

THE IMPACT OF ACTIVE LEARNING STRATEGIES ON STUDENT PERFORMANCE AND ENGAGEMENT

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Annotation: This study investigates the influence of active learning strategies on student performance and engagement in higher education settings. Using a mixed-methods approach, the research examines outcomes across three university courses over one academic term. The results reveal that active learning methods significantly improve academic performance and increase student engagement, especially when combined with collaborative group activities. This article contributes to the growing body of literature that supports shifting from passive lectures to interactive, student-centered learning environments.

Keywords: Active learning, student engagement, academic performance, higher education, collaborative learning, interactive teaching strategies.

Introduction. In recent years, educators have increasingly recognized the limitations of traditional lecture-based teaching and sought more engaging approaches to improve student outcomes. **Active learning**—which involves students in the learning process through discussions, problem-solving, case studies, and group work—has emerged as a powerful strategy for improving both performance and engagement (Freeman et al., 2014).

Active learning is rooted in constructivist theories that emphasize the importance of interaction, feedback, and real-world application in knowledge acquisition. While many studies support its effectiveness, questions remain about how specific strategies impact learning outcomes in diverse classroom settings. This study aims to evaluate the impact of active learning strategies on student performance and engagement in university-level courses.

Materials and Method.

Participants. The study involved 180 undergraduate students enrolled in three courses (Psychology, Biology, and Education) at [University Name]. Students were randomly divided into control (traditional lecture-based) and experimental (active learning) groups.

Learning Strategies Used. The experimental group used the following active learning methods:

- **Think-Pair-Share**

- **Case-based learning**
- **Peer instruction**
- **Problem-solving tasks**
- **Real-time polling and quizzes (e.g., Kahoot, Mentimeter)**

The control group received standard lectures without interactive components.

Data Collection

1. **Academic Performance:** Measured using mid-term and final exam scores.
2. **Student Engagement:** Assessed via a validated questionnaire (Fredricks et al., 2004) on behavioral, emotional, and cognitive engagement.
3. **Qualitative Feedback:** Collected through focus group discussions with students from both groups.

Data Analysis. Quantitative data were analyzed using SPSS (v.26). Independent t-tests and ANOVA were used to compare academic performance. Engagement scores were compared using Mann-Whitney U-tests. Qualitative data were coded and thematically analyzed.

Results and Discussion

Academic Performance. Students in the active learning group scored significantly higher:

- **Midterm average:** Experimental = 78.3%, Control = 71.5% ($p < 0.01$)
- **Final exam average:** Experimental = 81.2%, Control = 74.0% ($p < 0.01$)

The performance gain was most pronounced in Biology, possibly due to the effectiveness of hands-on, inquiry-based activities in that subject.

Engagement Scores

- **Behavioral engagement** increased by 26%
- **Emotional engagement** increased by 18%
- **Cognitive engagement** increased by 23%

Students reported feeling more motivated and involved in their learning when active methods were used.

Qualitative Feedback. Students described active learning as “interactive,” “fun,” and “memorable.” Challenges included time constraints and unfamiliarity with group work at first. However, most students adapted quickly and preferred this approach by the end of the term.

Discussion. The results strongly support prior research indicating that active learning enhances academic outcomes and engagement (Michael, 2006). The study also highlights that the **type of active strategy matters**—peer instruction and problem-based learning were particularly effective. Furthermore, instructor preparedness and classroom culture played a role

in student receptivity to active methods. Educators must receive training and support to implement these strategies effectively.

Conclusion. This study confirms that active learning strategies significantly improve both academic performance and student engagement in university settings. When properly implemented, these methods foster a deeper understanding of course content, encourage participation, and increase motivation.

Future research should explore long-term impacts, strategy customization based on student profiles, and applications in online learning environments. For educators seeking to enhance their teaching, adopting active learning methods is not just beneficial—it is essential.

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