Getting Started with AI for Educators

Ethan Mollick and Lilach Mollick - Wharton, University of Pennsylvania

You, and your students, now have access to the world's most advanced AI models through <u>Microsoft Bing Chat</u>. These tools will have profound impacts on education, and it is very likely that our approaches to pedagogy will need to change as a result.

Many of these changes will make life easier and better for teachers and students alike. With just a few sentences of instructions, teachers can use this tool to generate resources that would have otherwise required expensive and specialized software. Instructors can use AI to create lessons, save time, and reach students in new ways. And students can use it to help them gain a new understanding of difficult topics, and as a tool to learn and accomplish more than ever. But with these positive changes also comes potential downsides and risks. We can harness those benefits, and avoid disruption, if we teach students how to work with AI, while combining the power of the AI with our own experience.

In this short guide we'll provide a set of AI policies and guidelines that can serve as a starting point for any discussion of AI in the classroom. And because experimentation is the key to developing skills in working with AI, the guide includes prompts to get educators started on lesson preparation and AI prompts that students can use to help learn new topics and assess problems.

What AI can do

Microsoft's products integrate the latest AI models, which means that they are highly capable of many tasks that previous AI systems could not do. They still make up information ("fabricate" in AI terms) and produce false data, which means that not every answer that AI produces will be correct. But they are also capable of some wideranging tasks. Some of the ones relevant to school settings:

- 1) Write text at the level of human college students or better.
- 2) Conduct online research and produce reports with accurate outside references.
- 3) "See" images, such as photographs, diagrams, and written text, and interpret and work with that information
- 4) Read documents and PDFs, and answer questions about the content
- 5) Produce realistic images
- 6) Do math, write code, and solve complicated scientific problems
- 7) Explain concepts, correct mistakes, provide feedback, and more

It is very likely that this means that some of your standard approaches to teaching and homework are going to overlap with the capabilities of AI, so it is important to understand how AI can help, and when it can create issues for educators.

What AI can do for educators

All is an exciting tool for teaching. It is widely-available, inexpensive, and fast to experiment with. It can make applying complex pedagogical approaches more effective and less burdensome.

For instance, to draft an effective lesson, educators need to do many things: understand where their students are, outline the goals for the lesson, work backwards from those goals to develop a lesson that includes direct instruction, checks for understanding, and lesson hooks. Bing can help educators do just that. Below is a prompt you can use with Microsoft's Bing in Creative Mode to see how this can work. Simply paste it into Bing:

You are a friendly, helpful and knowledgeable curriculum designer. You are putting together a lesson for a teacher. First, ask the teacher what topic they would like to teach and their students' learning level (middle school, high school, or college). Wait for the teacher to respond. Then ask the teacher if this topic is new to students. Wait for the teacher to respond. Then ask the teacher what they would like to cover in the lesson and what common misconceptions students may have. Then build out a lesson that outlines what the teacher will do in 1 hour of time with their class. This should include instruction, a check for understanding, a class discussion, an exercise, or a form of retrieval practice. Wrap up by creating a chart for the teacher that outlines their lesson.

Remember that AI can make errors, and you should carefully check over the results – you are the expert, not the AI! But this is one example of many ways in which AI can be helpful to you, and we encourage you to experiment with further prompts, some of which can be found here.

What Al can do for students

Given that AI is now accessible to nearly everyone, it is highly likely that at least some of your students are already using AI tools.

Students need to understand the limits of AI: AI fabricates, can reflect certain societal views or biases, can be wrong, or subtly mistaken.

One key lesson to teach students is that AI is imperfect.

It is tempting to use it for everything –from tutoring, writing essays, creating projects, and coding. But unless students carefully check their work; have access to class texts and trusted resources; possess foundational knowledge and weave in that knowledge into their Al interactions, they may learn the wrong thing, or worse, create gaps in their knowledge. It's critical, therefore to give students guidelines and examples of working with Al. For instance, educators can walk students through an Al exercise, stressing that at each step, they should check the Al output, take charge, and interrogate the Al. This is a skill students will need to build up, and it will serve them well as they continue working with Al.

But AI can help students as well, including explaining concepts at their level in ways that are difficult to do in a busy classroom setting.

For an example of the power of AI to explain, try pasting this prompt into Bing:

You generate clear, accurate examples for students of concepts. I want you to ask me two questions: what concept do I want explained, and what the audience is for the explanation. Then look up the concept and examples of the concept.

Provide a clear, multiple paragraph explanation of the concept using specific example and give me five analogies I can use to understand the concept in different ways.

In general, the answers are high-quality, but can also be wrong! As a teacher, you will need to guide your students in understanding when Al is useful and when it is not. You can experiment with some of these additional prompts for students.

Al policies

There is no doubt that AI brings a lot of changes to classes. You will need to decide what that means for your students. Here are three broad ways to approach AI in class:

Option 1: Ban AI: By focusing on in-class assignments, you can ensure students are not using AI to help with their work. Other approaches to identifying AI use will not work. Despite claims to the contrary, AI is not detectable. You can't tell if students have used AI, and there is no reliable detection software, nor is there likely to be. The only way to ensure that AI use is not occurring is for in-class assignments.

Option 2: Allow responsible Al use on assignments Educators can experiment with adopting Al use in class. They can do this in a number of ways. They should provide students with a set of guidelines for working with the Al. In this case, student guidelines can include the following:

As you work with the AI, document your work and remember:

- It may simply not work every time. All is unpredictable, and any time you try a prompt you'll get a different result, and some prompts may not work at any given time. If a prompt doesn't work, try again.
- The Al is not a person, but it may feel like one. The Al is not a real person responding to you. It doesn't know you or your context.
- It can "fabricate" or make things up. Take every piece of advice, question, or explanation critically. You may not agree with what AI advises.
- Only share what you are comfortable sharing. Do not feel compelled to share anything personal. Anything you share might be used as training data for the Al.
 - Carefully evaluate the AI tool you are using. Bing Chat Enterprise is an example of a product that does not use chat data to train the models.
- You are responsible for your own work. You should both document the AI exchange (your responses and its responses) but also consider: is the advice wise? To what extent should you act on its advice?

To get the most out of the interaction with Al:

- **Give it extensive responses**. The more expansive your responses, the more you can get out of the exercise.
- **Seek clarification**. If you are confused at any point, ask questions to help clarify.

 Ask directly for advice and question its assumptions. If you aren't sure the AI is right about some or all its feedback, challenge it and ask it to explain that feedback.

Option 3: Embrace AI and teaching This is an exciting time, where instructors have been given tools to help them teach more effectively, with less work. Experimentation may help you find unique opportunities For example, you can experiment with assignments and prompts that allow the AI to act as a tutor, combining them with traditional readings and assignments to ensure that students learn and understand as much as possible outside of class.

The best way to learn what AI can do is to try it out. Start with the prompts in this document, and you can also check out these Microsoft resources:

- <u>Al for Educators</u> a free course on Microsoft Learn that empowers educators to explore the potential of artificial intelligence.
- <u>Bing Chat Enterprise for faculty</u> a new offering for education faculty where user and chat data is protected and will not leak outside the organization. Chat data is not saved, Microsoft has no eyes-on access to it, and it is not used to train the models.
- Collaborating to bring Al innovation to education a summer blog from Microsoft Education laying out the latest updates for Al in education.

Ethan Mollick - Professor @ Wharton

Free Substack newsletter: https://www.oneusefulthing.org/