TOMORROW GLASSES

Teacher Resource Pack

TeacherBot: 10 Ways to Use AI to Engage Students

1

Information summary – and lessons to learn

📺 Watch TeacherBot in action!

Tool:Google Gemini, ChatGPT, MIcrosoft Copilot, etc.

Prompt:I'm a fifth grade teacher, and I'm going to be teaching a series of lessons about Amelia Earhart as part of women's history month. What are some of the most important parts about her - and what important lessons can students learn from them?

Why it works:It quickly summarizes information about whatever topic you're studying or teaching from a variety of sources.

What you'll get: A summary of details about the subject and what students can learn from them

2

Academic standards connections

📺 Watch TeacherBot in action!

Tool: Google Gemini

Prompt:Can you connect these points to indiana fifth grade social studies standards?

Why it works: It helps you align your lessons to state, national or other academic standards ... or it can provide ideas for specific standards.

What you'll get:Justification of standards to what you're teaching

3

📺 Watch TeacherBot in action!

Academic standards connections

Tool: Google Gemini, ChatGPT, MIcrosoft Copilot, etc.

Prompt:This is great. With those indiana standards in mind, can you suggest a weeklong unit about amelia earhart for my fifth grade class? We have class monday through friday, and i'd like to dedicate an hour of instruction to this every day. Suggest discussion topics and an activity we can do each day.

Why it works:It gives you some beginning lesson planning ideas, which you can dive into with more detail by asking follow-up questions.

What you'll get: Lesson plan ideas, activities, and more

4

📺 Watch TeacherBot in action!

Connect with a celebrity or topic of interest

Tool: Google Gemini, ChatGPT, MIcrosoft Copilot, etc.

Prompt:In day 1 of the unit plan, the discussion topics talked about historical context for amelia earhart. My students are really interested in Taylor Swift. Can you make connections between Taylor Swift and Amelia Earhart for Day 1 of that unit plan?

Why it works: Find something that students like and, if you're ambitious enough, you can probably find a connection between it and what you're studying. AI assistants can help make those connections for you.

What you'll get:Some comparisons – and justifications of why those connections exist.

5

Write song lyrics

📺 Watch TeacherBot in action!

Tool:Google Gemini, ChatGPT, MIcrosoft Copilot, or Suno

Prompt:I'd like you to pick a Taylor Swift song and rewrite the song lyrics about amelia earhart. Pick the song that allows you to write the best song about amelia earhart. I'd like a verse and a chorus.

Why it works: It connects with an area of interest for students – music. Students are familiar with song lyrics and what they like about them. Connecting content to that can connect with students.

What you'll get:A series of verses and a chorus rewritten for the subject matter you're studying.

6

Interview a historical/literary character

📺 Watch TeacherBot in action!

Tool:Google Gemini, ChatGPT, MIcrosoft Copilot, etc.

Prompt:I'd like you to play the role of amelia earhart. In your interactions with me, use everything you know about her — her life, her personality, her way of communicating, her values — to make as accurate a simulation of her as possible. Do you understand?

Why it works: It's a new way to look at someone you've been studying. As humans, we can make our best predictions about how that character would respond to questions based on what we know about them. AI can draw from more information and craft a response in seconds.

What you'll get: A summary of how the AI views the character and fictitious responses from the character created by AI

7

📺 Watch TeacherBot in action!

Interview a historical/literary character

Tool: MIcrosoft Designer

Prompt:Generate images of what Amelia Earhart would look like as a Barbie doll, a cartoon character, a Funko Pop doll, and a Lego minifigure.

Why it works: AI image generators can make creative images with the very specific instructions you give them. If you have some vision (or get inspiration from others), you can create some fun, creative stuff.

What you'll get: Images that look like your character as these different toys and concepts.

8

📺 Watch TeacherBot in action!

Improve an activity with student interest, tech, etc.

Tool:Google Gemini, ChatGPT, MIcrosoft Copilot, etc.

Prompt: Let's go back to the five-day unit plan. Can you give me details about the map it out activity? How can we make it fun and relevant to students' interests? And how can we incorporate classroom technology to make it more student-centered?

Why it works: Identify an activity and asking for improvements. When you do that, the AI assistant starts to unlock possibilities you didn't expect.

What you'll get: Several suggestions for improving activities (some you may like, some you may not)

9

Create real-world connections

📺 Watch TeacherBot in action!

