Teaching Smarter: AI Bots as Your Digital Tutoring Sidekick

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Time Frame 90-120 minutes

Essential Question(s)

How can I guide students in using AI as a supportive learning tool while maintaining academic integrity and promoting critical thinking?

Summary

In this professional development session, teachers will explore how AI tools can function as personalized tutors to support student learning. They will learn to create effective tutoring prompts that guide students in asking meaningful questions and engaging with content independently. Teachers will also reflect on the usefulness of AI in the classroom and consider how to integrate it into their instructional practices.

Learning Goals

- Examine how AI-powered platforms can support student learning by practicing a tutoring conversation across various subjects.
- Design and refine AI tutoring prompts that guide students in generating meaningful questions, reviewing content, and engaging in self-directed learning.
- Evaluate the effectiveness and limitations of AI tools in supporting student understanding and reflect on how AI can be integrated into instructional practices to enhance personalized learning.

Attachments

- AI Tutor Prompt—Teaching Smarter.docx
- AI Tutor Prompt—Teaching Smarter.pdf
- Presentation Slides—Teaching Smarter.pptx
- Session Note Catcher—Teaching Smarter.docx
- Session Note Catcher—Teaching Smarter.pdf
- Writing Effective Prompts for Generative AI—Teaching Smarter.docx
- Writing Effective Prompts for Generative AI—Teaching Smarter.pdf

Materials

- Presentation Slides (attached)
- Writing Effective Prompts for Generative AI handout (attached; one per participant)
- AI Tutor Prompt handout (attached; one per participant)
- Session Note Catcher handout (attached; one per participant)
- Chart paper (one sheet per 4–5 participants)
- Markers (variety of colors; one per participant)
- Highlighters (four different colors per participant)
- Sticky notes (one per participant)
- Internet-connected devices (one per participant)

Preparation

Padlet Preparation for Explore and Extend

Prior to the session, prepare a Padlet by following the directions below. Share the link with participants using the attached **Presentation Slides**.

1. Navigate to padlet.com.
2. Log in to or create a Padlet account.
3. Return to this page and open the AI Tutoring Prompt Practice link.
4. Select “Share.”
5. Select “Copy Link to Board.”
6. Navigate to qr.k20center.ou.edu.
7. Paste your link into the “Insert URL” box and select “Shorten URL.”
8. Copy the shortened URL generated below the QR code.
9. Paste the shortened link into the highlighted portion of **slide 6**.

10 minutes

Engage

Use the attached **Presentation Slides** to facilitate the session. Display **slide 2** and introduce the topic of the session.

Organize participants into groups of 4–5. Provide each group with a sheet of chart paper and give each participant a marker.

Introduce the Chalk Talk instructional strategy. Tell participants that they should silently respond to the prompt on the slide using their markers and poster paper. Emphasize that they should not talk and they should only write or draw their ideas. Encourage participants to respond to each other's responses on the paper by writing out agreement or disagreement, writing questions, or adding on to other written ideas.

Display **slide 3** and introduce the prompt, "What are the possible benefits and concerns of using artificial intelligence (AI) in our lives?"

Have participants silently respond. Remind them to maintain complete silence throughout the activity. Allow approximately five minutes for participants to work, then consider asking these follow-up questions:

- What did you notice about the responses?
- Were there any surprises or common themes?
- What are you still wondering about AI?

Facilitate a brief 1–2 minute discussion. Transition to the next activity by telling participants that now that they have explored their thoughts on the benefits and concerns of AI, they'll experience how AI can function as a learning tool.

Use **slides 4–5** to introduce the essential question and learning objectives of the session.

10 minutes

Explore

Display **slide 6**. Inform participants that they will assume the role of a student and engage with an AI Chatbot to explore how it can serve as a digital tutor. Have participants navigate to the Padlet using the link on the slide. Have them copy the example prompt by following the directions on the slide. Ask participants to assume a student persona—a student who struggles with content, a curious science learner, or a student who needs step-by-step support. Have participants paste the prompt from the Padlet and paste it into the AI chatbot, ChatGPT, then begin a tutoring session in the role of their student personas.

Allow approximately 5–10 minutes for participants to engage in their tutoring sessions with ChatGPT. As they work, encourage them to ask follow-up questions to the chatbot and respond as students would in order for the interaction to unfold naturally.

After participants have had time to carry on their conversations, move to **slide 7** and ask participants to reflect on the activity using the S-I-T (Surprising, Interesting, Troubling) instructional strategy:

- What was **surprising** about the interaction?
- What did you find **interesting** that could be valuable in your classroom practice?
- What was **troubling**? Were there any gaps, inaccuracies, or moments that might confuse a student?

Have participants discuss their responses to the questions in small groups. Invite groups to share out and facilitate a whole group discussion.

