

AI Chatbots: Perspective from Practitioners

In a recent advisory paper on the use of generative artificial intelligence (AI) in higher education (bit.ly/mqaai), the Malaysian Qualifications Agency (MQA) provided a comprehensive analysis of the potential benefits, drawbacks, and suggested approaches for higher education providers, academic staff, and students. The letter emphasizes the importance of maintaining academic integrity when utilizing generative AI in order to preserve the standard of education.

We would like to explore how generative AI can be fully realized and optimized in teaching and learning (T&L) of STEM and healthcare-related courses from the perspective of a practicing chemist and pharmacist, given the rapid adoption of AI chatbots, including ChatGPT, Bing Chat in T&L.

Some of the proposed strategies for enhancing generative AI are:

Streamlining personalized learning: By generating content tailored to each student's needs and comprehension level, lecturers can use generative AI to provide individualized learning experiences for their students. For example, a lecturer may adjust the complexity and subject of tutorial questions based on the learning level of each student.

Supporting problem-solving: Academic staff can employ generative AI in T&L to streamline case studies and problem-solving activities. Using technology, students can develop potential solutions and evaluate their feasibility. Students must possess the knowledge and skills to differentiate between accurate information produced by AI and "hallucinated" misleading information in real-world situations.

Fostering interdisciplinary collaboration: Higher education providers can promote interdisciplinary collaboration among students from various programs, enabling them to work together on tasks requiring knowledge from multiple disciplines. For example, students of medicine, pharmacy, nursing, and biomedicine can cooperate to create and solve simulated clinical case studies using generative AI by incorporating relevant competencies from their respective fields.

Enhancing research: Academic staff can instruct students on how to use generative AI to curate and analyze data, which can foster knowledge creation by identifying patterns, trends, and potential research questions in related fields.

Addressing ethical issues: Academic staff should incorporate discussions on ethical issues in their courses, such as the use of AI in assignment preparation and idea generation. This will ensure that students are aware of the ethical implications of using AI in their research, projects or future careers.

The MQA advisory letter concludes by urging academic staff and students to adapt to the rapidly changing digital technology landscape and to effectively and ethically use generative AI. It is important to constantly bear in mind that the content generated by AI is not fully verified, and therefore, it is the user's responsibility to validate the information and critically review the generated content. With proper guidance and careful implementation, generative AI has the potential to enhance T&L in various sectors.

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