Tool:Google Gemini, ChatGPT, MIcrosoft Copilot, etc.

Prompt:Let's keep brainstorming ideas for my five day unit. Amelia Earhart was a trailblazer who broke traditional norms for women by going into aviation. What are some job fields where women are trailblazing like that today?

Why it works: Students commonly ask, "When will I need to use this in the real world?" This is an easy way to get some answers. And an AI assistant can answer follow-up questions to help you dive even deeper.

What you'll get:Suggestions for how the content connects to the real world

10

Text adventure game

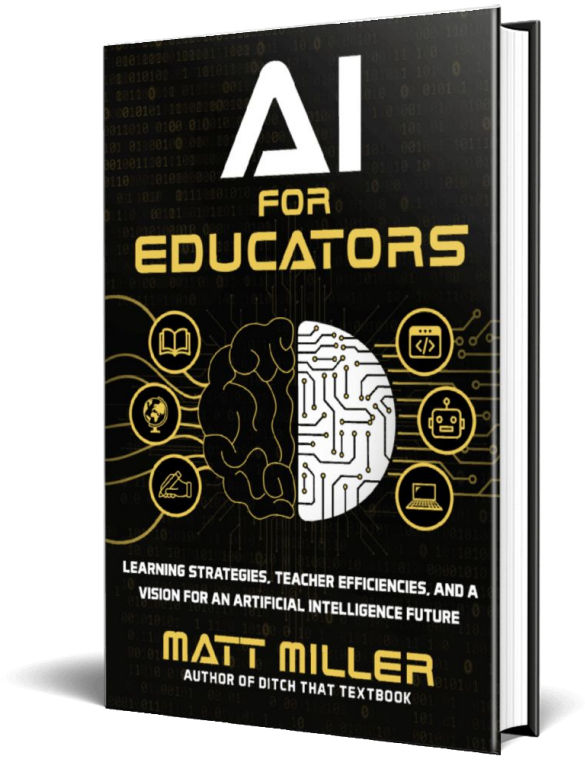
📺 Watch TeacherBot in action!

Tool:Google Gemini, ChatGPT, MIcrosoft Copilot, etc.

Prompt: I'd like you to create a text adventure game for me. I'd like it to explore the life of Amelia Earhart and help me explore important happenings, events, and themes about her life. Create the text adventure as if I'm going on a flight with Amelia Earhart where we talk about her life and important lessons learned.

Why it works: It's an interactive and fun way to learn about new content. Students have lots of choices in these text adventure games. Plus, it's new every time students do one.

What you'll get:A series of segments of stories with options students can choose from to continue the story



Get the book: *AI for Educators*

Predictions say that artificial intelligence may change the world more than the iPhone, the internet, or even electricity.

It's bound to change education. (It already has.) But how?

AI for Educators is a readable guide for educators.

It also paints a picture of the future our students will face — and provides questions you can help them grapple with.

We can use AI to empower teaching and learning. And it can start today.

BUY THE BOOK

Tomorrow Glasses /// Matt Miller @jmattmiller /// DitchThatTextbook.com

“By the Way” Lessons for AI

What is a “By the Way” lesson? A "By the Way" lesson refers to small, impromptu pieces of information or insights that educators share with students during teaching moments. These lessons are not planned as full instructional sessions but are inserted naturally into conversations or teaching

1. Conversational replies

By the way, did you know that when you prompt an AI assistant, you don’t have to get the prompt right the first time? You can ask it follow-up questions to get more information from it.

2. Things that it's good at

By the way, did you know that AI assistants like ChatGPT work best with text? They’re called large language models, so anything with text is best.

3. Things it’s not good at

By the way, did you know that ChatGPT isn’t very good at math? It’s a large language model, so it’s developed to work mostly with words. When it has to think about math, it struggles.

4. The benefits of school despite AI

By the way, did you know that it’s still good to practice writing (and other subjects) even though AI is good at them? You might not always use AI, and knowing the skills helps you know if the AI response is good or not.

5. Why AI bias is real and a problem

By the way, did you know that AI sometimes produces biased responses? It learns everything it knows from data from humans, and humans are biased. It passes on the bias it learns from humans.

6. AI hallucinations

By the way, did you know that AI makes mistakes? They're called "hallucinations." Sometimes, if you tell an AI model it's wrong, even if it is wrong, it says it's right, so you have to be careful.

