

DOI: <https://doi.org/10.5281/zenodo.15003506>

USING TECHNOLOGIES OF INNOVATIVE TEACHING METHODS IN THE CLASSROOMS WITH MULTILEVEL STUDENTS

Maratova Mukhlisa

Student, English Philology Faculty

Uzbekistan State World Languages University, Tashkent, Uzbekistan

E-mail: muxlisamaratova@gmail.com

Durdona Khamidova

Teacher, English Philology Faculty,

Uzbekistan State World Languages University, Tashkent, Uzbekistan

E-mail: dhamidova10@gmail.com

Abstract: *The integration of innovative teaching methods and technology in multilevel classrooms has become a cornerstone of modern education. This article explores how educators can adapt their teaching styles to accommodate diverse learners while leveraging technology to enhance engagement and learning outcomes. By reviewing existing literature and analyzing practical strategies, this study highlights the importance of student-centered approaches, group work, task-based learning, and flipped classrooms. The findings suggest that technology integration not only fosters inclusivity but also promotes problem-solving and discovery among students. Recommendations include professional development for teachers and increased access to technological resources.*

Keywords: *Innovative teaching methods, multilevel classrooms, technology integration, student-centered learning, flipped classroom.*

INTRODUCTION. Multilevel classrooms, where students of varying academic levels learn together, present unique challenges and opportunities for educators. These environments require flexible teaching strategies that cater to individual needs while maintaining a cohesive learning experience. In recent years, the incorporation of innovative teaching methods and technology has emerged as a powerful solution to address these complexities. The contexts of the innovations are complex, and the starting points and pathways of change and scalability observed are extremely diverse (Law, N., Kampylis, P., & Punie, Y. (2015).

Countries' economic development and innovation explained variation in the teacher-level effects (Konstantinidou E., 2022). Higher economic growth and innovations typically have better-funded educational systems, which improves working conditions, resources, and teacher preparation. By giving teachers access to technology, higher pay, and opportunities for professional growth, this increases their efficacy. Innovative economies also encourage critical thinking and contemporary teaching strategies, which increases the effect of teachers. Focusing on innovative strategies of science investigation, such as observing phenomena, demonstrating experiments, planning experiments, and conducting experiments (Sevy R., 2016). It also considers active instruction, such as relating to student lives, encouraging class discussion, linking knowledge, and problem-solving. The variables related to teaching strategies are selected and operationalize based on teacher responses. The study also includes emphasis on academic success, safe school, job satisfaction, and teaching limited by student needs" (AI Salouli *et.al.*2024). Research indicates that multilevel classrooms benefit significantly from innovative teaching approaches. For instance, visualization techniques and mental imagery have been shown to clarify concepts for students at different levels Furthermore, multi-level instruction allows teachers to focus on a primary objective while enabling varied outcomes tailored to individual students (Liu F., *et.al.* 2017).

Technological tools play a pivotal role in this process. Studies emphasize the importance of integrating Information and Communication Technology (ICT) to support both teacher-led and student-centered activities

METHODOLOGY. This study employs a qualitative approach, drawing on existing literature and case studies to analyze the impact of innovative teaching methods in multilevel classrooms. Data sources include peer-reviewed articles, educational reports, and expert analyses published between 2012 and 2025. Key themes such as technology integration, student engagement, and curriculum design were identified and synthesized to form the basis of this research.

Results and Discussion

1. Student-Centered Approaches

Multilevel classrooms thrive when they prioritize student-centered learning, as this approach allows students to progress at their own pace while fostering independence and self-confidence. In such environments, learners are encouraged to take ownership of their education, which enhances motivation and engagement. For instance, visualization tools like interactive whiteboards and virtual simulations play a crucial role in making abstract concepts more tangible and accessible to students at varying proficiency levels.

