



“OPPORTUNITIES & CHALLENGES POSED IN AI ENABLED LEARNING IN MEDICAL EDUCATION”

Management

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ABSTRACT

Purpose: The advanced development in the field of Artificial Intelligence can cause a lot of problems in practicing professional and health-related education. Professionalism using Artificial Intelligence related Technologies includes information using online platforms that reflect the professional identity and values. The study places much emphasis on discussing the appropriate use of media in the Social Platform and characterizes professionalism with an emphasis on medical education. **Methodology:** Following the framework of the Scoping Review by Arksey and O'Malley, we have analysed and searched for PubMed, EMBASE, EBSCO, SCOPUS, Web of Science & and Google Scholar Indexed Journals from July 2003 to July 2023. Results were interpreted by PRISMA Scoping Review Guidelines. ABCD Analysis developed by Aithal P. S. also followed. Developed a new Model related to “Thematic representation of Attitude stages in E-Professionalism leading to Behaviour”. **Findings:** Professionalism should be included as an important area of the curriculum in teaching, learning, and evaluating. Curricula should focus on the appropriate use of media in the social platform by including the core elements of professionalism in the medical arena. **Originality/Value:** The Scholarly Paper submitted is original work. All the sources from which ideas and extracts were taken have been duly acknowledged. **Paper Type:** Exploratory Research

KEYWORDS

Artificial Intelligence, Medical Professionalism

INTRODUCTION:

Progressive advancements in Medical Technologies can play roles such as Sorting Automatically, Assistance in Teaching, Learning in Personalised manner, Assistance in Research, Information access in a rapid manner, Generation of Medical Case Scenarios, Content creation to enhance learning and Translating Medical Technological languages. Artificial Intelligence is used in the following areas like Medical Teaching & Learning, Chatbots, Intelligent tutoring system, Virtual Patients, Gamification, Adaptive Learning System, Assessment, Optical Mark Recognition, Automated Essay Scoring, Quizzing, Virtual Reality, Simulation Environment, Diagnostics, Interpretation, Assessment of Prescription writing, Emergency Responses, medical Research, Administration in Medical Institutes, Curriculum design & Development, Staff Management, Monitoring Student records, Rendering Student Support, Managing the Feedback, Telemedicine, Online/ Distance Education, Virtual system for Inquiry, Allocating the Budget Resources,

Chat GPT's can help professionals in their clinical practice which help them to document the clinical case histories. Also help the doctors to support decisions and also enables the doctor patient communication.

The Foundation of Artificial Intelligence:

Mathematics, Economics, Neuroscience, Psychology, Computer Engineering, Control Theory, Cybernetic and Linguistics are the pillar foundations used for Artificial Intelligence. Out of these Neuroscience based foundation is crucial for the development of Artificial Intelligence.

The Role of Neuroscience based development in Artificial Intelligence:

Neuroscience is the study of nervous system, particularly the brain. Although the exact way in which the brain enables thought has been appreciated for thousands of years because of the evidence that strong blows to the head can lead to mental incapacitation. It has long been known that human brains are somewhat different; in about 335 BCE Aristotle wrote “Of all animals man has the largest brain in proportion to his size”. Still it was not until the middle of the 18th century that the brain was widely recognised as the seat of consciousness. Before the, candidate locations included the heart and the Spleen.

The development of brain machine interfaces (Lebedev and Nicolelis, 2006) for both sensing and motor control not only promises to restore function to disabled individuals, but also sheds light on many aspects of neural systems. A remarkable finding from this work is that the brain is able to adjust itself to interface successfully with an external device, treating it in effect like another sensory organ or limb.

Brains and digital computers have somewhat different properties. Computers have a cycle time that is million times faster than the brain. The brain makes up for that with far more storage and interconnection

than even a high-end personal computer, although the largest super computers match the brain on some metrics. Futurists make much of these numbers, pointing to an approaching singularity at which computers reach a superhuman level of performance (Vinge, 1993; Krzweil, 2005; Doctorow and stross, 2012), and rapidly improving themselves even further. But the comparison of raw numbers are not especially informative.

Potentials of Artificial Intelligence in Medical Education:

Artificial Intelligence can provide Education Support, Clinical support Disciplinary development. Education support can be extended in the following scenarios like Academic Assistance, Scenario Simulation and Curriculum Development. Clinical support can be extended in the following scenarios like providing evidence based best practices, aiding in diagnosing diseases and in Medical Education. Disciplinary development can be given in the following fields like Talent cultivation and cross integration of disciplines.

Potentials of Artificial Intelligence in Medical Research:

Artificial Intelligence has the potential to provide treatment, diagnosis and medication. There is a need of research for the application of ChatGPT since its in the Introduction stage/Infancy stage. The detailed research will give insight into the recent trends of application of technology in the field of Medical Research and it also gives a scope for future Research.

Potentials of Artificial Intelligence in Clinical Management:

Artificial Intelligence through its natural language generation capabilities can support medical students. Comprehensive Competencies has to be imparted mainly to prevent overreliance on Chat GPT. Chat GPT's give lot of potential in the medical education at the same time it also poses lot of challenges in Medical Education. Chat GPT's positive impact can foster the development of the practicing & medical professionals.

Limitations of Artificial Intelligence:

Artificial Intelligence is an AI service which can generate text that is remarkably similar to human written content, but like any other statistical model it is not without errors. Its main limitations are deficiency of human-like understanding and lack of data input after 2021, which cause it to sometimes ignore the context of the prompt leading to generation of irrelevant text, or ideas and concepts that are not truly unique or original.

Recently peer review papers were published with ChatGPT as an author. However, keeping in view the mentioned limitations, the World Association of Medical Editors (WAME) has recommended that ChatGPT should not be listed alongside the authors.

CONCLUSION

In the field of Medical Education Artificial Intelligence can be used as an assistance tool. But Artificial Intelligence cannot be the right strategy for replacing Humans. We are witnessing advancements in the following areas like Machine Learning and Information Technology. In future there will be more scope for the transformation of Medical Education. Likewise, even in the field of clinical education also we can witness rapid changes. So, these changes should be used in a productive manner by following Professional Ethics.

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