

## Mindful mnemonics: Revolutionizing learning with AI-generated mnemonics

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# Mindful mnemonics:

## Revolutionizing learning with AI-generated mnemonics

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### Description of your learning resource or course:

This resource supports students in memorising complex models and theories. The objectives are to enhance retention of key concepts and streamline the learning process. Targeted at psychology educators across university levels, from introductory courses to advanced seminars, this resource caters to diverse learning styles. The key features are AI generated memorable mnemonics for complex theories, aiding in long-term information recall. By fostering creativity and engagement, it transforms abstract concepts into vivid, easy-to-remember sequences.

This resource asks students to create a simple outline of a concept/theory/model followed by a prompt for the AI system to produce a mnemonic device. This allows students to take ownership of creating the mnemonic and they can ask AI to generate multiple versions to select one that feels most memorable for them. In addition, students will then understand the process for devising mnemonics using AI and

can utilise this in their future work.

An example is given below:

Maslow's Hierarchy of Needs includes five stages:

1. Physiological needs
2. Safety needs
3. Love and belongingness needs
4. Esteem needs
5. Self-actualization

ChatGPT created the following mnemonics:

- Pizza Slices Leave Everyone Satisfied
- Playful Squirrels Like Eating Seeds
- Please Stop Liking Every Selfie

### Context in which the learning resource was created:

This resource was created for use across various programmes in the Bangor University School of Psychology and Sport Science. In

particular, it has been shared with students in the MSc Counselling programme to aid with revision in advance of their oral discussion group exam. It will also be used in the next academic year as a learning resource for students on the BSc in Psychology.

### AI tool(s) used:

ChatGPT 3.5

### Explanation of the process followed:

We have utilised mnemonic devices in our previous teaching as it has been found to be an effective strategy for understanding and memorising complex content (Levin et al., 1992). It can be challenging to create novel and original mnemonics, so we initially used ChatGPT to help us generate mnemonics for teaching purposes. However, evidence suggests that personally relevant and self-created mnemonics are more effective (Tullis & Finley, 2018; Tullis & Fraundorf, 2022), so it is important to provide the student with autonomy and independence in the creation of mnemonic devices. Therefore, we created the current resource to help students use AI to generate multiple mnemonics with a view to being able to select the one that appeals most to them. To further integrate our use of AI, we even used ChatGPT to help us refine our instructions and generate student-friendly wording for the resource itself.

### Relevant literature resources

Levin, J. R., Levin, M. E., Glasman, L. D., & Nordwall, M. B. (1992). Mnemonic vocabulary instruction: Additional effectiveness evidence. *Contemporary Educational Psychology, 17*(2), 156-174.

Tullis, J. G., & Finley, J. R. (2018). Self-generated memory cues: Effective tools for learning, training, and remembering. *Policy Insights from the Behavioral and Brain Sciences, 5*(2), 179-186.

Tullis, J. G., & Fraundorf, S. H. (2022). Selecting effectively contributes to the mnemonic benefits of self-generated cues. *Memory & Cognition, 1*-17.

### Key learnings and recommendations for others:

Our experience with integrating AI for mnemonic creation yielded valuable insights. It highlighted the importance of student autonomy in the learning process. Allowing students to participate actively in the mnemonic generation process fosters engagement and empowers them to choose mnemonics that resonate personally. The iterative use of AI for refining instructions and generating student-friendly content showcases its versatility beyond direct content creation. Our key recommendation is to balance AI support with student collaboration, promoting an integrated approach that enhances learning outcomes and encourages creativity. This ensures AI becomes a valuable aid rather than a substitute for student involvement in the learning process.

