

Organizing Experimental And Pilot Studies Based On Foreign Experiences In Geographical Sciences

S.T. Abdurahmanov

Associate professor, Namangan state pedagogical institute, PhD

R. T. Gaypova,

Associate Professor of the Department of Geography,

Ajiniyoz Nukus State Pedagogical Institute,

PhD in Pedagogical Sciences.

M.M. Sapayeva

2nd-year master's student, Ajiniyoz Nukus state pedagogical institute

Annotation

This article analyzes the theoretical and practical aspects of organizing experimental and pilot studies in the teaching of geography based on foreign experiences. It also examines the possibilities of adapting advanced teaching methods from developed countries to the Uzbek education system.

Keywords: geography education, foreign experience, innovative method, field practice, laboratory experiment, ecological analysis, digital maps, GIS technology, competency-based approach, quality of education.

In our country, the reforms carried out in the field of education, as well as in various sectors of the economy and science, are increasingly emphasizing the improvement of geography education in general secondary schools. The integration of advanced international experiences into the teaching process of geography contributes significantly to enhancing students' knowledge and understanding of the subject. The introduction of innovative forms of education into teaching practice plays an important role in developing students' knowledge, skills, abilities, and competencies.

In fulfilling these tasks, the professional competence of modern teachers occupies a special place. A teacher should not only act as a provider of knowledge but also as a facilitator who creates conditions for students to learn, explore, and think independently.

In many countries around the world, the main focus in geography education is on the development of students' practical skills and competencies. In these countries, geography teaching is primarily aimed at exploring scientific problems, theories, laws, and key concepts related to the discipline. Over the past decades, geography education in schools and the training and professional development of geography teachers in higher education institutions around the world have reached a significantly higher level.

The necessity of organizing experimental and pilot studies arises from the need to test the theoretical hypotheses of the research in practice, to determine the effectiveness of the developed methodology under real educational conditions, and to adapt foreign experiences to the actual environment of Uzbekistan's higher education system. Within the framework of this study, the scientific ideas put forward - particularly the effectiveness of applying foreign methodological approaches in the teaching of geographical sciences—are examined through step-by-step experimental trials.

Before launching the experimental phase, the current state of the field is thoroughly analyzed. This includes studying how geography teaching is organized in Uzbekistan's higher education institutions, the content of curricula, the methodological approaches employed by instructors, and the level of students' ecological thinking. On this basis, the necessity of developing a scientifically grounded approach for the effective utilization of international experiences is determined.

Integrating foreign experiences into the teaching of geography in higher education institutions plays a crucial role in significantly improving the quality of education. Conducting experimental and pilot studies is therefore aimed at confirming the relevance and necessity of these approaches in modern education, verifying theoretical assumptions and scientific conclusions, and observing how the research objectives and tasks are realized in practice.

The experimental component of the study is carried out in three stages.

In the first stage (diagnostic phase), students' levels of geographical knowledge and skills are assessed through surveys, tests, and interviews. In the second stage (formative phase), methodological approaches based on foreign educational experiences are implemented into the teaching process. Interactive sessions with students, eco-geographical projects, the use of digital platforms, and analytical tasks built around problem-based situations are conducted. In the third stage (summative phase), the results of the experiment are summarized, and the effectiveness of the applied methodology is evaluated.

I. The Justificatory Stage of Experimental Work

At this stage, the experimental studies conducted in the field of geography teaching were aimed at improving the quality of geographical education, introducing interdisciplinary approaches, and increasing students' engagement.

First, the quality of geography education improved through the use of interdisciplinary approaches and specially designed activities. A noticeable increase was observed in students' geographical knowledge and engagement. For instance, the interdisciplinary approach involves teaching and analyzing specific topics through the interconnection of multiple disciplines. In geographical education, such an approach is implemented in collaboration with natural sciences, social sciences, engineering, and information technologies.

Second, the developed competitions and programs enhanced students' interest in and active participation toward solving geographical problems.

Third, the performance of educational institutions specializing in geography was evaluated, which contributed to improving their overall effectiveness.

II. Formative Experimental Stage

First, foreign educational experiences are analyzed and adapted. In particular, the role of geography as an academic discipline and the innovative teaching methods applied in the education systems of developed countries such as the United States, Japan, Germany, and South Korea are studied. These experiences are then adjusted to local conditions, and appropriate teaching and methodological guidelines are developed accordingly.

Second, interactive teaching methods are introduced. During the educational process, interactive techniques that have proven effective abroad - such as case studies, cluster analysis, mosaic methods, ecological trainings, and group discussions-are applied. These methods help foster analytical thinking in students and transform them into active participants in the learning process.

Third, curricula are modernized. Through the analysis of foreign curricula, existing shortcomings in local educational programs are identified. As a result, contemporary and practice-oriented courses and modules are incorporated into study plans - for example, *"Economic and Social Geography," "Tourism Geography,"* and *"Geographic Information Systems (GIS)."*

Fourth, students develop a new approach to learning that enhances their knowledge and skills in geography. This process contributes to the development of students' ability to think independently and analyze real-world problems. In addition, practical workshops and training sessions are organized for teachers to help them master new pedagogical technologies based on international experience.

III. Summative Experimental Stage

At this stage, foreign experiences are effectively implemented in the teaching of geographical sciences. Innovative educational technologies are widely applied, leading to a noticeable

increase in students' academic engagement and their overall geographical culture. All these efforts contribute to the improvement of national educational standards and teaching methodologies, thereby raising the quality of geography education to a new level.

In particular, the foreign methodological approaches analyzed and adapted during the second stage are practically implemented at this stage. Advanced international practices such as Japan's "Smart School" concept, Germany's hands-on laboratory sessions, and Canada's field-based environmental education systems are successfully integrated into the national education framework.

Furthermore, the broad introduction of modern and innovative teaching technologies is promoted through the application of STEAM (Science, Technology, Engineering, Arts, Mathematics) and STEM (Science, Technology, Engineering, Mathematics) approaches. In teaching geography, these can be effectively combined with contemporary pedagogical models such as the "Flipped Classroom" and "Blended Learning" methods, which merge traditional in-person instruction with online education.

LIST OF REFERENCES USED

- Asamovich K. B., Turdialievich A. S. On the formation of soil moisture //European science review. – 2016. – №. 9-10. – С. 34-36.
- Абдурахманов С. Оценка возможностей экономии оросительной воды в земледелие аридных территорий //Каталог авторефератов. – 2018. – Т. 1. – №. 1. – С. 1-45.
- Abdurahmanov S. T., Ergashev A. N. Namangan viloyatida qishloq xo'jaligi yer maydonlaridan foydalanish dinamikasi //Экономика и социум. – 2022. – №. 3-1 (94). – С. 10-13.
- Камалов Б. А., Абдурахманов С. Т., Кориёв М. Р. Результаты опытов выращивания овощных культур и садоводства в предгорной зоне Ферганской долины без орошения //Устойчивое развитие горных территорий. – 2015. – Т. 7. – №. 1. – С. 46-52.
- Abdurahmanov S. Arid zone landscapes of northern Fergana hills and use problems of their //Экономика и социум. – 2021. – №. 5-1 (84). – С. 28-31.