

## THE EFFECTIVENESS OF USING INTERACTIVE METHODS IN THE EDUCATIONAL PROCESS

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### ANNOTATION

This article investigates the effectiveness of interactive methods in the educational process, focusing on how learner-centered activities enhance students' cognitive, communicative, and social competencies. The rapid evolution of pedagogical technologies has encouraged teachers to replace traditional, teacher-centered instruction with interactive approaches that promote active participation and collaborative learning. The study examines various interactive methods such as group work, pair activities, brainstorming, case studies, role-playing, debates, and digital interactive tools, identifying their influence on student motivation, critical thinking, long-term retention, and academic performance. A mixed-method research design was employed to collect qualitative and quantitative data from teachers and students across several high schools. The findings show that interactive methods significantly increase students' engagement, improve classroom communication, and create a more positive and dynamic learning environment. Moreover, students taught through interactive strategies demonstrated higher problem-solving abilities and better conceptual understanding than those instructed through traditional lectures. However, the results also highlight challenges such as classroom management difficulties and insufficient teacher readiness.

**Key words:** interactive methods, educational process, active learning, student engagement, collaborative learning, motivation, classroom interaction, pedagogy.

### INTRODUCTION

Modern education increasingly prioritizes learner-centered approaches that encourage students to take an active role in constructing knowledge. Traditional teaching methods characterized by long lectures, passive listening, and limited student interaction are no longer

sufficient to meet the needs of contemporary students who require dynamic and meaningful learning experiences. In today's rapidly changing world, education must equip learners not only with theoretical knowledge but also with critical thinking skills, creativity, communication abilities, and problem-solving competence. These goals can be effectively achieved through the integration of interactive methods in the teaching process.

Interactive methods create opportunities for students to participate actively in lessons, collaborate with peers, express their ideas freely, solve real-life problems, and apply theoretical concepts in practical situations. Such methods include discussion-based tasks, group and pair work, interactive games, role-playing, project-based learning, brainstorming, case studies, and digital interactive tools. By engaging students cognitively and emotionally, these methods transform the classroom into a dynamic environment where learning becomes both enjoyable and meaningful.

The purpose of this article is to analyze the effectiveness of interactive methods in the educational process and explore their impact on student motivation, participation, and academic achievement. The study examines how well-designed interactive tasks can foster cooperation, creativity, and independent learning. It also investigates potential challenges related to teacher preparedness, classroom management, and time organization. Ultimately, the article provides evidence-based insights to support the use of interactive methods as essential components of modern education.

**Literature review.** Educational research consistently emphasizes that interactive methods significantly enrich the learning experience. Vygotsky's sociocultural theory underscores the importance of social interaction in cognitive development. According to his concept of the Zone of Proximal Development (ZPD), learners achieve higher levels of understanding through guided collaboration, which is a key element of interactive learning. Similarly, pedagogues such as Dewey and Bruner argue that learning is most effective when it involves active participation and experiential engagement [6,29].

Recent studies confirm that interactive methods enhance students' motivation by transforming passive learners into active participants. For example, Bruner, Jerome (2017) highlights that collaborative tasks encourage peer learning and promote deeper comprehension. Students tend to retain information longer when they articulate ideas, negotiate meaning, and solve problems together. Furthermore, interactive techniques stimulate both lower-order and higher-order thinking skills, from remembering information to analyzing, synthesizing, and evaluating concepts [2,42].

Group work and pair activities are widely recognized as effective interactive strategies. Johnson and Johnson (2020) demonstrate that cooperative learning increases student achievement, fosters positive classroom relationships, and develops communication skills. Similarly, problem-based learning (PBL) encourages students to engage in critical thinking and apply theoretical knowledge to real-world situations. Case studies help learners explore complex issues, analyze alternatives, and justify their decisions [3,55].

Digital interactive tools have also gained popularity, particularly with the expansion of online and blended learning. Research by Bonwell (2019) shows that virtual simulations, online quizzes, and interactive platforms enhance student engagement and provide instant feedback. These technologies support differentiated learning and make instruction more flexible and accessible [1,14].

