

Enhancing Student Engagement:

Designing and Refining Active Learning Activities with AI

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OUTLINE

Overview of time-tested AL activities

Making use of Moodle -for AL in large classes

Challenges/Solutions with implementing active learning

How AI might be used

Untested, experimental cutting-edge activity

OVERVIEW OF AL ACTIVITIES

Quick show of hands if you use:

- **Think-Pair-Share**
- **Peer Instruction**
- **Quick Quizzes**
- **One/Three-Minute Thesis**

Discuss in pairs:

Which activities have worked with our students?

Say more about an activity you tried?

CHALLENGES IN INTRODUCING ACTIVE LEARNING

Problem: Introducing active learning activities can be challenging

Key Challenges:

- **Selecting suitable activities (e.g., think-pair-share)**
- **Conducting activities effectively**
- **Aligning content with learning objectives**
- **Providing clear instructions to students**



Adapting Strategies to Your Subject

- **Consider your learning objectives**
 - **Align with course content**
 - **Account for class size and format**
 - **Incorporate relevant tools and technologies**
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Moodle Tools for Active Learning



1. **A Choice Activity** – a simple multiple-choice poll. For voting, assess understanding, select groups, gather initial comments.
2. **The Feedback module** - a survey-like type of activity that allows the creation of questions. Ideal for course or teacher evaluations.
3. **The Moodle Questionnaire module** - like Feedback module with wider range of questions to gather data.
4. **The Survey module** - a verified survey instrument (COLLES/ATTLS) to gather data about classes and teaching.
5. **The Quiz activity module** – consists of a large variety of question types that can be stored in Question banks to be re-used anytime. It can be used for assessment purposes.

Benefits:

- Increased student engagement
- Real-time feedback
- Easy data collection and analysis and assessment

Examples of the Moodle Tools



Choice



Feedback



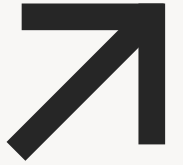
Questions



Survey



Quiz



AI-ASSISTED ACTIVE LEARNING DESIGN

Solution: Leverage AI chatbots (e.g., Copilot, ChatGPT) for active learning suggestions

Benefits:

- **Brainstorm variety of approaches**
- **Generate creative implementation ideas**
- **Adapt strategies to specific subjects**

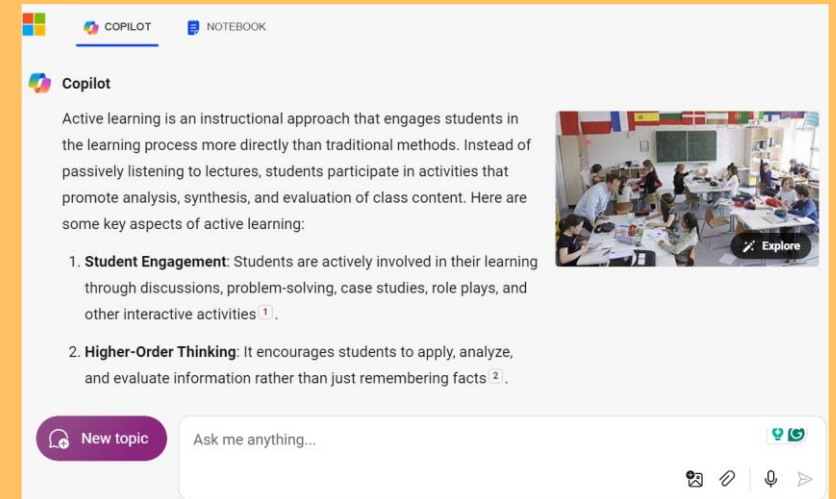
LEVERAGING AI FOR ACTIVITY DEVELOPMENT



AI can generate quick, relevant activity variations worth considering

1. Generating creative ideas
2. Adapting activities to specific subjects
3. Scaling difficulty levels
4. Best practices for using AI in education
5. Specific facts and relevant information

AI tools supported at UM, by ICTO: Copilot



AI-GENERATED APPROACHES TO ACTIVE LEARNING

Prompt example: "Help a university teacher think about different ways to do a peer instruction activity. Outline several general approaches and offer practical tips."

Variations on Pairing

Question Types

Timing

Technology, e.g., polls

Key reminder: Experiment with different approaches

ROUGH EXAMPLES AND OUTPUT



Concise prompt and output →

“...help a university teacher think about different ways to do a peer instruction activity. Outline several general approaches and offer practical tips.”

Consider a more elaborate prompt...

"You are an instructional designer at a university. Write a detailed plan on how to conduct a classroom activity.... aims, content, details, details, ...

Then, write prompts for more details or revisions of some aspect
→

Here are some approaches and practical tips to consider on conducting a think-pair-share activity:

Variations on Pairing

- **Random Pairing:** Pair students randomly to encourage diverse perspectives.
- **Strategic Pairing:** Pair students based on their skills, knowledge, or learning styles to foster peer learning.
- **Rotating Pairs:** Change pairs regularly to keep interactions fresh and expose students to a variety of viewpoints.

Question Types

- **Open-Ended Questions:** Use questions that encourage critical thinking and don't have a single correct answer.
- **Scenario-Based Questions:** Present real-world scenarios that require problem-solving skills.
- **Reflective Questions:** Ask students to reflect on the learning material and how it relates to their experiences.

Timing

- Ensure you allocate sufficient time for each phase of the activity. Rushing through the stages may hinder the effectiveness of the exercise.

Technology Integration

- Leverage technology tools like online discussion boards or breakout rooms for remote learning situations.

S U M M A R Y

Enhance the Design of Active Learning Activities with AI

- 1. First, become more familiar with Moodle tools to enhance student engagement in-class**
- 2. Try writing prompts for an "AI Learning Coach" that helps us with active learning strategies**
- 3. Aim to improve an active learning activity with your content – to better meet your students' needs.**

