

Enhancing Board Exam Readiness:

Evaluating ChatGPT's Ability to Act as a Study Aid for Pain Management Fellows

M. Vega-Garces, M.Maldonado
S. Biag

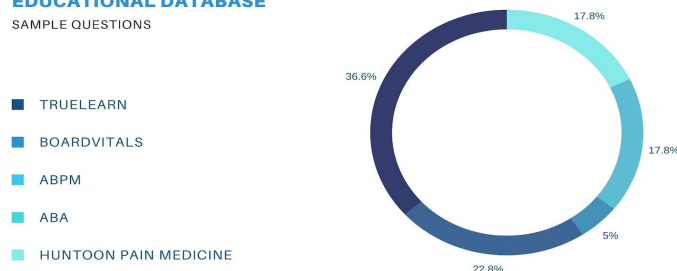
intro:

As artificial intelligence continues to advance, ChatGPT could emerge as a valuable asset in the educational landscape for medical residents.

Purpose:

The aim of this study is to evaluate the effectiveness of ChatGPT as a supplementary tool for pain management fellows preparing for their board exams.

EDUCATIONAL DATABASE
SAMPLE QUESTIONS



Discussion:

ChatGPT may be an effective resource for pain management fellows preparing for board examinations and augment traditional resident educational methods. It proved to answer board exam questions at the pain fellow level with relatively high accuracy in questions involving simple knowledge recall and complex clinical scenarios. The usage of external information in 98% of questions also demonstrated the effectiveness of the tool, as ChatGPT provided detailed explanations, reasoning, and sources for most of its answers. Furthermore, unlike traditional question banks which simply discuss the correct answer and the incorrect options, ChatGPT also demonstrated how it would analyze and answer a question, using stepwise logic. Using an artificial intelligence system to analyze how to approach questions can also be a valuable tool in preparing for board exams. Future studies could use larger data sets and compare different versions of ChatGPT with other artificial intelligence systems to better determine which version of artificial intelligence would be superior to assist those preparing for their board examinations.

Methods:

Chat GPT was given the complete question prompt along with the multiple choice answers. Exclusion criteria included questions containing images. All responses by ChatGPT were qualified using the properties of natural coherence

Questions:	Overall n=101	Correct n=84	Incorrect n=17
Natural Coherence:	n (%)	n (%)	n (%)
Logical			
Yes	58(57%)	49(58%)	9(56%)
No	19(19%)	35(42%)	8(44%)
Internal			
Yes	62(61%)	56(67%)	6(35%)
No	39(39%)	28(33%)	11(65%)
External			
Yes	94(93%)	83(98%)	11(65%)
No	7(7%)	1(2%)	6(35%)
Reason Incorrect			
Logical	n/a	n/a	7(41%)
Informational	n/a	n/a	7(41%)
Explicit	n/a	n/a	3(18%)



LAWS OF NATURAL COHERENCE

CORRECT:

- 1.Logical reasoning: The system utilizes logic and step- wise thinking to produce a response with the given in- formation in the question stem.
- 2.Internal information: The system utilizes information that is present within the question stem in order to procure a response.
- 3.External information: The system utilizes external information in order to produce a response, including citing literature.

INCORRECT:

- 1.Logical fallacy: The response demonstrates stepwise thinking in its response but fails to properly answer the question.
- 2.Informational fallacy: The response demonstrates logic but fails to attribute a key piece of information present in the question stem to properly answer the question.
- 3.Explicit fallacy: The response fails to demonstrate logic and is unable to utilize information in the question stem to properly answer the question.