

## ARTIFICIAL INTELLIGENCE (AI) TOOLS TO USE IN TEACHING MATHEMATICS

*by:*

**RYAN P. MARQUEZ**

*Teacher II, t. Francis National High School*

AI is inevitable. It is entering all aspects of our society, and education system is no exception. Embracing AI is highly beneficial in teaching any discipline such as Mathematics - which is believed to be one of the most challenging subjects for many Filipino students. Although, some are skeptical in using AI-driven tools in teaching, research provide very good points that these tools are beneficial when used effectively.

Below are three (3) popular AI tools that teachers can use to enhance mathematics teaching. Likewise, the pros and cons of each tool will be explained based on the available research findings.

### 1. CHATGPT

ChatGPT is an open tool developed by OpenAI that is built on the GPT language model technology (Kirmani, 2022). It is one of the popular tools used not only in Mathematics but to almost, if not all, disciplines.

Pros:

In the study conducted by Almarashdi et al. (2024), the findings found that ChatGPT's helped in improving both personalized learning and student engagement. The results also emphasized that it is dynamic and versatile tool in teaching mathematics. Moreover, the findings suggested that incorporating this tool diversifies answers, facilitates lesson planning, and enhances student support.

Cons:

Answering complicated or difficult questions is not the strength of ChatGPT. According to Almarashdi et al. (2024), this tool struggle in giving responses for complicated or advanced questions which give limitations in particular topics such as spatial geometry and derivatives. This is in consonance with the study conducted by Kuraku et al. (2021) which emphasized that ChatGPT responses are constrained to the knowledge acquired through available data, implying that issues arise in answering questions with unfamiliar or highly advanced subject matters.

## 2. GEOGEBRA

GeoGebra is a popular AI tool that connects Geometry and Algebra.

Pros:

The utilization of the GeoGebra tool does not only increased student scores, it was observed that it enabled realization of a vibrant classroom where cooperative and collaborative principles of learning were evident (Shadaan & Leong, 2014). In addition, they conclude that this tool has proven to be an effective tool in enhancing Mathematics teaching and learning, specifically in learning circles.

Cons:

The perceived weakness of GeoGebra is the difficulty of some commands in the input bar especially for students and teachers with no prior programming experience.

## 3. PHOTOMATH

Photomath uses a camera on any mobile gadget to view written or printed math problems then immediately provides the solution with each individual step explained.

Pros:

Photomath gains popularity among students and math teachers due to its very user friendly feature. Response will be provided real-time by just simply taking a picture of the mathematical expressions. In addition, it gives a step by step solution which greatly helps in understanding the process of getting the correct solution to a specific math problem.

Cons:

The results of the math problem will depend on how the tool reads the text on the picture, meaning it encounters struggles if the handwritten or text is not legible. Moreover, there is a tendency of students to be dependent in the tool without deep understanding of the concept.

The emergence of Artificial Intelligence (AI) in education opens debate among educators about its impact on student learning. However, it also unfolds the wide opportunities to explore transformative learning. By understanding at their strengths and weaknesses, education can utilize these tools to the maximum benefits to the students while mitigating the potential downsides.

*References:*

Almarashdi , H., Jarrah , A., Khurma , O., & Gningue, S. (2024). Unveiling the potential: A systematic review of ChatGPT in transforming mathematics teaching and learning. EURASIA Journal of Mathematics, Science and Technology Education,.

Kalla, D., Kuraku, S., Smith, N., & Samaah, F. (2023). Study and Analysis of Chat GPT and its Impact on Different Fields of Study. International Journal of Innovative Science and Research Technology .

Shadaan, P., & Kwan Eu , L. (2013). Effectiveness of Using Geogebra on Students' Understanding in Learning Circles. The Malaysian Online Journal of Educational Technology.