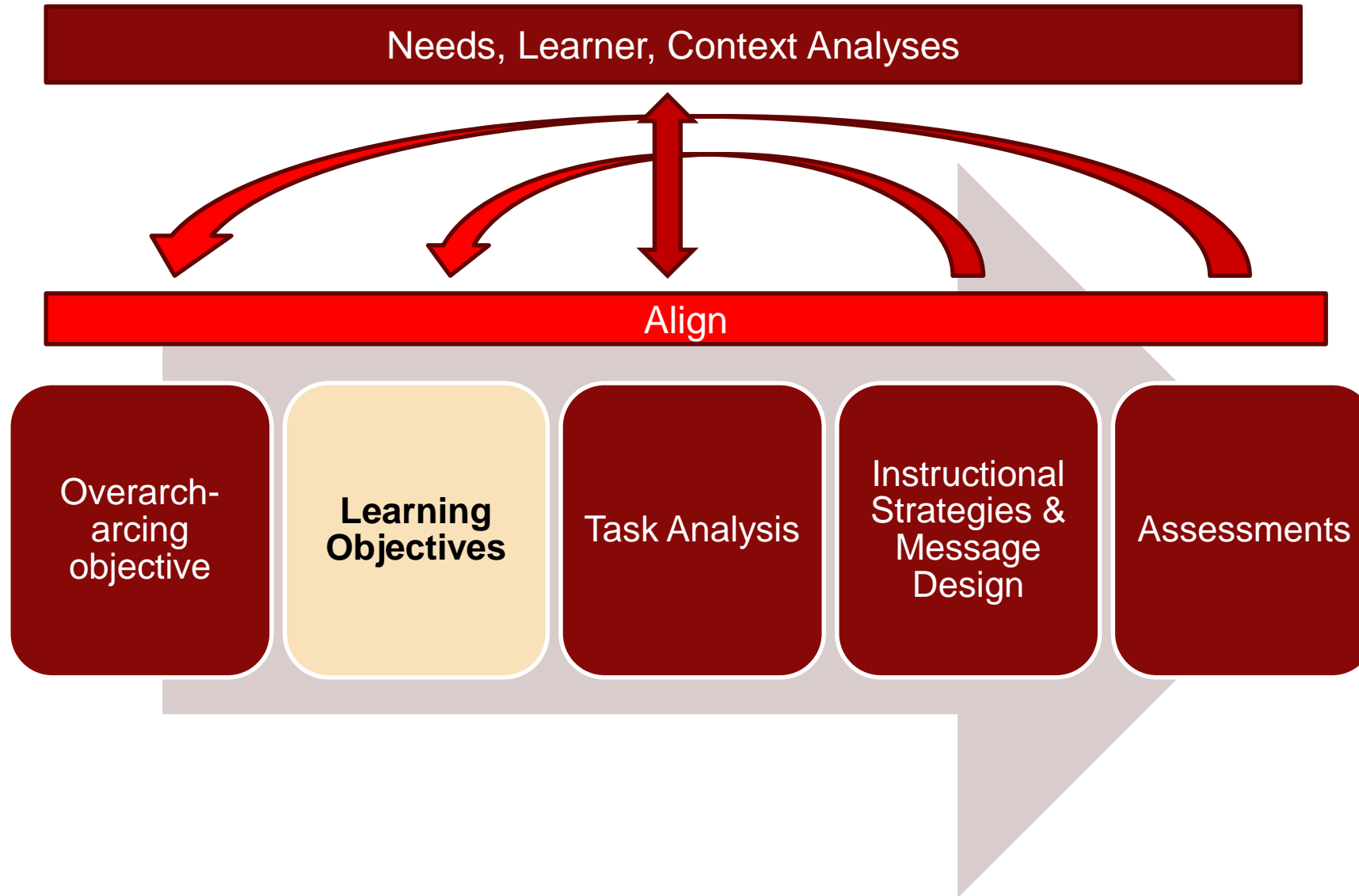


AI IN EDUCATION

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Instructional Design 101



Capability of ChatGPT (AI)

- **Wow!**
 - It understands English (kind of).
 - It gives some good general information about a topic.
- It can be a great research tool to kick start a research (or to see whether my research miss any good/important perspectives)

An Example

- Me: Please describe theories regarding help-seeking in an academic environment

- ChatGPT:

Help-seeking in an academic environment has been studied from various perspectives, including social-psychological, educational, and cognitive-behavioral theories.

