

METHODOLOGY FOR PREPARING STUDENTS FOR THE FLIPPED CLASSROOM

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Abstract. This article illuminates the theoretical and practical foundations of the methodology for preparing students in the higher pedagogical education system to use the Flipped Learning model. The digital transformation of modern education, the widespread implementation of a competency-based approach, and the need for individualized learning make it a pressing issue to prepare teaching staff for the effective use of innovative teaching technologies. In this study, preparing students for Flipped Learning is interpreted as a continuous didactic process, and its methodological content is revealed through the mutual integration of pedagogical design, digital educational resources, active teaching methods, and reflective assessment. The author scientifically substantiates the main stages of the methodology, its didactic principles, and the pedagogical conditions that foster the development of methodological preparedness. The research results serve to develop the methodological, pedagogical, and digital competencies of future teachers, to activate their independent learning activities, and to expand the possibilities for the effective application of the Flipped Learning model in primary education practice.

Keywords: Flipped Learning, methodological preparedness, future teacher, methodology, pedagogical design, digital education, pedagogical technologies, competency, reflection.

INTRODUCTION. The profound changes occurring in the global education system today are setting entirely new tasks for higher educational institutions. The rapid development of digital technologies, the integration of artificial intelligence elements into the educational process, the expansion of open educational resources, and the need for individualized learning necessitate a revision of teaching methods. The primary focus of the educational process is now shifting from delivering knowledge in a ready-made form to fostering a student's ability to acquire knowledge independently, think critically, solve problems, and apply their knowledge in practical activities. For this reason, modern pedagogical technologies, particularly the Flipped

Learning model, are becoming one of the priority areas in higher pedagogical education.

The Flipped Learning model is an innovative pedagogical approach that fundamentally transforms the traditional lesson structure. In this model, theoretical knowledge is acquired outside the classroom through video lessons, electronic learning materials, and other digital resources. In-class sessions are then directed towards applying the acquired knowledge in practice, analyzing problem-based situations, creating projects, working collaboratively, and organizing reflective activities. As a result, during the lesson, the student transforms from a passive listener into an active participant, while the teacher's role shifts from a purveyor of knowledge to that of a facilitator who organizes and guides the learning process.

The significance of this model for the teacher education system is even greater. This is because a future teacher must not only know the theoretical foundations of this technology but also be able to apply it effectively in their future pedagogical practice. To achieve this, it is necessary to develop a holistic system within higher education institutions for the methodological preparation of students to use the Flipped Learning model. Otherwise, even if students know how to use digital tools, they may face difficulties in selecting them for appropriate didactic purposes, designing educational content, integrating in-class and out-of-class activities, and evaluating learning outcomes.

From this perspective, preparing students for Flipped Learning involves not only teaching the use of information and communication technologies but also the comprehensive development of their competencies in creating pedagogical designs, modeling educational content, selecting active learning methods, organizing reflective activities, and managing the educational process. Therefore, the content of methodological preparation must be based on the organic integration of theoretical knowledge, practical skills, and professional reflection.

State of the Art. The Flipped Learning model is one of the innovative educational technologies that has been widely researched in foreign pedagogical science in recent decades. The conceptual foundations of this model were developed by J. Bergmann and A. Sams, and its didactic potential was further expanded in the scientific research of R. Talbert, C. Brame, E. Mazur, C. Bonk, H. Threlkeld, and other scholars. In these studies, the Flipped Learning model is recognized as a pedagogical approach that supports students' independent learning and directs classroom time toward organizing high-level cognitive activities.

The theoretical and methodological foundations of Blended Learning and Flipped Learning technologies R. Garrison, R. Graham, A. Alammery, N. Friesen, S. Jong, H. Morgan, D. Berrett, B. T

A METHODOLOGY FOR PREPARING STUDENTS FOR THE FLIPPED CLASSROOM. Preparing student teachers to use the flipped classroom model is a key direction in modern pedagogical education and is directly linked to the development of future teachers' professional competence. This preparation cannot be limited to merely teaching the use of digital platforms or forming skills for creating video lessons. On the contrary, this process should be viewed as a continuous didactic system that entails the comprehensive development of a teacher's methodological thinking, their ability to create pedagogical designs, their competence in managing the educational process, and their reflective practice.

