

AI Tutor Decision-making Rubric

Considering an AI student tutor for your students? Features like accessibility, pedagogical approaches, and privacy safeguards are likely to be important factors in your decision making. Here are some questions to help as you compare possible solutions, with pre-populated answers for the AI Student Tutor in case it's one of the options you're considering.



Image Credit: Tom Werner/Getty Images

Questions to Consider Asking	Achieve's AI Tutor	Vendor #2
<p>Accessibility</p> <p>Is the tutor screen reader compatible?</p>	<p>The AI Tutor in Achieve is screen reader compatible and keyboard navigable. The Tutor is able to restate image alt text and equations from the question content.</p>	
<p>Accuracy</p> <p>How do you ensure the tutor is accurate?</p>	<p>Our internal reviews by subject matter experts indicate that the tutor provides helpful responses and learning assistance to students. We ensure accuracy of the responses by grounding the tutor in our own assessment content, which serves as the primary source for the LLMs' responses to the students.</p> <p>Due to the nature of LLM technology, the tutor may occasionally produce inaccurate information. To reduce inaccuracies, we have implemented both human and automated evaluation methods to randomly review a sampling of the tutor's interactions with students, and we carefully evaluate using external benchmarks of model accuracy and focus on instructions.</p>	
<p>Additional Languages</p> <p>Does the tutor allow students to chat in languages spoken by many of our students?</p>	<p>The AI Tutor in Achieve supports additional languages as supported by OpenAI. Students just need to prompt the AI Tutor to provide answers in their preferred language.</p>	



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Bias Reduction	Due to the nature of LLM technology, the tutor may occasionally provide biased information. To reduce bias, we have implemented both human and automated evaluation methods to randomly review a sampling of the tutor's interactions with students and evaluate them against external benchmarks for bias reduction.	
Costs What is the cost for students to access the tutor?	Where available, the AI Tutor in Achieve is offered at no-additional cost.	
LLM Used Which third-party Large Language Models (LLMs) are used?	The AI tutor leverages OpenAI's GPT family of models.	
Metacognitive Support Does the tutor incorporate metacognitive principles in its design? How does the tutor support student learning?	The AI Tutor in Achieve guides students to break complex problems down into manageable parts by using the Socratic Method which fosters understanding with thoughtful questioning. The AI Tutor will commonly prompt the student to reflect on what they do understand about concepts related to the question they are attempting to answer which incorporates metacognitive practices like planning, self-assessment, reflection, and question prompting.	
Content Source How does the tutor know what questions students are working on? Where are answers and/or 'sourced'?	The AI tutor is a combination of sophisticated prompt engineering which dynamically integrates Macmillan Learning's high quality assessment content and OpenAI's AI technology. Through this strategy, the tutor is provided with the context of the question the student is working on, as well as the previous attempts that they have made on the question. So unlike relying on information solely provided by an open generative AI environment like ChatGPT, the AI Tutor in Achieve provides feedback that is grounded in Macmillan's high-quality subject-matter expert authored assessment content.	



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<p>Instructor Insight</p> <p>Will I be able to see what students are using the tutor? What kinds of questions the students are asking?</p>	<p>Students' interactions with the AI Tutor in Achieve are intended to support students in unobserved self study. Therefore, instructors will not be able to directly view or access the student interactions with the tutor within Achieve.</p> <p>However, since Macmillan Learning provides this product as a service provider to the school/institution, the school/institution may obtain access to this data, and their use of it will be subject to their school/institution's privacy policy.</p>	
<p>Learning Support</p> <p>How does the student tutor support student learning?</p>	<p>Because our approach to generative AI is human-centered, the tutor does not give the student the answer, but supports the learning journey as they work through homework problems.</p> <p>Using a unique "gated" approach, the AI Tutor in Achieve offers support to help students get started but requires them to engage with the material in their homework by attempting questions first before offering open access to a chat experience, empowering students to learn actively rather than passively relying on AI to walk them through the entire problem step-by-step.</p> <p>Because the AI Tutor knows the context of the question the student is working on, and the student's previous attempts, it can seamlessly deliver high-quality feedback exactly where misconceptions arise. This targeted approach not only corrects errors but also provides detailed explanations and alternative approaches to help students grasp complex concepts.</p>	



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<p>Pedagogical Approach</p> <p>Will I be able to see what students are using the tutor? What kinds of questions the students are asking?</p>	<p>Integrated with Macmillan Learning's trusted content and generative AI, the AI Tutor is available in Achieve's formative assessments set to "homework" mode and helps students work through homework problems by addressing misconceptions directly in the questions, simplifying complex concepts to inspire growth, and promoting academic success.</p> <p>By providing contextual homework guidance aligned with specific assessments, the AI Tutor in Achieve leverages a socratic approach to enhance student learning and comprehension.</p>	
<p>Privacy</p> <p>How is personal user data used? How is the model trained for the tutor?</p>	<p>Our determination to ethically use generative AI means that student data is not used to train OpenAI's LLM.</p> <p>Additionally, we provide notice to users not to input personal information into the chat. Student messages sent to the tutor are deidentified before requests are received by the LLM (i.e. OpenAI will only receive the transcript of the chat with the tutor not tied to an individual identifier of the student).</p> <p>Macmillan Learning may analyze the student messages in de-identified form to improve the tutor and other Macmillan Learning products. Additionally, we maintain audit capabilities that allow us to monitor responses input into the tutor for accuracy and bias. For additional details about our data privacy practices, please see our Privacy Notice.</p>	
<p>Other Considerations</p>	<p>Achieve's AI Tutor uses empathetic language, including emojis, to enhance human interaction rather than replace it. It offers personalized engagement that mimics natural conversation. This approach complements educators by providing consistent, empathetic support while preserving their pivotal role in guiding and mentoring students.</p>	

If you would like to learn more about the AI Student Tutor in Achieve, contact your local Macmillan Learning sales representative or [request your free instructor sample](#) of Achieve for General Chemistry, Majors Biology, Principles of Economics, Intermediate Economics, or Introduction to Statistics, or Statistics II.