Effectiveness of Large Language Models in Medical Education: Insights from Undergraduate Medical Students in Bangladesh

Introduction: You are being invited to participate in a research study about the use of large language models in medical education. This study aims to understand the perspectives and experiences of undergraduate medical students in Bangladesh regarding this technology. Participation in this study is voluntary, and you can withdraw at any time without penalty.

Purpose of the Study: This study seeks to evaluate the effectiveness and applicability of large language models as educational tools in the context of medical education in Bangladesh.

What You Will Do: If you agree to participate, you will be asked to complete an online survey through Google Forms. The survey will take approximately [Specify Duration] to complete and will consist of questions about your experiences and opinions regarding the use of large language models in your education.

Confidentiality: Your responses will be kept confidential. Data will be stored securely and will only be accessed by the research team. Results will be reported in aggregate form, and no individual responses will be identifiable in any publications or presentations resulting from this study.

Risks and Benefits: There are no significant risks associated with participation in this study. While there is no direct benefit to you, your responses will contribute valuable insights to the understanding of large language models in medical education.

Right to Withdraw: Your participation in this study is entirely voluntary, and you can withdraw at any time without consequence.

Concerns
If you've any queries regarding the data that you provided, you can email chiralbd@gmail.com. You can also email contact.jubayerhossain@gmail.com (Md. Jubayer Hossain) if you'd like to consult with someone about your rights.

About CHIRAL Bangladesh
1. About Us - https://chiralbd.org/about/
2. Website: https://chiralbd.org/

* Indicates required question

1. **Consent:**   *
   By proceeding with the survey, you acknowledge that you have read and
   understood this consent form, and agree to participate in this research study.

   Mark only one oval.

   ◯ I agree   *Skip to question 2*

   ◯ I disagree

Demographic Information

Gathering demographic information is essential for contextualizing research findings and
understanding the characteristics of the study population. In this section, we outline the key
demographic variables to be collected from undergraduate medical students in Bangladesh
participating in our study on Large Language Models (LLMs) in medical education.

2. Age *

   _____

3. Gender *

   Mark only one oval.

   ◯ Male

   ◯ Female

4. Type of medical college *

   Mark only one oval.

   ◯ Public

   ◯ Private

5. Year of Study *

Mark only one oval.

◯ 1st year

◯ 2nd year

◯ 3rd year

◯ 4th year

◯ 5th year

Understanding Large Language Models (LLMs)

In this section, we aim to assess the baseline knowledge of undergraduate medical students in Bangladesh regarding Large Language Models (LLMs). Large Language Models, such as GPT-3, are advanced artificial intelligence models trained on vast amounts of text data to generate human-like text. Understanding the level of familiarity and comprehension of LLMs among students is crucial for evaluating their readiness to engage with LLM-based educational materials in medical education.

6. Questions on knowledge of LLMs *

Mark only one oval per row.

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
I am familiar with LLMs like ChatGPT, Google Bard, Microsoft Bing, or Perplexity	◯	◯	◯	◯	◯
I understand how LLMs generate information and responses	◯	◯	◯	◯	◯
LLMs can generate wrong information	◯	◯	◯	◯	◯
LLM can be used both by teachers and students	◯	◯	◯	◯	◯
Using LLMs helps me simplify complicated medical concepts	◯	◯	◯	◯	◯
LLMs can help along with	◯	◯	◯	◯	◯

with
with
traditional
traditional
learning
learning
materials
materials
like
like
textbooks,
textbooks,
notes, e-
notes, e-
books, etc.
books, etc.

Assessing Attitudes Towards Large Language Models (LLMs)

This section aims to delve into the attitudes of undergraduate medical students in Bangladesh towards Large Language Models (LLMs). Understanding students' attitudes towards LLMs is essential for evaluating their receptivity to integrating these advanced AI models into medical education. Positive attitudes can foster engagement and utilization, while negative attitudes may hinder adoption and effectiveness.

7. Questions on attitude of LLMs *

Mark only one oval per row.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am open to including LLMs as extra learning tools for medical studies	◯	◯	◯	◯	◯
It would help by providing comprehensive medical information	◯	◯	◯	◯	◯
Medical colleges should promote the use of LLMs in the teaching-learning process	◯	◯	◯	◯	◯
LLMs could change how we learn and access medical knowledge	◯	◯	◯	◯	◯
Relying too much on LLMs might not develop my clinical reasoning skills	◯	◯	◯	◯	◯

There is a risk

of learning the
wrong
concept,
Hence, I would
not blindly
believe it

There is a risk
of learning the
wrong
concept,
hence, I would
not blindly
believe it

○ ○ ○ ○ ○

Exploring Practices Towards Large Language Models (LLMs) in Medical Education

This section focuses on investigating the practices of undergraduate medical students in Bangladesh regarding the utilization of Large Language Models (LLMs) in their educational journey. Understanding students' current practices towards LLMs is essential for identifying areas of integration, challenges, and opportunities for enhancing their usage in medical education.

8.   Questions on Practices of LLMs *

Mark only one oval per row.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I use LLMs to get clearer explanations of medical topics I'm learning	○	○	○	○	○
LLMs have shown me new resources and references for my medical studies	○	○	○	○	○
I use those only when I cannot get the information in a book	○	○	○	○	○
I use those only when I cannot get the information in Google or other search engine	○	○	○	○	○
I adapt my self-study based on insights I get from	○	○	○	○	○

get from
LLMs

Using LLMs
has made
me more
confident in
talking
about
medical
subjects

◯　　◯　　◯　　◯　　◯

Copyright

This content is neither created nor endorsed by Google.

Google Forms