

Integrating Generative AI in Anesthesiology Education: A Comparative Evaluation of AI-Enhanced and Traditional Curricula



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Introduction

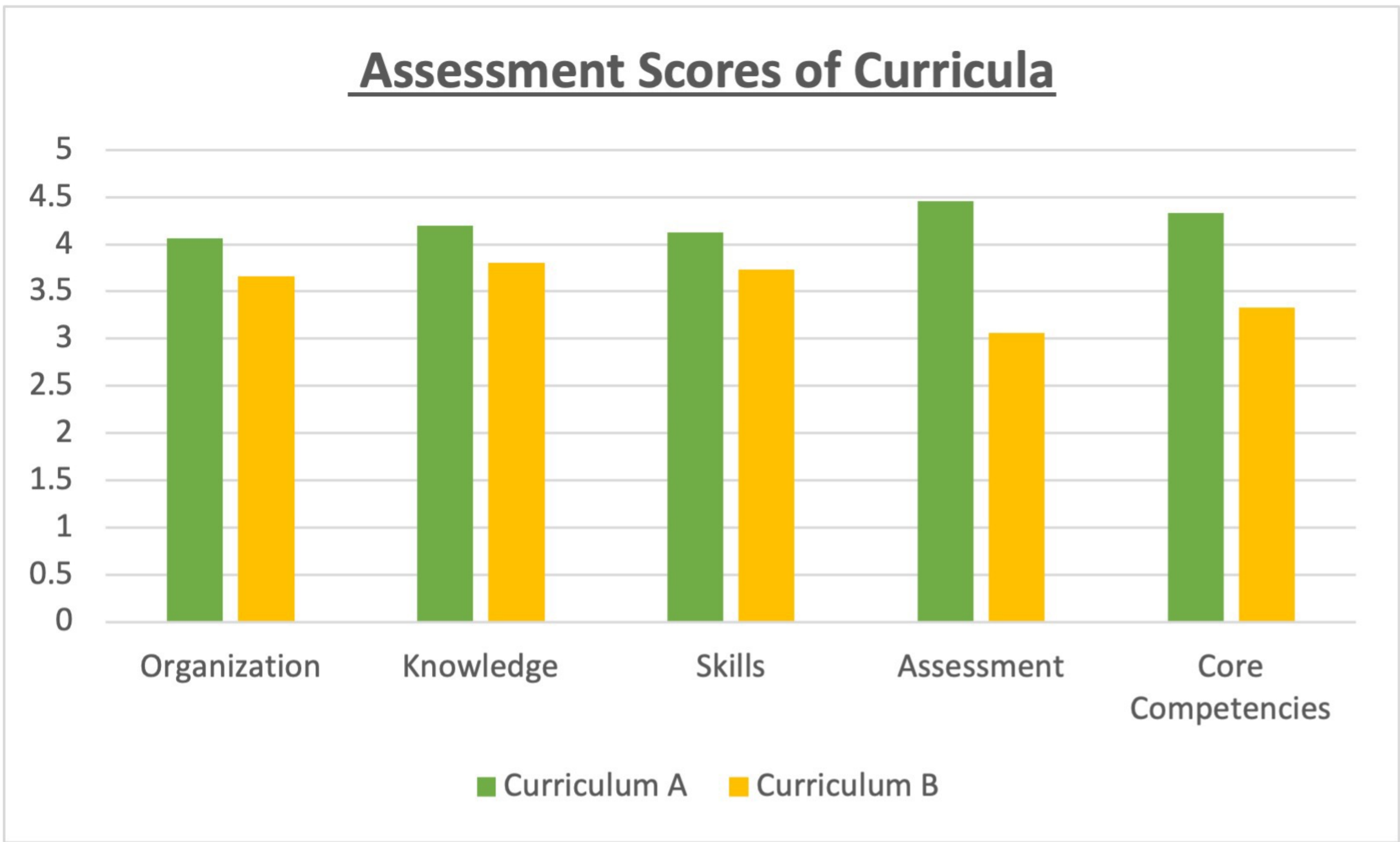
- Generative AI shows promise for enhancing medical education but lacks data on its efficacy and reliability.
- There's a crucial need for thorough evaluation of AI tools in residency curricula, especially in specialized fields.
- Adapting curricula to the unique needs of residency programs is challenging, emphasizing the need for flexible educational strategies.
- The study explores the use of generative AI to develop and compare a model curriculum against existing ones for anesthesiology residents.

Methods

- Study conducted with an anonymous faculty survey to evaluate AI-generated and existing anesthesiology curricula, exempt from IRB review.
- Generative AI (ChatGPT, OpenAI) used to create Curriculum A based on latest guidelines and Curriculum B by analyzing existing program structure.
- Faculty anonymously rated both curricula on organization, knowledge content, skill development, feedback mechanisms, and ACGME competencies.
- Evaluation conducted via Qualtrics XM survey, using a 5-point Likert scale, without disclosing which curriculum was AI-generated.
- Results compiled in Excel, calculating average scores for each curriculum's assessment categories.

Results

- AI-enhanced Curriculum A consistently fared better across all assessment domains compared to the traditional Curriculum B
- Most notable difference was in the inclusion of formal feedback and self-assessment and the coverage of all ACGME core competencies



Discussion

- Curriculum A, enhanced by AI, scored higher in all domains, indicating a better alignment with faculty expectations for comprehensive resident education in regional anesthesia.**
- AI's effective organization and presentation of content highlight its utility in curriculum development, integrating educational standards effectively.
- Study suggests AI-generated curricula can reinforce key competencies and adapt to evolving educational needs, emphasizing the importance of technology in education.**
- Despite potential recognition bias, the positive response towards AI-generated content supports its use in enhancing medical education, prompting further exploration and iterative improvement of curricula.

References

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