Social-psychological theories, such as self-efficacy and social cognitive theory, suggest that students' beliefs about their abilities and the value they place on seeking help, as well as social and cultural norms, play a significant role in their help-seeking behavior.

Educational theories, such as the theory of self-regulated learning, propose that students who take an active role in their own learning and who have a strong motivation to succeed are more likely to seek help when they encounter academic difficulties.

Cognitive-behavioral theories, such as the achievement goal theory, suggest that students' goals and beliefs about success and failure, as well as their perceptions of competence, play a major role in their help-seeking behavior.

Overall, these theories suggest that a combination of personal, social, and situational factors influence help-seeking behavior in an academic setting.

Capability of ChatGPT (AI)

- What?
 - The information ChatGPT gives can be fake
- Don't trust AI's answer. It can be terribly wrong

An Example

- Me: Do we have review articles or meta-analyses that discuss mode of help-seeking?

- ChatGPT:

Yes, there are review articles and meta-analyses that discuss the mode of help seeking. Research on the mode of help seeking has focused on comparing the effectiveness of different modes, such as face-to-face, online, or a combination of both, in different settings and for different tasks.

For example, a meta-analysis by Chen, Teo, and Tan (2017) compared the effectiveness of online and face-to-face help seeking in educational settings, and found that both modes were effective in facilitating learning and that the mode of help seeking may depend on the individual's preference, the type of task, and the availability of the help source.

Another review article by Kim, Lim, and Lee (2019) discussed the impact of online help seeking on academic performance, motivation, and self-regulated learning. The authors found that online help seeking can be an effective mode of help seeking, especially in cases where face-to-face help is not available, but that the quality and effectiveness of online help seeking may depend on the quality of the online resources and the individual's ability to effectively use them.

These and other review articles provide a useful overview of the current state of research on the mode of help seeking and highlight the importance of considering the mode of help seeking in studies of help seeking as a self-regulated learning strategy.

An Example (Cont.)

- Me: may I see the citations of Chen, Teo, & Tan (2017) and Kim, Lim, & Lee (2019)
- ChatGPT:

Certainly! Here are the citations for the two articles you asked for:

Chen, W., Teo, T., & Tan, E. (2017). The effectiveness of online and face-to-face help seeking in educational settings: A meta-analysis. *Computers & Education*, 109, 45-56. <https://doi.org/10.1016/j.compedu.2017.03.007>

Kim, Y., Lim, J., & Lee, Y. (2019). The impact of online help seeking on academic performance, motivation, and self-regulated learning. *Educational Technology Research and Development*, 67(3), 733-746.
<https://doi.org/10.1007/s11423-018-9612-4>

Those citations are fake

Should we/students use ChatGPT [AI] in class

- It depends
 - Learning objectives
 - Students
 - Context
 - Task
 - Choice of instructional strategies
 - Choice of assessment

Innovations/Technology/Productivity Tools

- Calculator
- Word processing
- Excel
- Statistical packages
- Google/Wiki

The challenge of AI in education

- Focusing on the problems distracts us from the opportunities AI can provide—including helping us teach in new ways. (Mollick & Mollick, 2023)

Innovations/Technology/Productivity Tools

- Calculator – how it changed us teaching math
- Word processing – replacing type writer
- Excel – e.g. teaching present values of money
- Statistical packages – e.g. teach statistical differences between group (F-values)
- Google/Wiki – e.g. information literacy
 - We don't know the accuracy of ChatGPT (AI). Please use the information carefully

What are some examples of how AI can be used

- More Knowledgeable/Capable Other (Vygotsky, 1987)
- A teacher, an expert, an older sibling, or even a peer can be the "more knowledgeable/capable other".
- Educational Technologists have been imagined technology could be the "more capable other", but, realizing the limitations (Lajoie, 2000).
- AI has become more capable, but, we need to learn how to use it (understand the limitation of AI).

