The Role of Multiplayer Online Educational Games in Enhancing Critical Thinking

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Sections Info	ABSTRACT
	Objective: This research aims to determine the role of multiplayer online educational games in enhancing students' critical thinking skills. **Method:** This study utilizes a systematic review method guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) approach. A comprehensive search was conducted using Scopus, PubMed, and Web of Science (WoS) databases, identifying studies that focused on multiplayer online educational games and their impact on critical thinking skills. Out of 910 studies identified, 20 met the inclusion criteria after a rigorous screening. **Results**: The results indicate a positive association between multiplayer educational games and enhancing critical thinking skills across various educational settings. Key aspects extracted include game design, educational context, participant demographics, and methodologies for assessing critical thinking outcomes. However, variability in game designs and measurement tools highlights a need for standardized assessment approaches in future research. **Novelty**: This review underscores the evolving potential of multiplayer online educational games as innovative tools for developing critical thinking skills. With the increasing integration of digital technologies in education, this study sheds light on how game-based learning can address 21st-century educational needs by fostering essential cognitive skills.

INTRODUCTION

Critical thinking is increasingly recognized as a core competency for students in the 21st century due to its essential role in navigating the complexities of modern life. The rapid technological, economic, and societal changes demand that individuals possess the ability to adapt and innovate, making critical thinking a vital skill for success and prosperity in this era (Todorova, 2024). It equips students with the ability to solve problems, make informed decisions, and generate innovative solutions, which are crucial for personal and professional development (Mardatillah & Prayudha.S, 2024). Educational strategies such as Problem-Based Learning (PBL) have effectively enhanced critical thinking skills, as evidenced by significant improvements in students' abilities to understand and apply complex concepts (Wardani & Fiorintina, 2023).

Furthermore, critical thinking is closely linked to logical reasoning, which provides a foundation for understanding and evaluating information critically, thus enabling individuals to combat misinformation and make sound judgments. Integrating critical thinking into educational curricula prepares students to tackle complex challenges and fosters a lifelong learning mindset, encouraging adaptability and continuous skill development (Ramamonjisoa, 2024). Therefore, developing critical thinking skills is about enhancing academic performance and preparing students to become responsible,

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