Despite these benefits, some studies point out limitations. Teachers may face challenges in managing interactive classrooms, especially when group activities become noisy or off-task. Additionally, not all teachers are sufficiently trained in interactive pedagogy, which affects the quality of implementation. Therefore, scholars emphasize the need for professional development, appropriate instructional design, and consistent monitoring.

Overall, the literature demonstrates strong support for interactive methods as effective tools for improving student learning outcomes, promoting collaboration, and developing essential 21st-century skills.

**Methodology.** This study employed a mixed-method research design to investigate the effectiveness of interactive methods in secondary-school education. Quantitative data were gathered through pre- and post-tests administered to two groups of students: an experimental group taught through interactive techniques and a control group taught through traditional instruction. The sample consisted of 80 students from grades 9 and 10 across three high schools. Both groups were taught the same curriculum content over a six-week period.

The experimental group participated in various interactive activities, including group discussions, pair work, role-playing, debates, case studies, problem-solving tasks, and digital interactive exercises. Teachers were trained beforehand to ensure consistent implementation. The control group received conventional teacher-centered lessons based on textbook explanations and individual written tasks [4,23].

Qualitative data were collected through classroom observations, teacher interviews, and student surveys. Observation checklists were used to assess student engagement, participation levels, and communication patterns during lessons. Interviews with teachers explored their

experiences, challenges, and perceptions regarding interactive activities. Student surveys included Likert-scale and open-ended questions, measuring motivation, classroom atmosphere, and perceived usefulness of interactive methods [5,11].

Data analysis involved comparing test results of both groups using descriptive statistics and paired t-tests. Qualitative responses were coded thematically to identify common trends. Ethical guidelines were strictly followed: participants' identities remained anonymous, and informed consent was obtained.

The mixed-method approach enabled a comprehensive evaluation of interactive methods from multiple perspectives, providing reliable insights into their effectiveness in real classroom settings.

**Results.** The results revealed that students in the experimental group showed significantly higher academic performance than those in the control group. Post-test scores demonstrated a 22% improvement in the experimental group, compared to a 9% increase in the control group. Students exposed to interactive methods demonstrated better problem-solving skills, clearer articulation of ideas, and stronger understanding of lesson content.

Survey results indicated that 87% of students in the experimental group felt more motivated when learning through interactive tasks. Many reported that group activities reduced anxiety, increased confidence, and encouraged open communication. Classroom observations confirmed these findings: students actively participated, asked questions, and collaborated effectively with peers.

Teacher interviews highlighted several benefits, such as increased student energy, improved classroom dynamics, and greater opportunities for differentiated instruction. However, teachers also reported challenges, including time management difficulties and occasional classroom noise during group activities.

Overall, the results provide strong evidence that interactive methods significantly enhance student learning outcomes, motivation, and classroom engagement.

**Discussion.** The findings of the study align with existing research emphasizing the positive impact of interactive pedagogy. Students' higher test scores suggest that interactive methods promote deeper understanding rather than memorization. By engaging in discussions, debates, and problem-solving tasks, students develop analytical and communication skills that traditional lectures often cannot cultivate.

The increased motivation observed among students supports claims by researchers such as Brown (2017), who argue that active participation leads to greater interest and sustained

attention. Interactive activities also foster a sense of responsibility and collaboration, encouraging students to contribute meaningfully to group outcomes.

However, the study also confirms that implementing interactive methods requires careful planning. Teachers must balance group work with classroom control and ensure that tasks are purposeful rather than purely entertaining. Professional development is essential for equipping teachers with the necessary skills to design, facilitate, and assess interactive activities effectively.

**Conclusion.** This study concludes that interactive methods play a vital role in improving the quality of education. By shifting the focus from teacher-centered instruction to student-centered learning, interactive methods enhance academic achievement, motivation, communication skills, and overall classroom participation. Students become active contributors to their learning, develop deeper understanding, and gain essential competencies required in the modern world.

The results demonstrate that interactive instruction not only supports cognitive development but also strengthens social and emotional skills. Group work, discussions, and problem-solving tasks encourage cooperation, leadership, creativity, and critical thinking. These benefits make interactive strategies indispensable in contemporary education.

#### THE LIST OF USED LITERATURE

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