

Chapter 8

Ways to Help Students Who May Be Struggling Online

ABSTRACT

The onset of the pandemic posed significant challenges for individuals, stakeholders, and society at large, with education being one of the sectors most at risk due to the potential exposure of students, instructors, and instructional designers in face-to-face settings. This situation exerted pressure on individuals, schools, and society, as swift adjustments and changes were required. Many educators were anxious about the duration of the pandemic and how they could continue to provide education to students. This issue profoundly impacted students, who struggled with their education and lost motivation, uncertain whether they could complete or even embark on their educational journey. This shift in educational techniques necessitated the implementation of innovative solutions to accommodate the changes in the realm of education.

INTRODUCTION

When enhancing performance, it is crucial to comprehend the learning environment, the diversity of student groups, the role of technology, and how the curriculum is delivered. Almulla (2023) explored the influence of constructivism, a learning theory, on students' critical thinking, creativity, problem-solving abilities, and academic performance. The author identified a correlation between these factors and proposed a structural model that aligns learning objectives, teaching methodologies, and assessment techniques to bolster these skills. The research affirmed the connection between critical thinking, creativity, problem-solving, academic performance, and

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overall achievement, highlighting the significant impact of constructivism on these areas. The author suggested harnessing learning motivation, collaboration, and peer interaction as strategies to cultivate critical thinking and boost student creativity. Instructional designers can take a task based on the course objectives and choose real-world problems. Then, they can design tasks to complete the problem and provide varying resources to encourage critical thinking, collaborative teamwork, and valuable reflections on the outcome of the problem.

In another research conducted by Cabrera-pMejia, Martinez-Suarez, Ramirez-Coronel, Montanez-Torres, Torracchi-Carrasco, and Castro-Ochoa (2020), the impact of problem-based learning on academic performance was investigated in the context of the theory of forgotten (fuzzy) effects. They looked at numerous elements that influence higher education, such as the lack of information, the structure of the curriculum, the attitudes of teachers, the workload, the absence of a culture of research, motivation, and changes in public policies. Their research revealed that adopting a problem-based learning methodology in engineering resulted in a 15% improvement in academic performance. This method was designed to enhance both academic performance and student outcomes. Their study highlighted the significance of efficient teaching strategies, assessment methods, and the need to refresh syllabus content and provide teacher training to boost learning outcomes. They stressed the importance of keeping information current, which is crucial for a course's success, and ensuring students feel they are acquiring the most up-to-date knowledge.

Chen, Hung, and Yeh (2021) emphasized the significance of incorporating virtual reality (VR) technology into a problem-based learning (PBL) framework, demonstrating its potential to boost problem-solving performance and motivation in English language learning. Their study explored how VR technology could influence vocabulary acquisition, motivation, and problem-solving skills when integrated into a problem-solving context. The findings revealed that certain groups outperformed in terms of vocabulary acquisition and motivation compared to the control group, which showed no notable difference in problem-solving skills. The researchers utilized a VR application named EduVenture to facilitate immersive VR learning experiences. Incorporating VR technology into PBL engages students in English language learning and contributes to English proficiency, which is beneficial for future career prospects and fosters a positive attitude toward English.

In addition to VR technology, Lee, Hwang, and Chen (2022) discussed how AI-based chatbots impact college students after class review, along with academic performance, self-efficacy, learning attitude, and motivation in health courses. Lee, Hwang, and Chen (2022) noted that “The impacts of AI-based chatbots on college students, according to the article, include:

- Improvement in academic performance

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