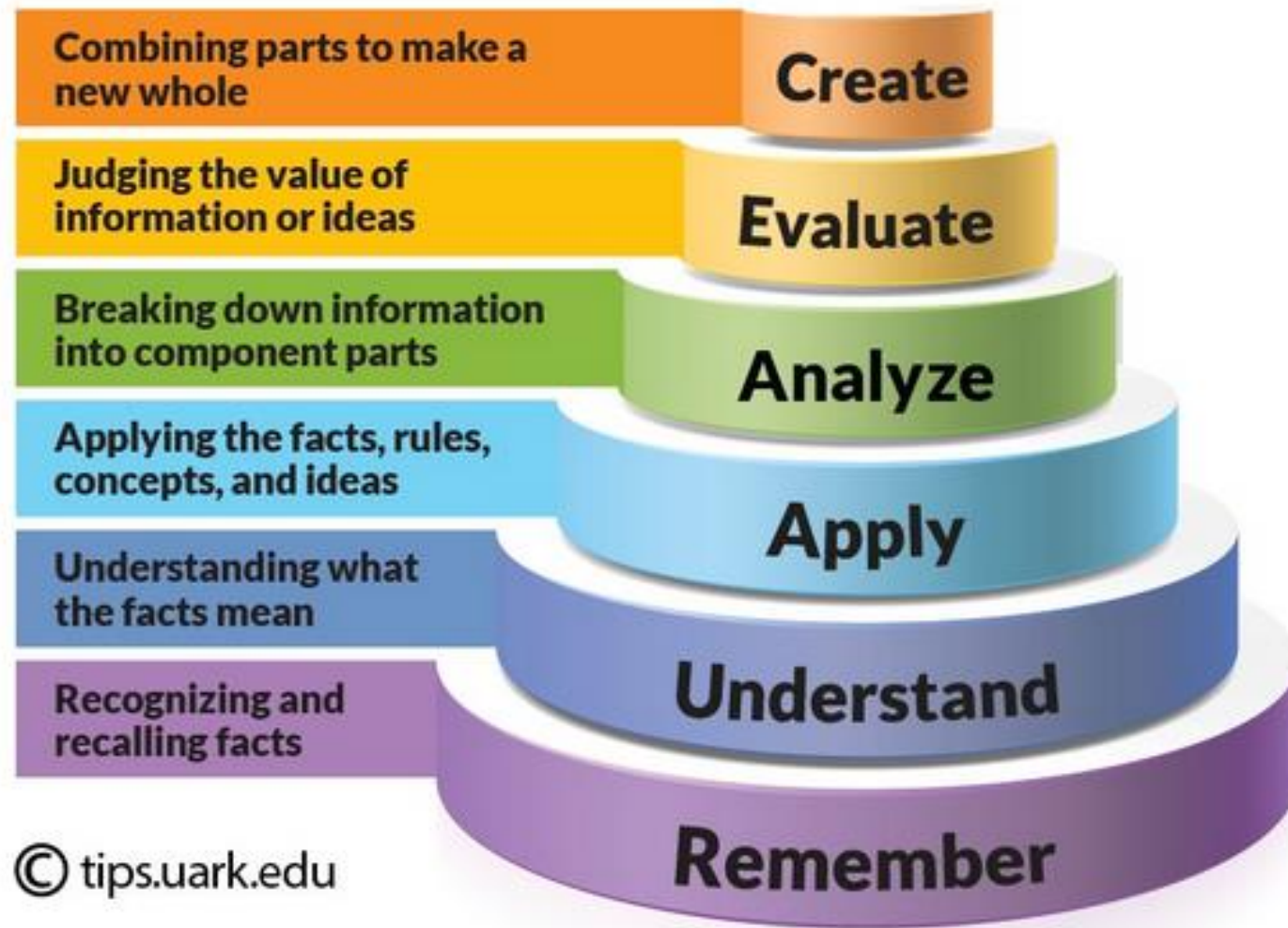
Peer Learning

- Students can debate with AI
- Peer review with AI (having students critique ChatGPT writing's and having ChatGPT critique student's work)

Technology is a tool

- It can work great, but, it can be a disaster
- “Choose wisely” (Indiana Jones and the Last Crusade, 1989)

Bloom's Taxonomy



Questions and Answers