

# How can AI support core pedagogical principles?

## Transfer

- **Personalized Learning Paths:** AI can create customized learning experiences that link new concepts to students' prior knowledge, enhancing their ability to apply learning in different contexts.
- **Real-World Simulations:** AI-powered simulations and virtual environments allow students to practice and apply concepts in varied, realistic scenarios, promoting transfer of knowledge.
- **Community Problem-Solving:** AI aids in brainstorming and applying new knowledge and skills to tackle real-world challenges within the school and the wider community.

## Effective feedback

- **Rubric-Trained Bots for Instant Feedback:** AI bots trained on school or state standards can provide instant formative feedback, guiding students through iterative improvements of their work.
- **AI-Assisted Comment Review:** AI can review teachers' comments to ensure feedback is user-friendly, actionable, and goal-oriented, aligning with effective feedback principles.
- **Bias Detection in Feedback:** AI can analyze vast amounts of feedback data to identify and address implicit biases, contributing to equity audits and fair educational practices.

## Metacognition

- **Reflective AI Prompts:** AI can provide tailored prompts that encourage students to reflect on their learning processes, helping them develop self-awareness and critical thinking skills.
- **Feedback Analysis for Self-Improvement:** AI can help students analyze and interpret feedback, guiding them to identify their learning strategies' strengths and weaknesses.
- **Collaborative AI Critique and Reflection:** Teachers can engage students in evaluating AI outputs as a class, fostering a reflective discussion on how the AI's feedback and advice align with their learning goals and objectives.

## Spaced practice

- **Content Reinforcement Prompts:** Use the LLM to generate prompts or questions for review sessions, helping students revisit and reinforce previously learned material at regular intervals.
- **Customized Spaced Practice Plans:** Teachers can leverage the LLM to create and modify spaced practice schedules tailored to each student's learning pace and curriculum.
- **Reflective Journaling:** Utilize the LLM for generating prompts that encourage regular student reflection on learned material, aiding knowledge retention.

## Belonging

- **Customized Learning Experiences:** Tailor learning experiences to reflect students' cultural backgrounds and interests using the LLM, which can help in creating a more engaging and relatable learning environment.
- **Encouraging Personal Narratives:** Employ the LLM to prompt students to share their own stories and cultural experiences, establishing that diversity is a resource.
- **Highlighting Diverse Knowledge Sources:** Use the LLM to showcase information and learning materials from a wide range of cultural and social backgrounds. This can help to validate and honor diverse experiences.

## Authentic Assessment

- **Ideation for Diverse Assessments:** LLMs can help teachers create a wide array of assessment formats such as podcasts, debates, and case studies, offering initial ideas that they can refine to suit their educational goals.
- **Streamlining Project-Based Learning:** LLMs can handle routine aspects of project design and organization, enabling students to focus more on higher-order thinking and collaborative tasks within their projects.
- **Interest-Based Journaling Prompts:** LLMs can create journaling prompts based on students' interests, fostering greater engagement.