

Rowan University

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Rowan-Virtua Research Day

28th Annual Research Day

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### Incorporating AI Tools to Enhance Information Literacy and Critical Thinking in First Year Medical Students

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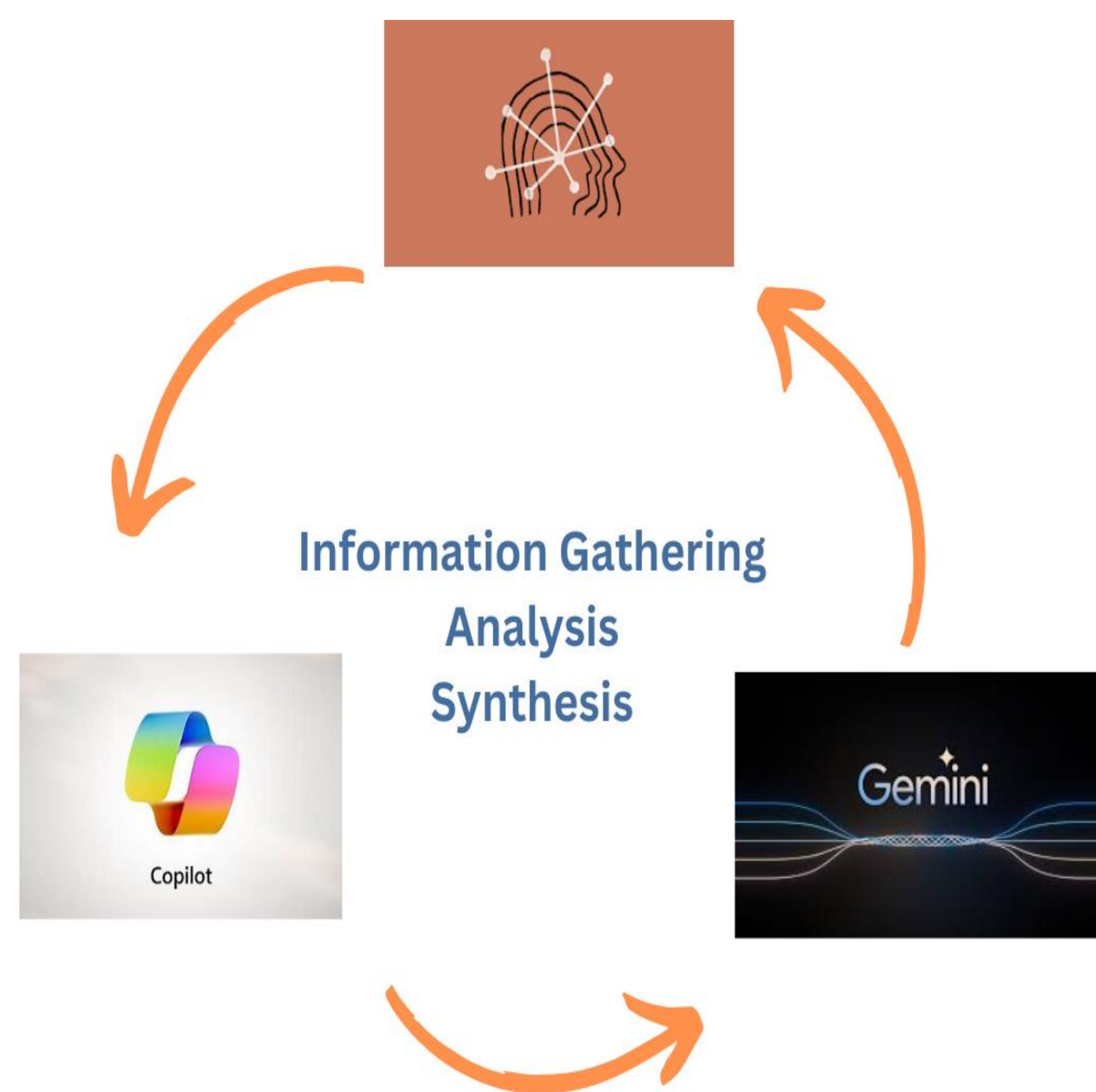
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## Objective

Determine the impact of an educational intervention using medical databases, search engines, and generative artificial intelligence (GAI) tools on first-year medical students' confidence and ability to generate effective questions, develop critical analysis skills and evaluate search results.



**Free AI resources provide all students with uniform opportunities to engage with research and analytical tools. Fair and accessible utilization of these technologies can guarantee that students' likelihood of success is not influenced by their background.**

## Tactics, Techniques & Procedures

- **Subjects:** Approximately 125 entering students at Rowan-Virtua School of Osteopathic Medicine (SOM) participating in a three-week pre-matriculation program.
- **Pre-test/Post-test:** CARS assessment and a perceived knowledge and abilities questionnaire to establish a baseline and measure changes in critical analysis skills and confidence in research-related tasks.
- **Intervention:** Three-week curriculum will focus on developing research questions, using search tools and GAI, evaluating sources, and writing a research paper.
- **Data Analysis:** Pre- and post-test CARS scores will be compared using a paired t-test, while responses to Likert-style and open-ended questions will be analyzed to assess changes in confidence and abilities.



## Hypotheses/Expectations

- Improved CARS assessment scores after the intervention, indicating enhanced critical analysis skills among participants
- Increased student confidence and abilities in
  - defining elements of an effective research question
  - creating and refining queries and prompts for search engines, academic databases, and GAI tools
  - evaluating the effectiveness of developed queries in academic/clinical settings
  - evaluating retrieved sources for validity, trustworthiness, and relevance using a provided rubric
- Establishment of a sustainable intervention that can be integrated into the SOM curriculum and shared with other medical schools through publication.

## Gathering Intel

Key questions and their corresponding average scores (5-point Likert scale) from an online survey conducted in February 2024 asking first year medical students about their use and perceptions of AI tools made available for academics (n=28).

Question	Average Score
How often do you use AI tools to help you with your academic tasks?	4.04
How satisfied are you with the quality and relevance of the AI-generated content?	4.38
The AI toolkit helps me save time and effort	4.62
The AI toolkit improves my research and presentation skills	4.31
The AI toolkit enhances my clinical reasoning and problem-solving abilities	4.23