Research has shown that the effectiveness of the flipped classroom model is primarily determined by the future teacher's ability to design the lesson correctly. If theoretical material is studied outside the classroom, but classroom sessions continue in the form of a traditional lecture, the didactic potential of this model will not be fully realized. Therefore, methodological preparation must be aimed at organizing all stages of the educational process as a single pedagogical cycle.

The proposed methodology is based on an iterative approach to pedagogical design. In this approach, the results of each session are analyzed to improve subsequent ones, and the learning process is continually updated. This ensures the methodology develops as a dynamic, rather than a static, system. The iterative nature of pedagogical design allows the teacher to regularly refine the educational content based on students' needs, their level of preparation, and their pace of learning.

In this methodology, preparation is carried out in five interconnected stages. First, during the diagnostic stage, students' digital literacy, methodological knowledge, independent learning skills, and attitudes towards innovative pedagogical technologies are assessed. The results of this diagnosis serve to define an individual developmental trajectory. Diagnosis is seen not just as a tool for determining the initial state, but as a scientific foundation for planning subsequent methodological activities.

The next stage is the methodological orientation stage. At this stage, students study the theoretical foundations of the Flipped Learning concept, its application in international practice, its didactic potential, and its pedagogical advantages. In particular, a deep understanding of the F-L-I-P principles is a crucial condition for methodological preparation. A flexible learning environment, a culture of learning, intentional content, and a professional educator form the methodological basis of this

model. Students not only master these principles theoretically but also acquire methods for applying them in real pedagogical situations.

The central part of the methodology is dedicated to the creation of the pedagogical design. At this stage, students learn to define the lesson's objective, determine learning outcomes, select electronic learning resources, create video lessons, develop independent learning tasks, and design classroom sessions based on active methods. Bloom's taxonomy's cognitive levels are used as a methodological criterion. While the mastery of theoretical material is directed towards the "remembering" and "understanding" stages, classroom sessions serve to develop the "applying," "analyzing," "evaluating," and "creating" stages. Thus, the educational process is focused not on memorizing knowledge, but on applying it in practical activities.

The use of digital educational resources is of particular importance in the pedagogical design process. However, the strength of the methodology is determined not by the number of platforms used, but by their didactic appropriateness. Educational effectiveness increases only when video lessons, electronic presentations, interactive tests, virtual whiteboards, and LMS platforms are used in an integrated manner as components of a unified methodological system. Therefore, fostering students' ability to analyze the pedagogical function of each digital tool and to use it purposefully is considered a priority of the methodology.

The practical stage of the methodology is organized based on micro-teaching technology. During the micro-teaching process, students test the flipped classroom lesson plans they have developed in small groups. The process is video-recorded and subsequently subjected to pedagogical analysis. This approach allows future teachers to identify their methodological mistakes, evaluate their strengths, and develop the competence to make pedagogical decisions. In particular, peer expert review and the process of mutual assessment contribute to the formation of reflective thinking.

One of the important aspects of the proposed methodology is the seamless integration of out-of-class and in-class activities.

RESEARCH RESULTS AND DISCUSSION. The methodology developed during the research was piloted in higher pedagogical education institutions. To evaluate the methodology's effectiveness, the motivational, cognitive, activity-oriented, and reflective components of students' methodological preparedness were comprehensively analyzed. The evaluation process utilized diagnostic observation, pedagogical monitoring, expert review of electronic portfolios, analysis of micro-teaching results, and peer assessment methods.

The experimental results indicated that in the groups where the methodology was applied, students demonstrated significant development in skills such as understanding the essence of the flipped classroom technology, designing lessons based on pedagogical design, and selecting and purposefully using digital educational resources. In particular, positive changes were observed in competencies related to organizing independent study, planning classroom sessions based on active methods, and making methodological decisions for managing students' cognitive activities.

