



A cross-sectional study to assess the effectiveness of Large Language Model-based GPTs in enhancing the cognitive performance of medical students based on prior knowledge of the subject

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INTRODUCTION

Artificial Intelligence (AI) is the ability of digital computers or computer-controlled robots to carry out tasks commonly linked to human intelligence. This field involves the science and engineering of creating systems that can perform functions requiring human-like cognitive skills, such as learning, reasoning, and decision-making. This protocol aims to outline the effectiveness of AI in helping the MBBS students with and without prior knowledge in pharmacology.

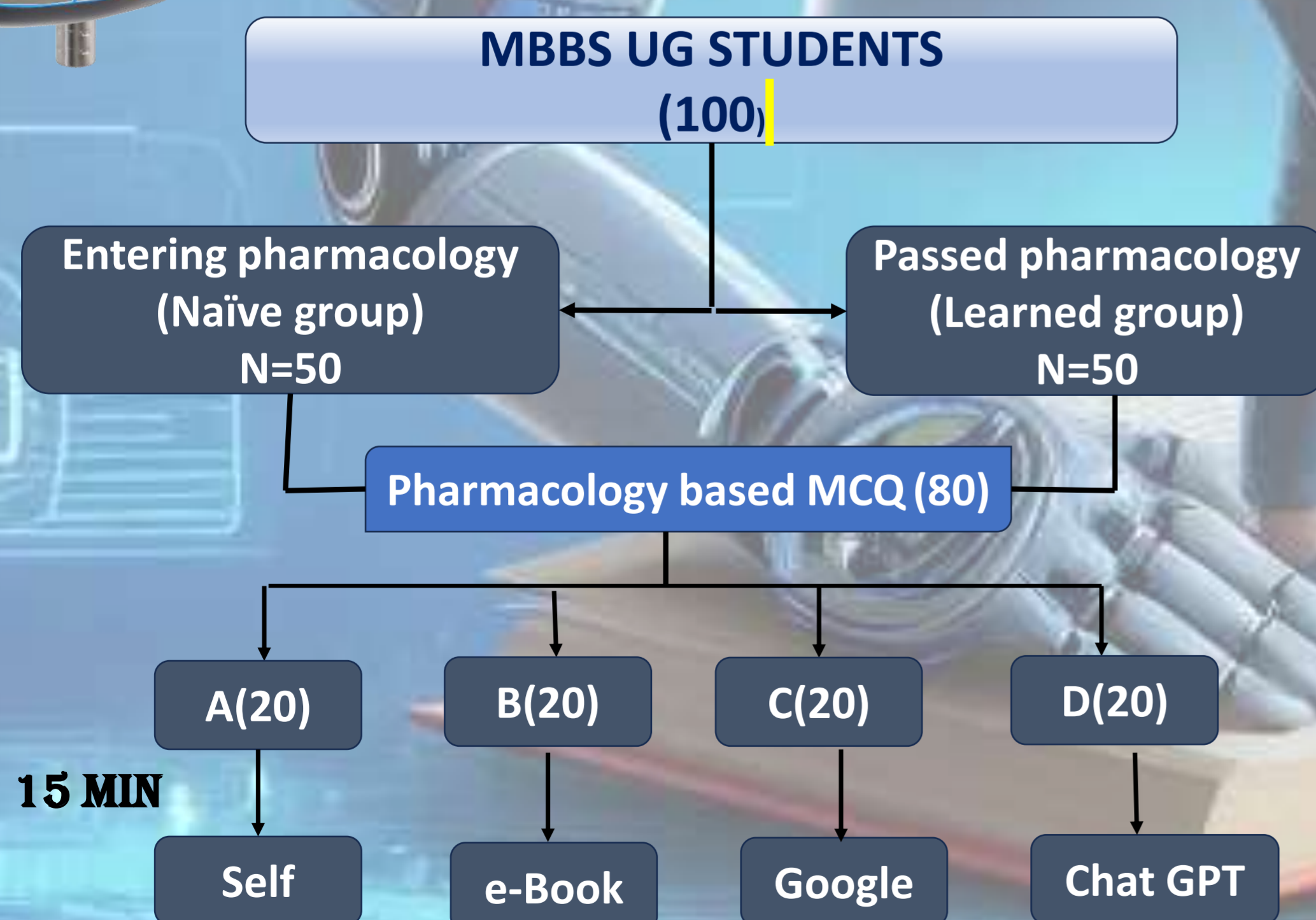
AIM

To study the effectiveness of LLM-based GPTs in enhancing the cognitive performance of medical students based on prior knowledge of the subject.