2. Group Work and Collaboration

Group work is another effective strategy for managing multilevel classrooms, as it encourages peer-to-peer learning and collaboration. In these settings, higher-level students often serve as mentors to their peers, creating a supportive and inclusive learning environment

This dynamic not only benefits lower-level students but also reinforces the knowledge and skills of those who are mentoring. Task-based learning further enhances this approach by assigning roles based on individual strengths, ensuring that every student contributes meaningfully to the group's objectives

3. Flipped Classroom Model

The flipped classroom model represents a paradigm shift in traditional teaching methods, delivering instructional content online before class and reserving face-to-face sessions for hands-on activities and discussions. This approach is particularly effective in multilevel classrooms, as it ensures that all students receive personalized attention and support during in-class interactions. By accessing instructional materials at their own pace, students can review challenging concepts multiple times, reducing the pressure of keeping up with peers during lectures.

During face-to-face sessions, teachers can focus on addressing individual needs through targeted interventions and differentiated instruction. For example, while higher-level students engage in advanced problem-solving activities, lower-level students can receive additional guidance on foundational concepts. This flexibility allows educators to meet the diverse needs of their students without compromising the overall learning objectives. Moreover, flipped classrooms promote active learning by encouraging students to apply their knowledge in practical scenarios, such as group discussions, experiments, or projects.

4. Role of Technology

Technology serves as a bridge between diverse learners and educational objectives, offering innovative solutions to the challenges of multilevel classrooms.

Tools like adaptive software, gamified apps, and digital storytelling platforms cater to various learning styles, ensuring that every student can engage with the material in a way that suits their preferences (Fang g., *et.al.* 2024). For instance, adaptive software adjusts the difficulty level of tasks based on individual performance, providing personalized challenges that keep students motivated and engaged. Similarly, gamified apps incorporate elements of play and competition, making learning fun and interactive.

Digital storytelling platforms offer another avenue for creativity and expression, allowing students to demonstrate their understanding through multimedia projects. These platforms are particularly effective in multilevel classrooms, as they

enable students to showcase their knowledge in unique ways, regardless of their proficiency level. Furthermore, technology facilitates ongoing assessment, enabling teachers to track progress and adjust instruction accordingly.

DISCUSSION. These tools not only clarify complex topics but also cater to diverse learning styles, ensuring that every student can grasp the material effectively (Hsu, S., & Kuan, P. Y., 2013). Moreover, student-centered learning promotes autonomy by enabling learners to set personal goals and work toward achieving them. This is particularly beneficial in multilevel classrooms, where students possess different skill sets and learning needs. By tailoring instruction to individual requirements, educators can create an inclusive environment that supports all learners. The theoretical foundations underlying student-centered teaching suggest that it fosters long-term recall, comprehension, and critical thinking skills. When students actively participate in their learning process, they are more likely to retain information and apply it in real-world contexts. This is especially important in multilevel classrooms, where the goal is to ensure that every student achieves mastery of the primary objective, regardless of their starting point. By integrating technology into student-centered approaches, educators can bridge gaps in understanding and provide equitable opportunities for success.

Collaborative projects promote social interaction and teamwork, which are essential skills in today's interconnected world. For example, students working together on a project might divide tasks according to their abilities, such as research, writing, or presentation. This division of labor allows each participant to shine in their area of expertise while learning from others. Furthermore, group work fosters a sense of community and belonging, which is particularly important in multilevel classrooms where students may feel isolated due to differences in proficiency levels.

Technology plays a vital role in facilitating group work and collaboration. Digital platforms, such as shared documents and virtual meeting spaces, enable students to collaborate seamlessly, even outside the classroom. These tools also allow teachers to monitor progress and provide timely feedback, ensuring that all group

members stay on track. By leveraging technology in collaborative activities, educators can create dynamic and engaging learning experiences that cater to diverse learners.

Research highlights the numerous benefits of the flipped classroom model, including improved comprehension, retention, and engagement. Students who participate in flipped classrooms often report higher levels of satisfaction, as they appreciate the opportunity to learn at their own pace and engage in meaningful discussions during class. This flexibility is particularly valuable in multilevel classrooms, where learners require varying levels of support to succeed.