7. The power of collaborating with AI

By the way, did you know that you can use AI like a partner? Instead of asking it to do the work for you? It levels up what you're able to produce yourself – and doesn't make you obsolete.

8. How using AI is similar/different to traditional research

By the way, did you know that AI information is different than traditional research? AI puts together answers based on lots and lots of data, and sometimes the AI doesn't even know where the source was.

9. How AI might fit into real-world work

By the way, did you know that AI will likely be a part of your work when you grow up? In fact, lots of professionals already use AI in their daily work – not to do the work for them, but to help them do their own work better.

10. How it's more powerful for you to do some/most/all yourself

By the way, did you know that it's better for everyone if you do some (or most or all) work yourself – instead of asking AI to do it for you? That makes sure you have an important place in your work that won't be outsourced.

11. Finding the line between OK and too far with AI

By the way, did you know that sometimes it's hard to find the line between "just enough AI" and "too much AI"? A good way to learn is to reflect on how you think it went afterward and try to do better next time.

12. Consequences of going too far with AI

By the way, did you know that it can be trouble if you use AI too much? Sometimes, AI makes mistakes, and you won't catch them if you don't double-check. Plus it'll limit how much you can learn yourself.

13. Using AI to help you understand and think deeply about something

By the way, did you know that AI can help you learn about pretty much anything you're curious about? You can keep asking it follow-up questions for as long as you need to understand it.

14. Using AI as your own tutor

By the way, did you know that you can use AI assistants as your own personal tutor? If you have questions or need explanations it can help. Just remember that it makes mistakes and gets things wrong sometimes.

Bring the Tomorrow Glasses keynote to your event!

Artificial intelligence is growing exponentially. Teachers are left wondering ... How does it impact the classroom? How do we ensure academic integrity? How can I plan for a future that is hard to envision? The key is to use Tomorrow Glasses. In this speech, Matt Miller provides practical steps to ensure your instruction is relevant to your students' future. AI is just the latest example. You'll leave this speech with more confidence to envision the classroom that your students need and to take the imperfect steps necessary to create it.

Interested in bringing this keynote to your school, district or event? Email Jeff at hello@DitchThatTextbook.com for information, availability, and a speaker fee quote. Or get some details on our Work With Us page.

Tomorrow Glasses: 10 Ways to Prepare Students for Their Future

Shift 1: Emphasize process over product.

What this means: Process over product puts more of the emphasis on how you got to the product than the actual product itself. It helps the student — and the teacher — look at the steps and the thought process.

Instead of completing the entire math worksheet, maybe a student does a deep dive on one individual problem — and records themselves talking through the entire process in video or audio.

Reflection questions can be really helpful here, too. Encourage students to describe their process in follow-up questions. When they do that, they're forced to confront how they arrived at their conclusions. Plus, you — the teacher — have a glimpse into the way your students think.

How this prepares us for an AI future: Much like the "why over what" above, process over product helps us focus on student thinking. In the past, we have used worksheets and essays to gauge what students think, how much they've learned, what they're able to do. But when artificial intelligence can create those artifacts of learning, it's up to the human to focus on the process. Sure, AI will be able to help us solve problems. But as humans, there will always be situations where we'll need to take action on our own.

Shift 2: Discuss ethics.

What this means: Ethics can be defined as the philosophical study of moral right and wrong, good and bad, and the rules and principles that should govern human conduct. Morally right and wrong decisions have been made throughout history. Plus, in all fields of study, ethics guide what we do and don't do.

As we make a shift from "what" to "why" (see above), asking ethical questions can help students practice making decisions and "getting it right."

How this prepares us for an AI future: AI models make decisions based on their training and the data in their datasets. Where did that data come from ... and who shapes their training? Humans ... at least for now. Artificial intelligence is still in its infancy. It will continue to proliferate across the workforce and our everyday lives. But how much should it? And in what areas? And in what ways? We don't want to farm these decisions out to artificial intelligence because they'll impact how we exist and what future we have. If we help create ethical thinkers in the classroom, our students will be better equipped to make these decisions in the future.

Shift 3: Use “by the way” lessons.

What this means: A "By the Way" lesson refers to small, impromptu pieces of information or insights that educators share with students during teaching moments. These lessons are not planned as full instructional sessions but are inserted naturally into conversations or teaching interactions. They typically involve sharing interesting or relevant facts, anecdotes, or explanations that complement the main topic being discussed. In essence, "By the Way" lessons are like little nuggets of wisdom that educators sprinkle into their teaching to enhance students' understanding and engagement.

