

A COMPARATIVE STUDY OF FLIPPED VS TRADITIONAL  
TEACHING MODELS

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**Abstract:** *This study compares flipped and traditional teaching models, highlighting the benefits and limitations of each. The flipped classroom model shifts theoretical learning outside the classroom through videos, presentations, and other digital resources. Traditional methods, while structured and comprehensive, often limit practical application and do not account for individual learning paces. A combined approach that integrates traditional and flipped methods can create a more flexible, interactive, and effective learning environment.*

**Keywords:** *Flipped classroom, traditional teaching, active learning, e-learning, pedagogical innovation, student engagement, independent learning, digital education.*

**Аннотация:** *В исследовании проводится сравнительный анализ перевёрнутой и традиционной моделей обучения, выявляются их преимущества и ограничения. Модель перевернутого класса переносит теоретическое обучение за пределы урока с использованием видео, презентаций и других цифровых ресурсов. Традиционные методы, хотя и обеспечивают структурированность и полноту материала, ограничивают практическое применение и не учитывают индивидуальные темпы обучения. Оптимальным является комбинированный подход, который объединяет традиционное и перевёрнутое обучение, создавая более гибкую, интерактивную и эффективную образовательную среду.*

**Ключевые слова:** *Перевернутый класс, традиционное обучение, активное обучение, электронное обучение, педагогические инновации, вовлеченность студентов, самостоятельное обучение, цифровое образование.*

**Annotatsiya:** *Ushbu tadqiqotda "flipped" (teskari) va an'anaviy o'qitish modellari solishtirilib, ularning afzalliklari va cheklovlari aniqlangan. Teskari sinf modeli nazariy bilimlarni darsdan tashqarida video, prezentatsiyalar va boshqa raqamli resurslar orqali o'rganishga imkon beradi. An'anaviy metodlar, garchi tuzilma va mazmun jihatidan to'liq bo'lsa-da, amaliy qo'llash imkoniyatlarini cheklaydi va talabalar individual tezliklarini hisobga olmaydi. Eng optimal yechim an'anaviy va teskari o'qitish yondashuvlarini birlashtirish bo'lib, ta'lim jarayonini yanada moslashuvchan, interaktiv va samarali qiladi.*

**Kalit so'zlar:** *Teskari sinf, an'anaviy o'qitish, faol o'qitish, elektron ta'lim, pedagogik innovatsiya, talabalar faolligi, mustaqil o'qish, raqamli ta'lim.*

The rapid development of cloud technologies and the wide possibilities of cloud-based learning environments allow for a more diverse learning process, as well as the introduction

of modern teaching methods using information and communication technologies. One of such advanced approaches is the “flipped learning” technology. This method uses popular scientific lectures, the teacher’s own video recordings (vodcasts) and presentations.

Vodcast (“video-on-demand” - that is, “video on demand”) is a form of video lecture distributed by the author via the Internet. Pre-vodcasting is a pedagogical approach in which the teacher prepares a video on a new topic in advance so that students can familiarize themselves with the material before the lesson. This approach later became the basis of the “flipped classroom” model.

According to Bishop and Verleger<sup>4</sup> flipped classroom is a student-centred learning method consisting of two parts with interactive learning activities during lesson and individual teaching based directly on computer out of lesson. Mull<sup>6</sup> defined it as a model that provides students prepare themselves for the lesson by watching videos, listening podcasts and reading articles.

Inverted Classroom (Flipped Classroom) is a form of blended learning in which students study theoretical material at home (through video lessons, presentations, texts, tests), and during classes they apply the acquired knowledge in practice. Thus, this technology combines elements of traditional and distance learning.

In the “flipped classroom” approach, the student is transformed from a passive learner into an active creator and disseminator of knowledge. Now he is not just a listener of the information provided by the teacher, but also a subject who independently assimilates, analyzes and applies it in practice. In this approach, the roles of students are expressed as follows:

Taking responsibility for learning<sup>7</sup>; review video lessons before class and use learning resources in preparation for the course<sup>8</sup>; conducting the learning process at an individual pace<sup>9</sup>; making necessary interactions with his teacher and friends, taking and giving feedback<sup>10</sup>; taking part in class discussions<sup>11</sup>; engaging in collaborative work<sup>12</sup>.