15 minutes

Explain

Pass out one copy of the attached **Writing Effective Prompts for Generative AI** handout and four different colors of highlighters to each participant. Have participants read article. Display **slide 8** and start the 5 minute timer on the slide.

Once all participants have read the handouts, ask them to highlight each of the four elements of an effective prompt—task, format, voice, and context—in a different color on their handouts.

Give each participant one copy of the **AI Tutor Prompt** handout. Explain that this prompt is meant to turn a generative AI program or chatbot into an academic tutor that teachers can customize to focus on a specific subject and skill.

Display **slide 9** and introduce the Categorical Highlighting instructional strategy. Have participants read the handout and highlight the parts of the prompt that correspond with task, format, voice, and context in the same colors they used to highlight those elements on their Writing Effective Prompts for Generative AI handouts.

Allow participants time to highlight their handouts. Have them share what they highlighted with the other participants at their tables.

Move through **slides 10–14** and discuss different AI programs and their uses. The slides include the following programs:

- **Slide 10**—Skrappy: AI chatbot integrated into eKadence. This is a good option for schools that use eKadence, but it is not free.
- **Slide 11**—ChatGPT: Good, all-around, free option. Prompting is useful for this program because it has not been set up for schools and students like other programs.
- **Slide 12**—SchoolAI: Program designed specifically for teachers and students. Teachers can set up the chaptbot with a prompt then assign the prompt to students. It allows teachers to monitor student use and is free for a specific number of users.
- **Slide 13**—MagicSchool AI: Free option designed specifically for teachers and students.
- **Slide 14**—Thetawise: Math-specific chatbot meant to help students with math. The free version allows users 50 free chats per day.

25 minutes

Extend

Display **slide 15** and have participants select an AI chatbot tool. Have them use their highlighted outlines to create their own AI tutoring prompts. Ask participants to choose a topic that their students struggle with to create their prompt.

Have participants use the outline of one of the prompts presented in the previous section. Encourage them to customize the prompt in a way they believe will yield the best AI tutor possible.

Optional Prompt Generation Tool

Instead of customizing the prompt from the Padlet, participants can use a simple prompt generation tool to create their prompts. Have them navigate to https://k20.ou.edu/5g to access the tool. Have them select “Make a copy” when prompted then follow the directions at the top of the spreadsheet.

Have participants input the prompt several times to test the tutor. Encourage them to act as a different student persona each time, including as an advanced student, average student, and struggling student. As they test the prompt, they should make notes of where the AI performs well and where improvement is needed. Have participants also try a variety of AI programs to see how each responds and which program is better suited for their subject areas. Encourage participants to revise their prompts and re-test the tutor if they believe they know of a way to make the prompts clearer.

Facilitator’s Note: AI Programs and Math Content

Most of the general AI programs that are currently available do not perform well as math tutors. If the first programs math teachers choose yield poor results, consider directing them to one of the following:

- Thetawise
- MathGPT (Note: This tool limits the number of questions participants can ask per hour)
- Raina with MagicSchool AI
- Sidekick with SchoolAI
- Skrappy with eKadence

These programs tend to have a better understanding of mathematical concepts and should do a better job of guiding students to solve problems rather than giving them the answers.

10 minutes

Evaluate

Display **slide 16** and have participants return to Padlet. Have them post the newly revised versions of their prompts to share them with another participant in Padlet. Encourage participants to exchange prompts with teachers from different content areas to make the activity similar to having students use an AI tutor. Allow participants 5–10 minutes to work on their new prompts before transitioning to the final activity. Have participants leave comments or suggestions to their peers under their peers' prompts.

Optional Tech Integration

To enable easier digital sharing, consider having participants copy and paste their prompts into the appropriate column in the Padlet from the beginning of the session. Prompts added to the Padlet can be copied in the same manner as the example prompt.

Advance to **slide 17** and have participants take out a writing utensil. Give each participant one sticky note. Have participants use the How Am I Feeling? What Am I Thinking? instructional strategy to respond to the question on the slide, "What are some benefits and concerns of using artificial intelligence (AI) in our lives?"

Call on a few participants to share their written responses. Facilitate a debrief discussion in which you discuss final thoughts related to the use of AI.

Transition to **slide 18** and distribute the **Session Note Catcher** handout. Invite participants to reflect on the instructional strategies used in the session and consider the impact those strategies had on their understanding of or approach to the content. Have them add their thoughts to the first column.

Invite participants to outline how they plan to integrate each strategy into their teaching practices in the second column. Ask for volunteers to share out their responses.

Research Rationale

Research rationale for this professional learning session is available in the research brief, Large Language Models as a Homework Tutor can Improve Student Engagement and Learning Outcomes.

Resources

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