Real-time analytics provided by digital tools allow educators to identify areas where students struggle and intervene promptly, ensuring that no learner falls behind.

The impact of technology on student-centered learning cannot be overstated. By empowering students to take control of their education, technological tools enhance autonomy, motivation, and enjoyment. This level of individualization is crucial in multilevel classrooms, where learners require tailored support to achieve their full potential.

In conclusion, the integration of technology into student-centered approaches transforms multilevel classrooms into vibrant hubs of learning. By leveraging tools like adaptive software, gamified apps, and digital storytelling platforms, educators can create inclusive environments that cater to diverse learners. These innovations not only enhance engagement and comprehension but also prepare students for the demands of the future.

As education continues to evolve, embracing technology will be essential for fostering equity, inclusivity, and excellence in multilevel classrooms.

Recommendations:

Professional Development: Teachers should undergo training programs to familiarize themselves with innovative teaching methods and technological tools.

Infrastructure Investment: Schools must invest in reliable internet connectivity and devices to ensure equitable access to technology.

Curriculum Redesign: Educational institutions should adopt flexible curricula that incorporate multilevel teaching strategies.

Parental Involvement: Engaging parents in the learning process can reinforce classroom activities and promote continuity at home.

CONCLUSION. Innovative teaching methods and the integration of technology have the potential to transform multilevel classrooms into dynamic and engaging learning environments. By adopting **student-centered approaches**, educators can prioritize the diverse needs of each learner, ensuring that all students are actively involved in their education. Fostering a collaborative atmosphere encourages peer interaction and teamwork, which are essential skills for the modern workforce. This not only enhances learning but also builds a sense of community among students. Utilizing various digital tools can enhance instructional strategies, making learning more accessible and interactive. Creating inclusive classrooms that value diversity and accommodate different learning styles is vital. This inclusivity ensures that every student feels supported and empowered to succeed. As education continues to evolve, embracing innovative teaching methods and technology integration will be crucial for preparing students to meet the challenges of the future.

REFERENCES

1. Law, N., Kampylis, P., & Punie, Y. (2015). Pathways to enhance multilevel learning for scaling up systemic ICT-enabled learning innovations: Lessons from 7 European and Asian cases. *Scaling educational innovations*, 197-223.
2. Konstantinidou, E., & Scherer, R. (2021). Teaching with technology: A large-scale, international, and multilevel study of the roles of teacher and school characteristics. *Computers & Education*, 179, 1224. <https://doi.org/10.1016/j.compedu.2021.104424>

3. Sevy-Biloon, J. R. F. (2016). Teaching a Large Multi-Level Class Using Different Strategies and Activities to Motivate English Language Learning.
4. AlSalouli, M., AlGhamdi, M., AlShaya, F., AlMufti, A., Aldarwani, B., & Pagliarani, S. (2024). The impact of science teaching strategies in the Arabic. speaking countries: A multilevel analysis of TIMSS 2019 data. *Helixon*, 10(5), e27062. <https://doi.org/10.1016/j.heliyon.2024.e27062>
5. Hsu, S., & Kuan, P. Y. (2013). The impact of multilevel factors on technology integration: The case of Taiwanese grade 1–9 teachers and schools. *Educational Technology Research and Development*, 61, 25-50.
6. Liu, F., Ritzhaupt, A. D., Dawson, K., & Barron, A. E. (2017). Explaining technology integration in K-12 classrooms: A multilevel path analysis model. *Educational Technology Research and Development*, 65, 795-813.
7. Fang, G., Li, X., Chan, P. W. K., & Kalogeropoulos, P. (2024). A multilevel investigation into teacher-supported student use of technology in East Asian classroom: Examining teacher and school characteristics. *Computers & Education*, 218, 105092.