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<sup>4</sup> Bishop, J. L., & Verleger, M. A. (2013). Testing the flipped classroom with model-eliciting activities and video lectures in a mid-level undergraduate engineering course. In Proceedings of the 2013 IEEE Frontiers in Education Conference (FIE) (pp. 161–163).

<sup>5</sup> Bishop, J., Verleger, M. The Flipped Classroom: A Survey of the Research // ASEE National Conference Proceedings. – 2013. – Vol. 30, no. 9. – P. 1–18.

<sup>6</sup> November, A. Flipped Learning: A Response To Five Common Criticisms / A. November, B. Mull. – <http://web.uvic.ca/~gtreloar/Articles/Technology/flipped-learning-a-response-to-five-commoncriticisms.pdf>

<sup>7</sup> Владимиров, А.В. Методика «перевернутого класса» в реализации требований ФГОС. – [http://gov.cap.ru/SiteMap.aspx?gov\\_id=121&id=1919130](http://gov.cap.ru/SiteMap.aspx?gov_id=121&id=1919130).

<sup>8</sup> Bergmann, J. Flip Your Classroom: Reach Every Student in Every Class Every Day / J. Bergmann, A. Sams. – International Society for Technology in Education, 2012. – 120 p.

<sup>9</sup> Bergmann, J. Flipping for Mastery / J. Bergmann, A. Sams // Educational Leadership. – 2014. – Vol. 71, no. 4. – P. 24–29.

<sup>10</sup> Tucker, B. Flipped Classroom: Online Instruction at Home Frees Class Time for Learning / B. Tucker // Education Next. – 2012. – Vol. 12, no. 1. – P. 82–83.

<sup>11</sup> Overmyer, J. Flipped Classrooms 101 / J. Overmyer // Principal. – 2012. – Vol. 92, no. 1. – P. 46–47.

The e-learning process is also carried out outside the boundaries of the educational institution: the teacher places educational resources on electronic platforms (diaries, personal websites, social networks - for example, VK) or on open sources (videouroki.net, infourok.ru, interneturok.ru). Cloud storage systems (Google Drive, Yandex Disk) are also used. Students study these materials independently.

Homework is not limited to watching videos - the student must analyze the topic, write an abstract, compose questions or complete test tasks. Independent work provides a deep understanding and analysis of the studied topic.

In the lesson, the teacher organizes active activities aimed at consolidating and applying students' knowledge in practice: discussions, solving problem tasks, conducting small projects or experiments. At the beginning of the lesson, the teacher determines to what extent the students have mastered the material.

An example of the practical stage of the lesson:

Problem formulation: for example, in the topic "Systematization of information", the question "Why do people systematize information?" is posed.

Hypothesis formulation: students offer possible answers - to find information quickly, search for it easily, remember it better.

Hypothesis testing: hypotheses are tested theoretically or experimentally (for example, comparing the speed of searching for information in a structured and unstructured text).

Conclusion: it is determined that systematization facilitates the search and processing of information.

In the "flipped classroom" model, the teacher acts as a guide and organizer, not a source of knowledge. This method is especially effective when students have prior knowledge or experience in the subject. To effectively use technology, students must have devices connected to the Internet.

The main advantage of this method is the efficient use of learning time: in class, students work in groups, discuss theory, do practical exercises, and receive immediate feedback.

Thus, the "flipped classroom" changes the traditional educational logic: the student masters the theory at home and performs practical exercises in class under the guidance of the teacher. This approach increases the student's personal responsibility, develops independence, initiative, and self-management skills.

This technology supports creative thinking, creates opportunities for open communication, and active participation. However, if the student is not interested in self-study, the effectiveness of this method will decrease.

At the same time, the role of the teacher remains important: he manages the activities of students, advises, and creates problem situations for research work.

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<sup>12</sup> Formica, S.P. Transforming Common-Sense Beliefs into Newtonian Thinking Through Justin-Time Teaching / S.P. Formica, J.L. Easley, M.C. Spraker // Physics Education Research. – 2010. – Vol. 6, no. 2. – P. 1–7.

The "inverted class" model allows the teacher to pay more attention to weak students and allow strong students to develop at their own pace.

“A comparative analysis of traditional and modern teaching methods reveals that both have unique strengths and weaknesses. Traditional methods offer structure and depth, ensuring comprehensive content coverage and objective assessment. In contrast, modern methods enhance engagement and accommodate diverse learning needs but may lack the same level of academic rigor”<sup>13</sup>.