How this prepares us for an AI future: Integrating "By the Way" lessons about artificial intelligence (AI) into teaching can be a valuable tool for preparing students for the future. By sharing brief insights about AI during regular lessons, educators can equip students with basic knowledge and provoke critical thinking about this rapidly advancing technology. These spontaneous AI-related tidbits can help students grasp fundamental concepts about AI, such as its capabilities and limitations, without the need for dedicated AI curriculum. This approach not only raises awareness about AI but also encourages students to consider its implications and ethical considerations in various contexts. Ultimately, incorporating "By the Way" lessons on AI can foster a more informed and thoughtful generation ready to navigate the complexities of an AI-driven world.

Shift 4: Emphasize problem-solving skills.

What this means: Problem solving is more than answering questions. It also doesn't have to be as complex as adopting a problem-based or project-based learning approach in your classroom. It can land somewhere in the middle.

There are lots of approaches to solving complex problems. This eight-step process for solving problems includes:

1. Defining the problem
2. Clarifying the problem
3. Defining the goals
4. Identifying the root cause of the problem
5. Developing an action plan
6. Executing the action plan
7. Evaluating the results
8. Continuously improving

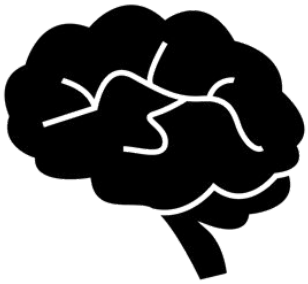
How this prepares us for an AI future: AI models are getting better and better at taking complex problems — with a variety of information — and providing solutions. However, the priorities and values that go into the problem-solving process don't always match up with what we want as humans. Plus, we won't always be in a place where it'll make sense to consult an AI model for solutions to problems. We'll need to solve problems on our own.

Shift 5: Highlight how to be a better learner.

What this means: Cognitive science has studied how the brain works, how people interpret and process information, and how they improve at skills. Plenty of effort in the field for decades has focused on memory — how to remember things. As we go forward, this will still be important — but other areas of learning will be crucial as well. The Derek Bok Center for Teaching and Learning at Harvard University shares these areas in the science of learning:

- How memory works
- Comprehending and communicating knowledge
- Metacognition and motivation
- Promoting engagement

How this prepares us for an AI future: It's impossible to know how the world and the workforce will change as AI becomes more widespread. It's safe to say that some jobs will become obsolete while other new jobs will be created. (There's also an argument to be made about the place of jobs and work in a world of AI models with far superior intellect. But that's a conversation for another day.) No matter the changes that happen in this world, if we know how to learn effectively — and make decisions and solve problems based on it (see above) — we'll be better prepared for the coming world that changes quickly. Agile learners will have an advantage in an ever-changing AI world.



Shift 6: Design AI into work on purpose.

What this means: Many times, teachers and schools are more interested in telling students what they shouldn't do with AI. This doesn't teach them how to use it ethically and responsibly. If teachers design it into the lesson on purpose, they can help shape how the AI should be used in the lesson. Plus, it models what responsible use looks like.

How this prepares us for an AI future: It gives students a clear picture of how responsible use of AI looks in academic work. Plus, when given a chance to reflect on how it went, they can use that reflection to do better next time.

Shift 7: Try it yourself — and talk about your experience.

What this means: There's one way you can gather tips and suggestions for using AI responsibly with your students. And that's to try it yourself and share your experience. When you do that, you're seeing what you like about it and what you don't. And then, when students use it, you can share your experiences – and better understand theirs.

How this prepares us for an AI future: When you use it yourself and talk about your experience, you're modeling how a responsible adult uses (and doesn't use) AI in their day-to-day work. When students realize that you know have some experience and are willing to talk about it, it opens you up to be a role model – or at least a trusted adult that students can talk to about it.

Shift 8: Have conversations about expectations

What this means: Facts and details are only a small part of the full story. And many times, they're not instructive. They don't teach us life lessons that can guide our decision-making in the future.

Plus ... (and I know I don't have to tell you this) ... with search engines and AI assistants to help us look these details up, the value in being able to recall them isn't as strong.

A focus on the "why" is about the lessons learned. The path we can take with our own lives. The advice and truths we can carry with us when it's time for us to make our own decisions.

