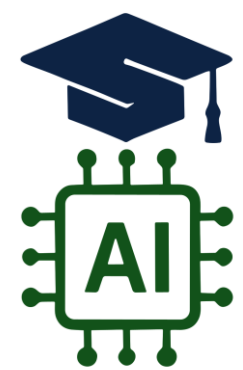


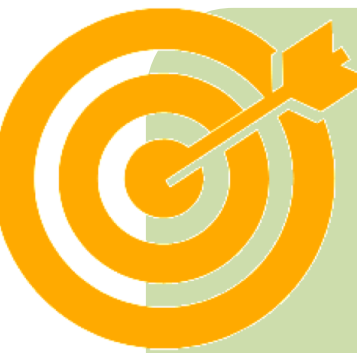
Pre-service Teachers' Perceptions of Artificial Intelligence in Primary Mathematics Education

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INTRODUCTION & AIM



The integration of Artificial Intelligence (AI) into Primary Education poses a pedagogical dilemma between technological efficiency and the development of logical reasoning.



This study aims to explore pre-service teachers' perceptions and lived experiences regarding the deployment of AI in mathematics education, with a focus on its curricular articulation and its impact on their emerging professional identity.

METHOD



Design: Qualitative study with a phenomenological approach.



Participants: 32 pre-service teachers enrolled in the Primary Education Degree at the Faculty of Education and Psychology (University of Extremadura).



Data collection: Open-ended narratives about the use of AI in mathematics education.



Data analysis: Content analysis supported by RLQDA software. Codes were developed inductively and organized into major categories and themes related to curricular articulation and professional identity.

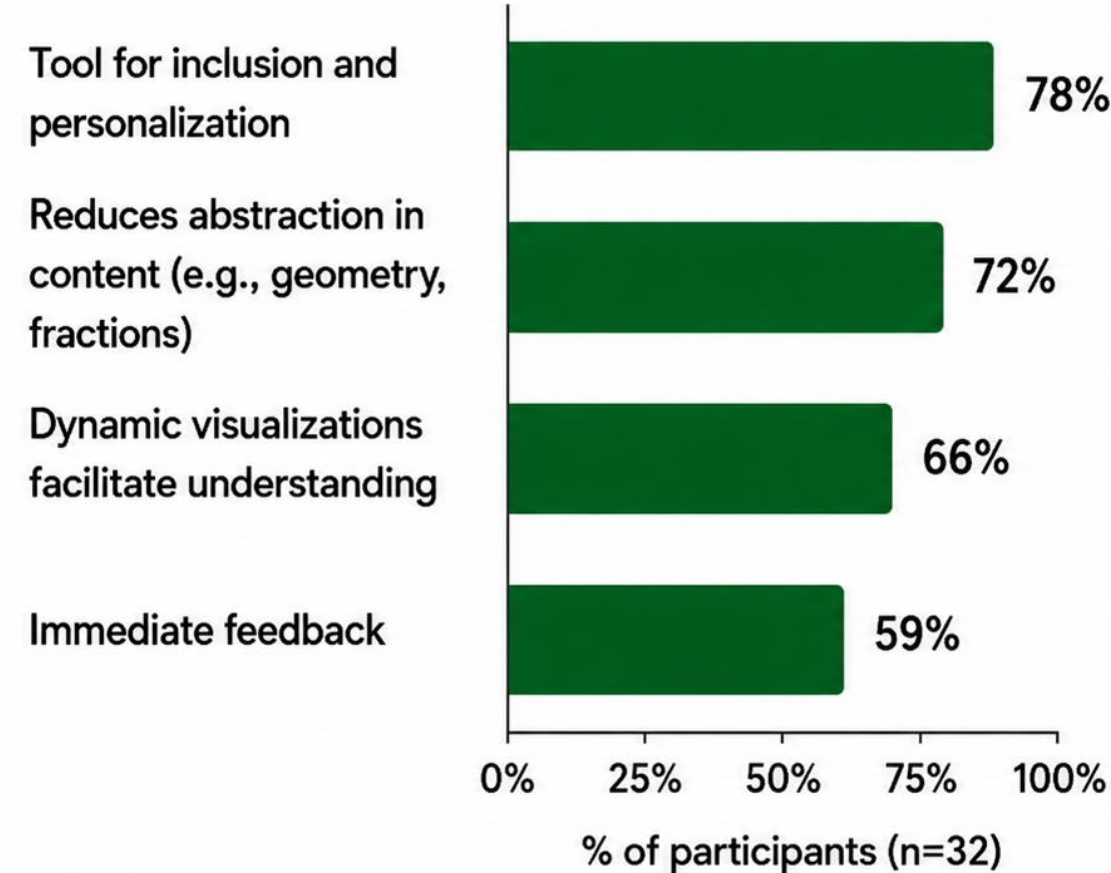


Trustworthiness: Triangulation of coders and review of categories to ensure credibility and dependability.