### **Comparative analysis of traditional and flipped learning styles**

In the traditional learning system, the teacher explains the main part of the theoretical information during the lesson. As a result, little time is allocated for practical exercises, since most of the lesson ends after the presentation of a new topic. Students often do not complete their homework in full, because they may not have understood the material sufficiently during the lesson. Checking homework also takes up a significant part of the lesson time, reducing the effectiveness of the learning process.

Although this form of learning is suitable for almost all subjects, it does not take into account the individual learning rates of students. Since all students are forced to learn at the same pace, strong students adapt to those who learn slower, while weak ones hesitate to admit their knowledge deficits. This leads to superficial mastery of some topics.

In the traditional system, theoretical information is available only during the lesson. Parents, on the other hand, only get an idea of the learning process through textbooks and evaluate the teacher's work through the opinions of their children. Video materials used in lessons are used only in the classroom and there is no opportunity to review them.

In the “inverted class” technology, the principle of teaching is completely different. Students independently study theoretical information before the lesson - through video lectures, presentations and other online resources. This allows for more practical exercises during the lesson, discussion of complex issues and completion of assignments together with the teacher. Thus, traditional homework is done in the classroom, under the guidance of the teacher.

The main advantage of this approach is that each student can master the material at a pace convenient for him. Those who quickly understand the topic move on to the next sections, while those who need more time have the opportunity to refer back to the video materials. The teacher, on the other hand, has the opportunity to approach each student individually and identify their problem areas.

Since the videos and presentations prepared by the teacher in the flipped classroom model are available at any time, students do not fall behind even if they miss a lesson or cannot attend due to illness. Parents can also get acquainted with the learning process online

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<sup>13</sup> Batchelor, J. (2011). Innovative teachers' pedagogical efficacy in their use of emerging technologies (Doctoral thesis, University of Pretoria, Pretoria). University of Pretoria. <http://hdl.handle.net/2263/24257>



and help their children prepare. At the same time, they have the opportunity to directly observe how the teacher delivers the material.

However, this method also has some disadvantages. Not every student is responsible or disciplined enough: some do not watch video lectures in advance, which causes problems in subsequent lessons. Also, the teacher requires additional time and technical knowledge to prepare digital materials. Not every subject can be adapted to this format. If the “flipped classroom” method is not supplemented with practical activities and creative tasks, its effectiveness will be significantly reduced.

Therefore, it is not right to completely abandon traditional education. The most optimal approach is to combine the two systems. The integration of the classroom system and the “flipped classroom” technology makes the learning process more effective, interactive and flexible.

### **Disadvantages of the flipped classroom technology**

Despite a number of advantages, the flipped classroom model also has some limitations. First of all, not all students are sufficiently disciplined and responsible. Some do not watch lectures or do not prepare before class, which reduces the effectiveness of subsequent classes.

Also, the teacher is required to spend additional time and technical skills to prepare high-quality video materials, presentations, and other digital content.

In addition, it is not possible to teach all subjects using the flipped classroom model - for some subjects or complex theoretical sections, this format may not give sufficient results. If this method is not enriched in content, that is, supplemented with practical activities, discussions, and interactive tasks, its effectiveness will be significantly reduced.

Therefore, it is not advisable to completely abandon the traditional education system. The most optimal solution is to combine traditional and flipped learning approaches, which will make the learning process more flexible, interactive, and effective.

This study analyzes the differences between the “inverted classroom” and traditional educational models and examines their advantages, limitations, and practical applications. The “inverted classroom” model transforms students from passive recipients of knowledge to active participants: theoretical material is delivered outside the classroom through video lectures, presentations, and online resources. Thus, classroom time is focused on interactive activities, discussions, problem solving, and team tasks, which allow students to apply and deepen their knowledge in practice.

The traditional model, on the other hand, focuses more on delivering theoretical information in the classroom and devotes less time to practical activities, and also does not take into account the individual learning pace of students. While this method provides systematic study of the material, comprehensive assessment, and order, it risks limiting student activity and independence.

The “flipped learning” model develops students’ responsibility, independent thinking, and creative approach, and allows teachers to provide personalized recommendations for

each student. However, its effectiveness depends on student discipline, access to technology, and teacher preparation. Research shows that the most effective approach is to combine traditional and flipped methods to create an interactive, flexible, and personalized learning environment.

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