How this prepares us for an AI future: Just as search engines did, the growth of AI assistants will make information easier to access. The more accessible it is, the more we can ask this question — "What can I DO with that information?" AI models will be able to gather, summarize, and prioritize information for us. It's still up to us to make decisions — to take action in our lives. These "why" conversations can inform that.

Shift 9: Emphasize collaboration and relationships

What this means: Collaborative work, in its truest form, means that students work together and depend on each other's unique skills to come to a conclusion (or product) that couldn't be reached without everyone's efforts. Even if we don't reach this pinnacle, efforts to collaborate can help students see each other's unique viewpoints. They can help students see mistakes and work through them effectively. Plus, they can help students to do more — and work better — than they might on their own.

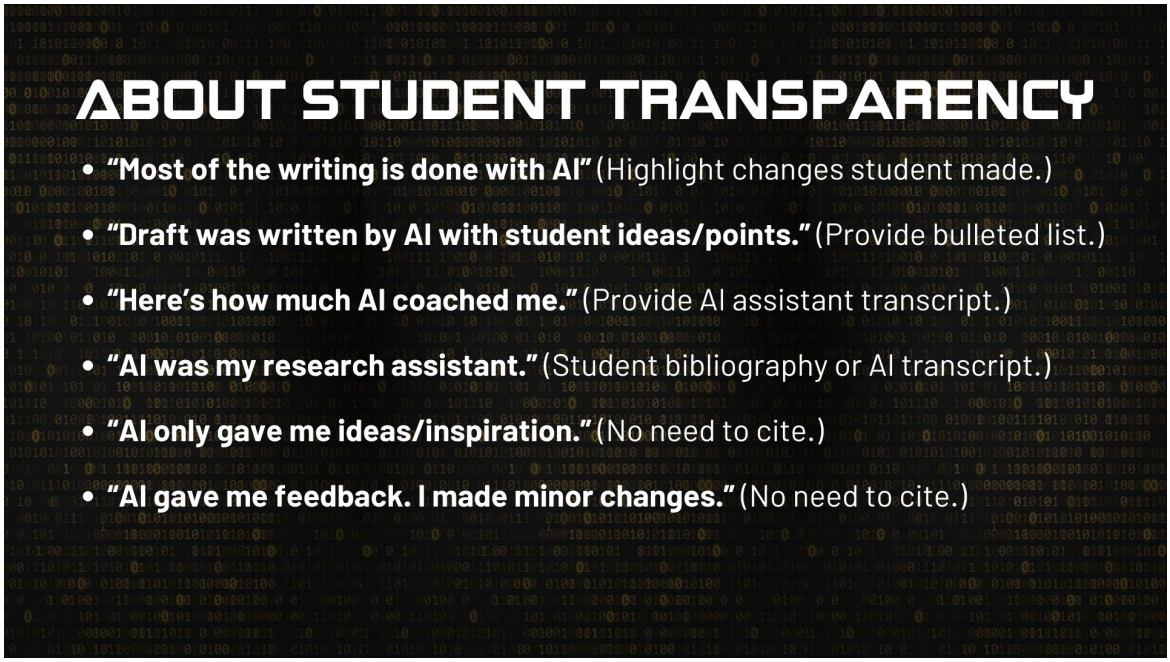
Building relationships is a skill that prepares students for the future. No matter our future, there will always be humans, and we humans will need to get along with each other. We will still depend on each other. If students get practice in building relationships — even working relationships with classmates they don't see eye to eye with — they're getting practice at that crucial skill.

How this prepares us for an AI future: The growth of AI will change the way we do work. But it won't mean that humans don't exist anymore. Even if AI is able to complete tasks for us and do some of the thinking, humans will still do important work — and will need a purpose. We will still crave human-to-human interaction no matter what. The ability to work together with one another — and the ability to get along with each other — seems to be a timeless skill.

Shift 10: Show students how to be transparent with their AI use

What this means: One of the biggest concerns from teachers about students using AI is that they'll try to pass the AI work off as their own. This is a problem because the student isn't demonstrating their own skills and abilities. It derails the entire assessment process – and it also erodes trust between student and teacher. Instead, we can show students ways that they can be transparent about how they're using AI so everyone's on the same page.

How this prepares us for an AI future: In their jobs in the real world, your students will need to decide when it's appropriate and necessary to say that they've been aided by AI and when they don't need to disclose that. It's not an easy distinction. If they've had conversations about that – and have done it in practice some – it'll come more naturally to them. The examples below can help begin to guide the process.



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