

Using Generative Artificial Intelligence Tools to Create Activities and Assignments

Educational Situation:

The professor always seeks to improve the teaching process, but time constraints often pose a challenge. The professor notices in one of his courses that most of students answers to homework are weak ones, and some even copy answers from others. Each time, the professor struggles to understand the situation. One of the students says: "I feel frustrated with the assignments and homework given to us by the professor, for several reasons: the assignments are repeated, below the expected level, and don't encourage us to think. As a result, we don't feel excited when we complete the assignments. On the other hand, the professor describes the situation while trying to understand the reasons for what is happening: "despite being busy with teaching responsibilities and administrative duty in the department, I still spend a reasonable amount of time preparing assignments and course activities using the content I have, or activity examples from previous years. Nevertheless, I am not satisfied with the level of my students' performance in the course."

The Issue:

The professor may face time constraints when preparing for their courses due to teaching responsibilities and administrative tasks. Although the professor dedicates a reasonable amount of time to prepare assignments and course activities, the professor facing a lack of excitement from students regarding the level of these assignments and activities. Therefore, it is expected that generative artificial intelligence tools will help the professor facilitate and diversify the preparation of activities, thus enhancing productivity and creativity and motivating students for teaching and learning.

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Teaching Practices: Generative Artificial Intelligence Tools:

In recent years, the use of generative artificial intelligence tools has spread across various fields, and it has become essential for professor to adopt this new technology and implement it in teaching learning. First, it will enhance the development of course instruction and foster creativity in presenting educational content. This will consequently enhance students learning outcomes. Second, it will help the professor by saving effort and time, especially in preparing and evaluating activities. On the other hand, most of students have relied on generative artificial intelligence tools in an unstructured manner. This is an opportunity for the professor to develop himself, thus he gains the ability to guide students on the ethical use of technology and how to benefit from it. In other words, we are preparing ourselves to build good habits among students in using generative artificial intelligence tools in education.

The professor needs to keep up with new updates and has his knowledge updated. he also needs to adopt modern methods and tools that streamline effort and enhance quality and productivity. Therefore, we recommend using available technology and stay current with the present era. In fact, we are aiming to prevent a problem before it arises.

Implementation Procedures:

To achieve best practices when using generative artificial intelligence tools for creating activities and assignments, the followings are recommended:

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- Selecting the topic: Choose a specific topic for the assignment that requires a creative idea or takes a long time and effort.
- Choosing an AI tool: Use one of the generative artificial intelligence tools to build the assignment, which includes the purpose of the assignment, creating questions and instructions, and the evaluation method, noting that most tools support languages such as English and Arabic.
- Identifying important information: When giving instructions to the tool, it is essential to emphasize mentioning some important information, such as a brief description of the assignment topic and the contents of the question. Also, the course name and the program level, which help provide more accurate results for the required task.
- Verifying the results: Ensure the accuracy of the results and choose the appropriate content for the assignment topic and its requirements.
- Implementing: Consider the implementation, identify the obstacles, and suggest a way to improve the assignment and its design mechanism.

Important notes:

- Any artificial intelligence tool, such as Poe or Copilot, can be used to create and develop activities and assignments according to the features of each tool and the need of each course.
- The professor should remember that they will not achieve the maximum benefit from using the tool from the first attempt, so they need to be patient. Their proficiency in using the tool and writing commands will noticeably and rapidly improve with repeated use.

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Examples

Example 1: To create a creative activity for one of the courses, commands can be written in the AI tool as follows:

1. Create a creative activity with instructions about (lesson topic) for the course (course name) in the bachelor's program (add program name).
2. Write two brief objectives for the activity.
3. Create a rubric for the activity.

Example 2: To create an assignment for the software testing course about the tools used in software testing, the commands can be written in the AI tool as follows:

1. Asking to write the question and instructions:

For the Software Testing course (associate degree level), Please write an assignment question asking student to create table to compare 4 different software testing tools.

2. Asking to shorten the instructions:

Can you shorten the instructions?

3. Asking to write 3 short objectives for the assignment:

Write 3 short objectives for this assignment:

4. Asking to provide a grading rubric for the assignment:

Please provide a grading rubric for this assignment:

Resources

Navigating the GenAI Landscape: A Focus on Student Learning and Prompt Design. (2023, December 13). [Video].

YouTube . Retrieved February 7, 2024, from <https://www.youtube.com/watch?v=ff0QFdYBh9A>

Sarsa, S., Denny, P., Hellas, A., & Leinonen, J. (2022, August). Automatic generation of programming exercises and code explanations using large language models. In *Proceedings of the 2022 ACM Conference on International Computing Education Research-Volume 1* (pp. 27-43)

Denny, P., Sarsa, S., Hellas, A., & Leinonen, J. (2022). Robosourcing Educational Resources--Leveraging Large Language Models for Learnersourcing. *arXiv preprint arXiv:2211.04715*.

Hartley, K., Hayak, M., & Ko, U. H. (2024). Artificial Intelligence Supporting Independent Student Learning: An Evaluative Case Study of ChatGPT and Learning to Code. *Education Sciences, 14*(2), 120.

YouTube. (2023, December 12). *Embracing genai in education: Shaping the classroom of Tomorrow.* YouTube. https://www.youtube.com/watch?v=4l_AFQTsDcw&t=2660s

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