, exchanging experiences.
- 5. Development of a methodology that serves to study the level of formation of cognitive competence of students using innovative educational technologies and methods. Activities aimed at this goal include improved lesson plans in the course of German language education, development of scenarios of educational technological events, presentation of test tasks prepared on the basis of the combination of knowledge related to the formation of skills of working with texts to the attention of students, students' analysis of quarterly and annual mastery results, responsible approach to the formation of skills for working with the texts created in them, determination of skill level, analysis of students' participation in Olympiads and various competitions was carried out.

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6. Determining the level of efficiency of the methodology that serves to form the cognitive competence of students using innovative educational technologies and methods in the process of German language education by an impartial expert group. In order to find a solution to the mentioned task, it is necessary to receive reviews from teachers of the German language with several years of work experience and pedagogical skills, managers of higher education institutions who are not involved in experimental work, to organize interviews with them, to answer questionnaire requests. Practical activities such as conducting and organizing roundtable discussions were launched. Based on the formation of a special expert group consisting of experienced and creative teachers of higher education institutions, the general state of experimental work and the level of effectiveness of the methodology developed within the scope of the research goal will be studied and evaluated.

In the process of researching the problem of forming the cognitive competence of students using innovative educational technologies and methods, it was thought about what these principles could be, assuming that the experiments organized in the process of researching the problem of forming the cognitive competence of students using a number of principles will give positive results. When analyzing the nature of the practical activity and the progress of the experimental work, it was ensured that the priority of the following principles will ensure the effective completion of the activity in this regard:

- 1. Clarity of the intended purpose of conducting the experimental work.
- 2. Organization of experimental and testing works on the basis of a complex (complex) approach.
- 3. Ensuring objectivity in the formation of students' cognitive competence using innovative educational technologies and methods.
- 4. Consistent, organic, systematic and purposeful organization of pedagogical activities related to the formation of cognitive competence of students using innovative educational technologies and methods.
- 5. The level of activity of students in the process of forming the skills of working with natural geographical texts.
- 6. Creative and technological approaches to the formation of cognitive competence of students using innovative educational technologies and methods.

The practical activity organized within the framework of the problem of formation of cognitive competence of students using innovative educational technologies and methods was carried out on the basis of a number of forms, methods and tools.

It is well known to us that activities organized in a specific direction and purpose are carried out with the help of specific means. In the course of the practical activities carried out within the framework of the research problem, the following tools were used: curricula, study plans, class magazines showing the mastery of the basics of the German language, a plan of spiritual and educational work, a German language course Reports on the field, minutes and decisions of methodological association meetings, leaflets that allow conducting social and questionnaire surveys among teachers of geography, as well as students, etc.

The level of formation of competences for working with texts in the German language among students was determined in three directions.

Specifically:

- a) on the basis of the final (certain period, i.e. quarterly, half-yearly and annual) indicators of educational activity;
- b) on the basis of the level and effectiveness of the teaching process;
- c) on the basis of the scientific potential of higher educational institutions.

#### **Conclusions**

According to the above-mentioned considerations, the final conclusion will have the following content: the success of the experimental work aimed at forming the cognitive competence of students using innovative educational technologies and methods, the development of a special methodology and work in accordance with its ideas, it depends on the risk.

Working with texts from the German language and the organization expressed in their content, which is one of the main tasks defined in the process of experimental work, and on this basis, attention was paid to the issue of formation of appropriate educational competencies in students.

In the process of experimental work, a survey was organized among students studying the German language, and it was studied when and in what situations they work with natural geographical texts in the course of classes. Through the questionnaire, the main motives of the teachers' activity were determined in this regard:

- a) 51.5% of teachers are in the process of imparting theoretical knowledge;
- b) 32.9% of teachers are in the process of imparting practical knowledge;
- c) 15.9% of teachers try to work with texts in the process of imparting both theoretical and practical knowledge.

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The answers to the question "How did you organize working with texts during extracurricular activities?" were as follows:

- a) by independent work with textbooks when completing tasks at home 44.2%;
- b) by organizing activities of students to work with textbooks in group classes 33.2%;
- c) by organizing independent work of students with various geographic information and knowledge sources 22.6%.

According to the results of the emphatic and formative experimental work, the solutions of the pedagogical tasks identified as important to be fulfilled in terms of working with texts and widely promoting the ideas expressed in their content among the students in the course of the experimental work it was also revealed that it was resolved.

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