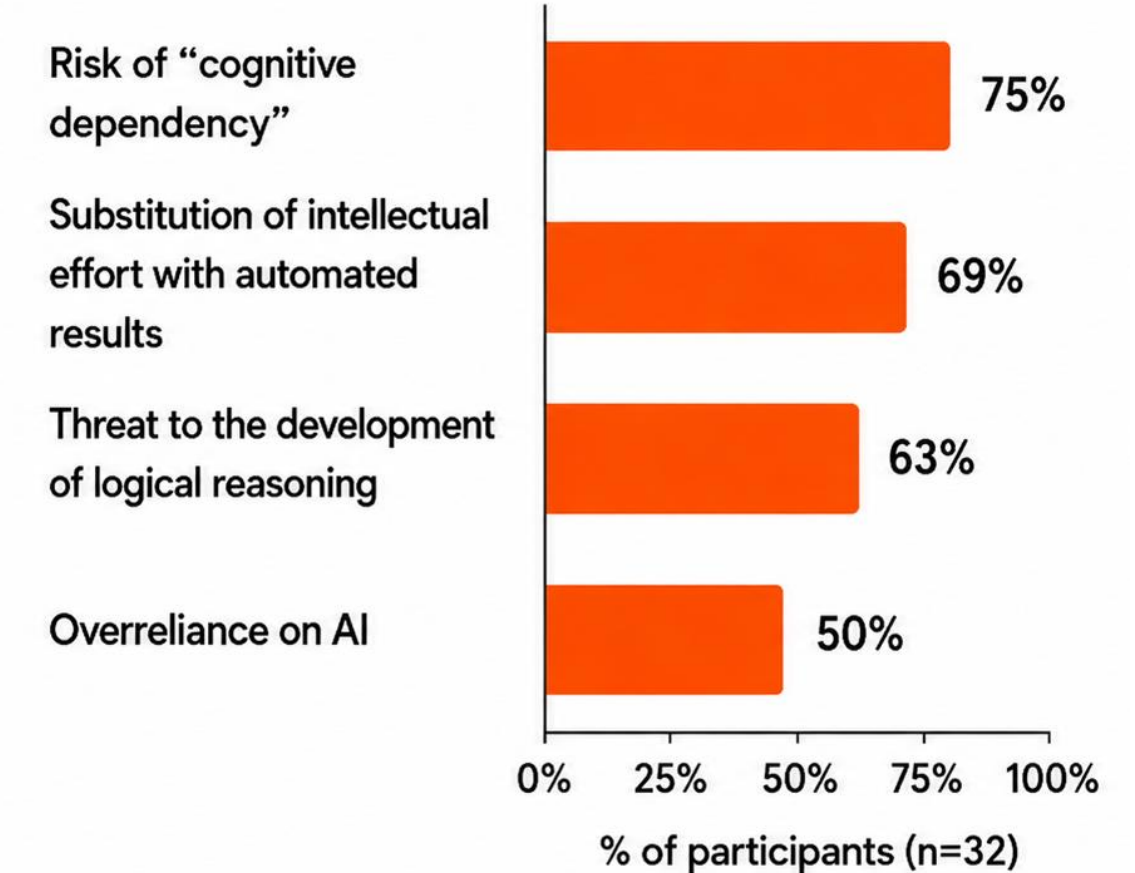
RESULTS & DISCUSSION

1. Dualistic perception of AI:

Perceived Opportunities

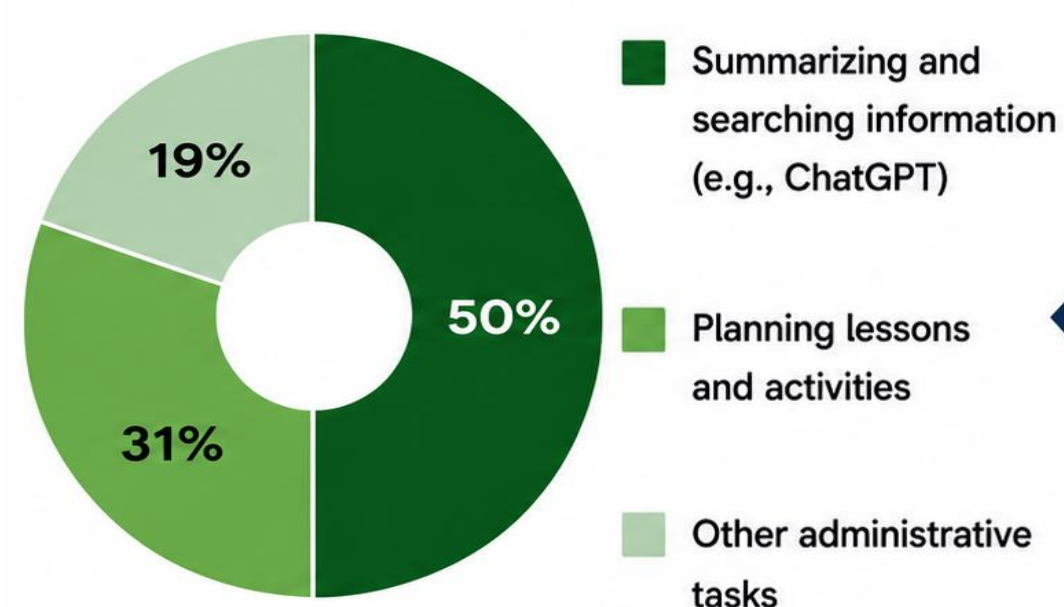


Perceived Concerns

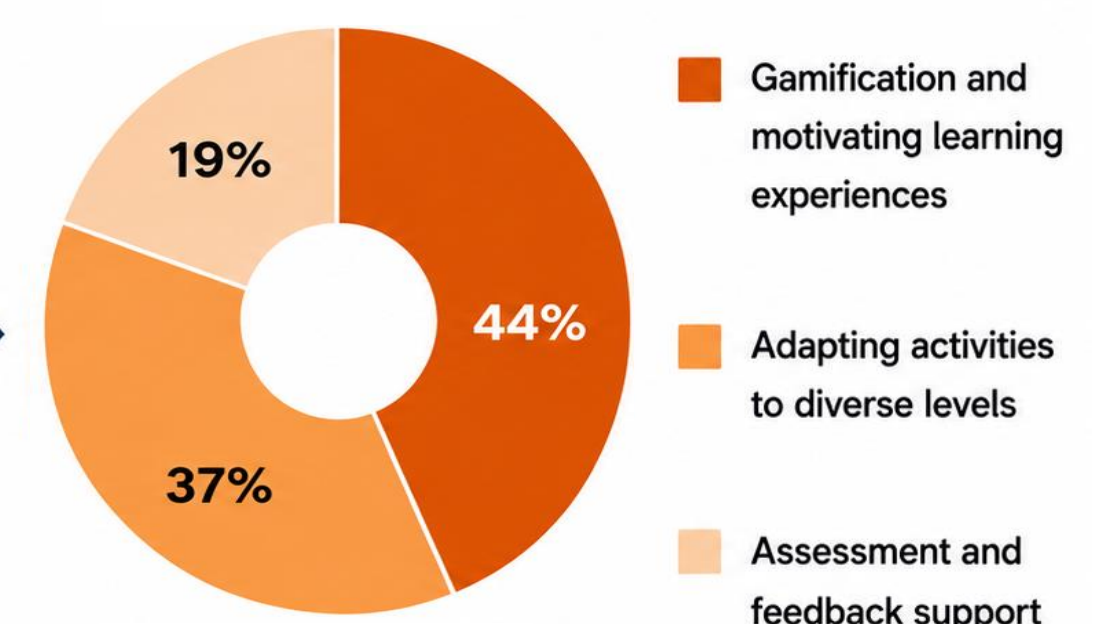


2. Gap between personal and didactic use of AI:

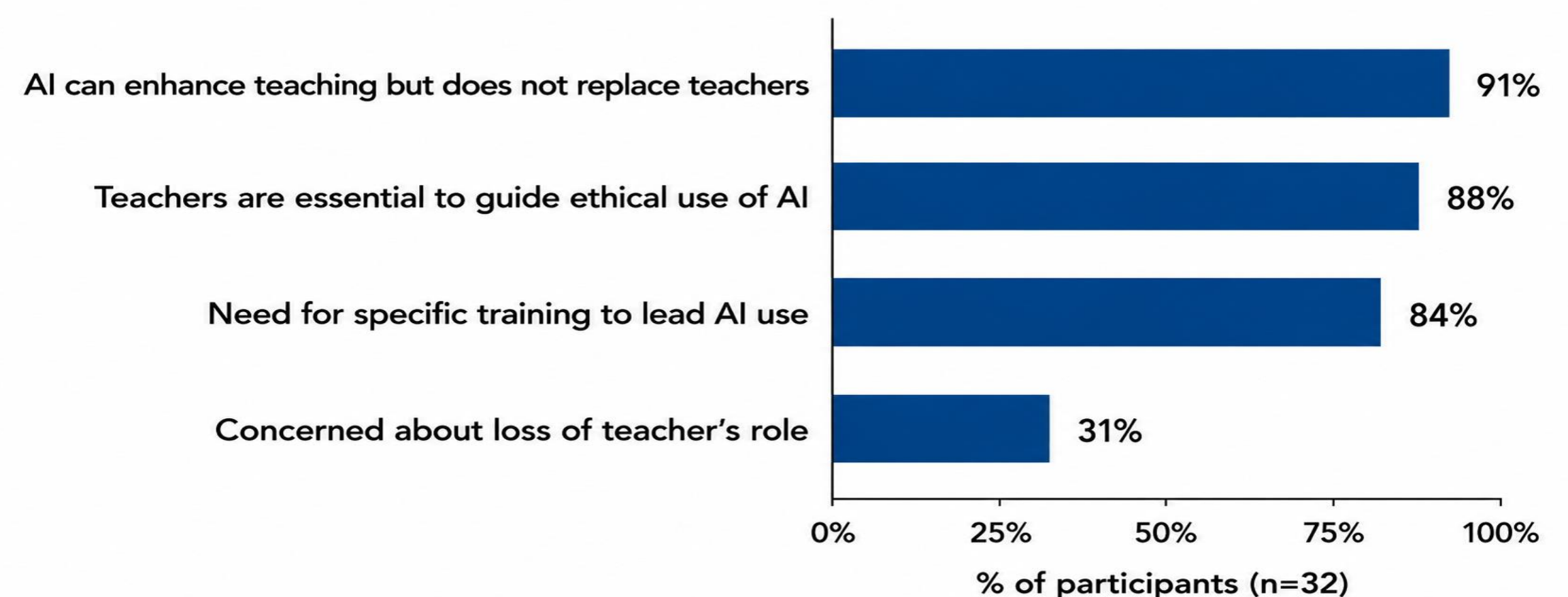
Personal use of AI (Instrumental & Administrative)



Didactic use of AI (Projected) in the classroom



3. Professional identity: AI as a tool, not a replacement:



CONCLUSION

Pre-service teachers recognize the potential of AI to enhance teaching and learning in mathematics, particularly through inclusion, personalization, curricular adaptation, and immediate feedback. However, they are aware of the risks of cognitive dependency and the possible erosion of logical reasoning. They do not reject the technology but demand training and guidance to use it ethically and pedagogically, reaffirming their essential role as human guides in the learning process.

AI should empower teachers, not replace them.

FUTURE WORK / REFERENCES

- Holmes, W., Bialik, M., & Fadel, C. (2019). *Artificial intelligence in education: Promises and implications for teaching and learning*. Center for Curriculum Redesign.
- Luckin, R., Holmes, W., Griffiths, M., & Forcier, L. B. (2016). *Intelligence unleashed: An argument for AI in education*. Pearson.
- Zawacki-Richter, O., Marín, V. I., Bond, M., & Gouverneur, F. (2019). Systematic review of research on artificial intelligence applications in higher education – Where are the educators? *International Journal of Educational Technology in Higher Education*, 16(1), 39. <https://doi.org/10.1186/s41239-019-0171-0>