

Generative AI and critical thinking in online higher education: challenges and opportunities

Muñoz Martínez, C., Roger-Monzo, V., & Castelló Sirvent, F. (2025). Generative AI and critical thinking in online higher education: challenges and opportunities. *RIED-Revista Iberoamericana de Educación a Distancia*, 28(2).

<https://doi.org/10.5944/ried.28.2.43556>

IAG and education

Generative Artificial Intelligence (GAI) is reshaping higher education, particularly in virtual learning environments where the prevalence of asynchronous activities requires students to take an active role in managing their learning.



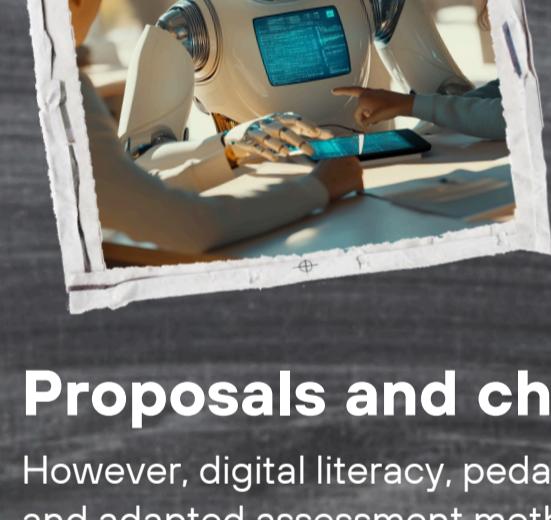
Challenges

Its integration presents both challenges and opportunities for educators, who not only support critical thinking but also need technopedagogical skills to guide its ethical and reflective use.



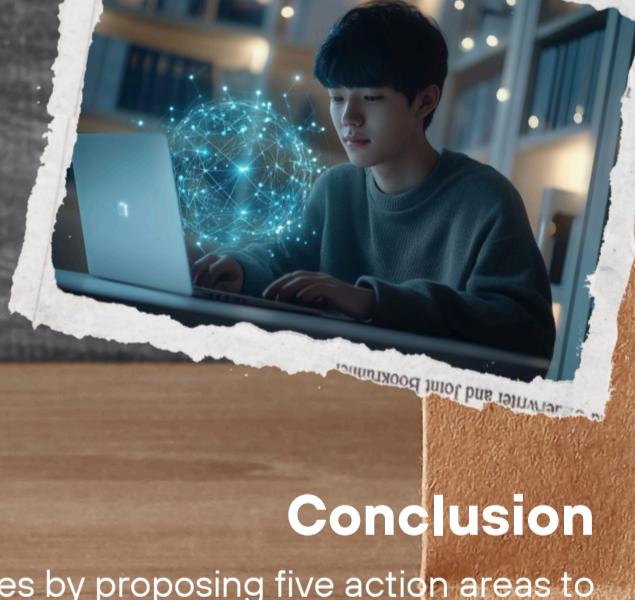
Five dimensions

This exploratory study examines the incorporation of GAI in distance education across five dimensions: barriers that limit critical thinking, factors that can enhance it, available socio-technological alternatives, social challenges, and the broader implications of strengthening this skill.



Qualitative approach

A qualitative approach was used, based on semi-structured interviews with eleven higher education experts. The findings highlight key obstacles, including limited teacher training in GAI and critical thinking, institutional resistance, and a lack of clear guidelines.



Proposals and challenges

However, digital literacy, pedagogical innovation, and adapted assessment methods can help overcome these barriers. Among the proposed solutions are the development of edu-chatbots in controlled university environments and frameworks to assess algorithmic biases. Even so, ensuring equitable access and avoiding an uncritical reliance on AI remain significant challenges.



Conclusion

This study contributes by proposing five action areas to support educators and academic decision-makers in integrating GAI and shaping educational policies. Its implementation requires collaboration between institutions, faculty, and policymakers to ensure that AI-driven automation not only enhances educational processes but also fosters critical thinking in a meaningful way.