

Open-Ended Tasks, Experience and Common Sense in Education and Assessments

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Abstract

Two artificial intelligent (AI) language models (or Generative AI), ChatGPT and Bard, answered three open-ended Singapore primary school mathematics questions. An open-ended mathematics question requires students to employ many different methods to solve the problem in the question and there are multiple answers to this one question. On the other hand, a close-ended question only requires one answer. The three different types of open-ended mathematical questions used here are: (1) Problem with missing data or hidden assumptions; (2) Problem requiring an explanation of a concept, procedure or error; and (3) Problem-posing. The responses from ChatGPT and Bard indicated logical thinking and good understanding of mathematical concepts. However, these AI language models also demonstrated a lack of common sense and human experiences in their responses. Therefore, this study examines how lacking in these human traits can be used to assist lecturers to more accurately assess students' learning in higher institutions of learning where there is a prevalent use of AI language models to complete essay assignments. Some suggestions on the types of questions to ask in assignments will be discussed in this presentation.

Keywords: creativity, Artificial Intelligence, Generative AI, primary school mathematics, teaching and learning