Whereas before the methodology's introduction, students primarily perceived the flipped classroom as a technology associated with using video lessons, by the end of the experiment, they began to understand this model as a holistic didactic system incorporating pedagogical design, reorganization of educational content, active teaching methods, and reflective assessment. This indicates that their methodological preparedness developed not only on a technological level but also on the level of pedagogical thinking.

During the discussion, it was determined that the methodology's effectiveness is defined by several factors. First, the integral link between extracurricular and in-class activities ensures the cohesiveness of the educational content. Second, the iterative approach to pedagogical design allows for the continuous improvement of lessons. Third, micro-teaching and reflective analysis serve to promptly identify and eliminate students' methodological errors. Fourth, formative assessment and regular feedback strengthen students' motivation for self-development.

The results obtained were observed to be consistent with the scientific conclusions presented by foreign researchers. Specifically, the idea of effective redistribution of learning time put forward by J. Bergmann and A. Sams, the active learning strategies recommended by R. Talbert, and the perspectives on blended learning by R. Graham and N. Friesen were in harmony with the research findings. At the same time, this study distinguished itself from existing scientific works by developing a continuous cyclical model for methodological preparation and proposing a mechanism for the iterative improvement of pedagogical design.

The practical significance of the proposed methodology is that it can be effectively used in teaching subjects such as "Pedagogical Mastery," "Pedagogy of Primary Education," "Educational Technologies," and "Specific Teaching Methods," as well as in organizing teaching practice and improving the content of professional development courses. This methodology is recommended as a universal methodological system for developing the professional competence of teaching staff in the context of digital transformation.

CONCLUSION. Based on the research conducted, the following conclusions were drawn.

First, preparing students for the flipped classroom is a priority direction in modern pedagogical education, which necessitates the comprehensive development of future teachers' methodological, pedagogical, and digital competencies.

Second, organizing methodological preparation based on a continuous didactic cycle—comprising the stages of diagnostics, methodological orientation, pedagogical design, micro-teaching, and reflective improvement—ensures the effective mastery of the flipped classroom model.

Third, the integration of independent study outside the classroom with the active learning process inside the classroom directs students to apply theoretical knowledge to practical activities and develops their competencies in critical thinking, problem-solving, and pedagogical decision-making.

Fourth, an iterative approach to pedagogical design, micro-teaching, formative assessment, and reflective monitoring are the key didactic mechanisms that increase the methodology's effectiveness.

Fifth, the developed methodology serves to improve the scientific and methodological foundations for preparing future primary school teachers to use modern educational technologies in higher pedagogical education institutions, and it offers the potential for adaptation to other specializations in the pedagogical field.

In the future, it is advisable to continue scientific research on integrating this methodology with artificial intelligence tools, adaptive learning platforms, and personalized learning technologies.

REFERENCES

1. Bergmann J., Sams A. Flip Your Classroom: Reach Every Student in Every Class Every Day. Washington: ISTE, 2012.
2. Talbert R. Flipped Learning: A Guide for Higher Education Faculty. Stylus Publishing, 2017.
3. Brame C. Flipping the Classroom. Vanderbilt University Center for Teaching, 2016.
4. Graham C.R. Emerging practice and research in blended learning. Handbook of Distance Education. 2019.
5. Friesen N. Defining Blended Learning. Journal of Online Learning Research. 2020.
6. Alammary A. Blended learning models for higher education. Educational Technology Research and Development. 2021.

7. Lo C.K., Hew K.F. A critical review of flipped classroom challenges in higher education. Educational Technology Research and Development. 2023.
8. Bondarev M.G. Innovative pedagogical technologies and methodological preparation. Moscow, 2021.
9. Galustyan O.V. Professional training of future teachers in digital education. Rostov-na-Donu, 2022.
10. Ibragimov A.A. Modern pedagogical technologies. Samarkand, 2023.
11. Azizxo'jayeva N.N. Pedagogical technologies and pedagogical mastery. Tashkent, 2022.
12. Avliyakov N.X. Theory of developing pedagogical competencies. Tashkent, 2021.
13. Hamidova L.K. Developing the methodological preparation of future primary school teachers for "Flipped Learning." Abstract of PhD dissertation. Samarkand, 2026.