OBJECTIVES

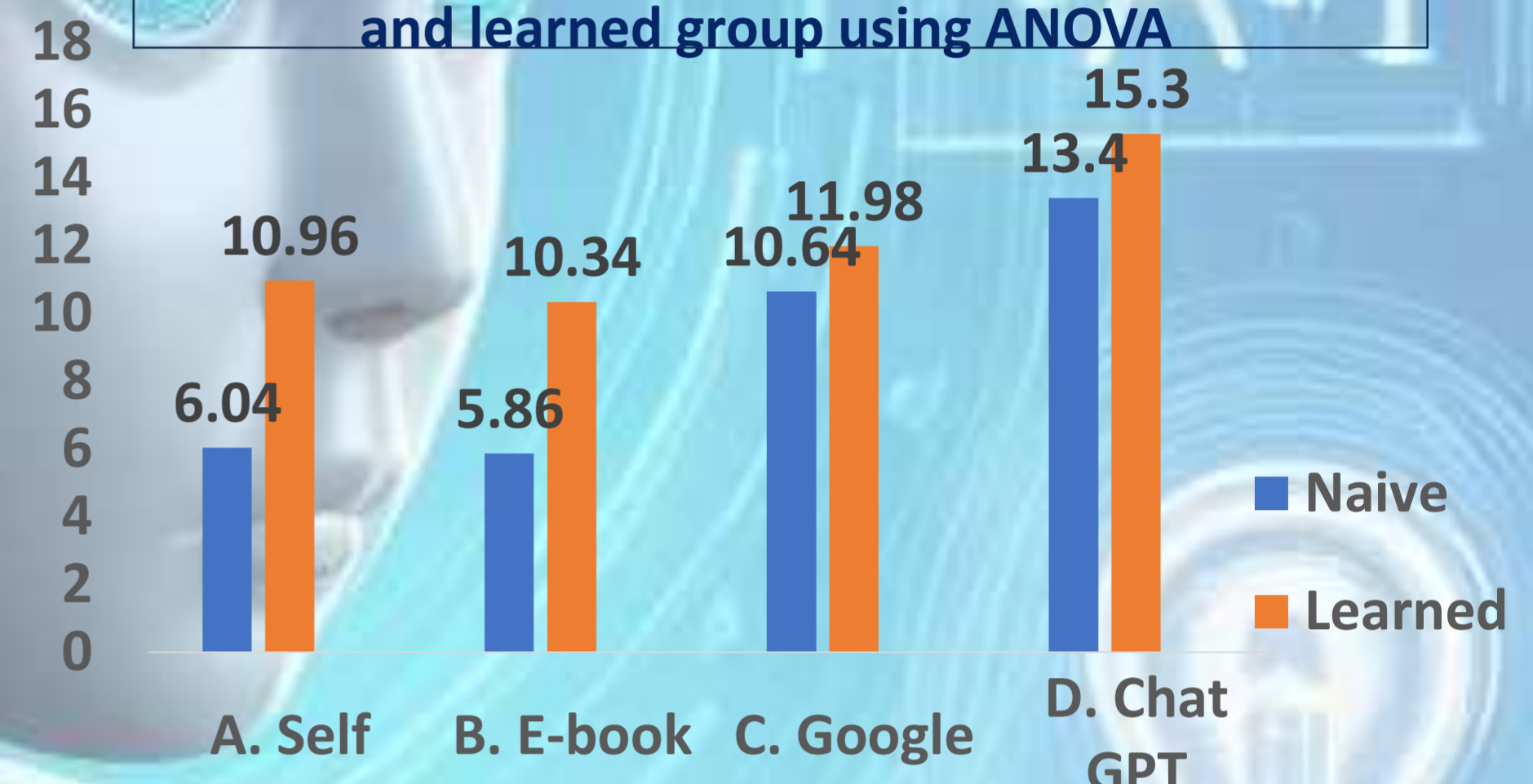
To compare the performance of MBBS students on pharmacology multiple-choice questions using ChatGPT, search engines, and e-books.

METHODOLOGY



RESULTS

Intra group comparison of mean scores in Naive and learned group using ANOVA



Group	A. Self	B. E-book	C. Google	D. Chat GPT
Naive	6.04	5.86	10.64	13.4
Learned	10.96	10.34	11.98	15.3

Inter group comparison between Learned and Naive using ANCOVA

Group	Mean (SD)	N	Adjusted Mean	Partial η^2	p-value
Naive	13.24 (3.31)	50	13.18	0.328	<0.001
Learned	15.42 (1.89)	50	15.48		

Group	Mean (SD)	N	Adjusted Mean	Partial η^2	p-value
Naive	10.82 (2.13)	50	10.76	0.241	<0.001
Learned	12.14 (2.01)	50	12.20		

Group	Mean (SD)	N	Adjusted Mean	Partial η^2	p-value
Naive	5.82 (2.77)	50	5.78	0.195	<0.001
Learned	10.22 (3.12)	50	10.26		

conclusion

These results suggest that both groups of students benefit more from using ChatGPT when compared to other available options. This highlights the importance of these tools in enhancing the cognitive performance of medical students. However, relying on AI shows the importance of balancing technology with traditional learning methods to build essential thinking and practical skills for medical practice.

Reference

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"SCAN ME"

