

How Flipped Learning Can Save Classrooms from Over-Reliance on AI

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<https://www.modelteaching.com/education-articles/ai/flipped-learning-helps-ai-over-reliance>

While you may enjoy enlisting the help of a chatbot to help you come up with a new classroom activity, you also understand the inherent risk that the same chatbot poses to your students attempting to master content in your classroom. English teachers are perplexed by students using chatbots to draft essays; math teachers worry that students are asking those same tools to solve math problems rather than practicing on their own. What's more concerning is that teachers will have a harder time verifying what students know and whether what they are learning through AI-assisted tools and chatbots. There are many concerns about students' use of chatbots, including an alarming increase in students using AI to complete homework tasks, which is resulting in decreased critical thinking [https://www.rand.org/pubs/research_reports/RRA4742-1.html].

But the benefits of AI cannot be ignored. AI has the power to completely transform our world- and whether we like it or not, it's here to stay. Never before have we been able to research multiple topics at once and synthesize search results like AI can now do. AI automations have drastically changed the way individuals complete tasks more efficiently. Knowledge has never been easier to access, even though chatbots do sometimes hallucinate information [<https://www.ibm.com/think/topics/ai-hallucinations>].

So, how do educators reconcile these two facets of artificial intelligence- recognizing that an over-reliance on AI can harm students' academic development, but also acknowledging the benefits AI can provide in terms of productivity and as a source of information? We've written before about why we believe AI won't replace teachers (<https://www.modelteaching.com/education-articles/teaching-strategies/will-ai-replace-teachers>), and one reason is that teachers are still the only ones who can ensure students are actually learning. As chatbot usage becomes as ubiquitous as "googling", teachers will need to find ways to teach students responsible AI use and model appropriate, even beneficial, ways of interacting with AI. One way to embrace AI in a way that improves student thinking and learning, rather than risking harm, is by implementing a flipped learning approach in your classroom. This article will make an argument that flipped learning can be a valid method of student learning and a way to embrace but also regulate AI usage in reasonable ways.

What is Flipped Learning?

Flipped Learning is an approach where direct instruction shifts out of the in-class space and instead is provided to individual students at home, freeing up classroom time for deeper engagement, guided application of concepts and activities, and more interaction with the concepts under the teacher's guide. (<https://flippedlearning.org/definition-of-flipped-learning/>) In practice, this means that students are introduced to new content on their own at home before class, and then practice the concepts they learned in the classroom, “flipping” the traditional classroom model around. This flipped structure is exactly what makes flipped learning so well-suited to the current AI movement, where students are increasingly likely to use AI for homework assistance. Moving the content delivery out of the classroom and requiring the practice work and rigorous activities inside the classroom helps teachers preserve learning and avoid the temptation of AI chatbots at home. While you may not be able to flip learning all the time in your classroom, utilizing it at times when you know you want students' full attention and focus when practicing content can help improve their learning and your instruction.

The Out-of-Class Lesson Delivery

In the flipped learning model, out-of-class, or at-home, lesson delivery means students complete certain core lesson components outside the classroom. In an “AI-aware” classroom, your goal in assigning an out-of-class lesson should be a focus on the initial exposure to the content and not on the production of actual work. In other words, outside of the classroom, it will be your student's job to learn concepts through watching videos, reading pre-prepared notes, or even using AI and chatbots to learn more about a topic, etc. Research in over 100 flipped classrooms consistently showed that when the out-of-class component of flipped learning ensured students were engaged and held accountable for completing the content assignment, they showed the biggest gains <https://hechingerreport.org/proof-points-114-studies-on-flipped-classrooms-show-small-payoff-for-big-effort/>. So, your goal when designing your out-of-classroom lessons should be to ensure that your students are actually completing the tasks and that they are engaged with the content. These goals ensure they are actually learning the background knowledge required for success when they return to your classroom the next day. The real thinking, writing, and problem-solving that pushes student learning forward will happen later, in the classroom, where it can be observed and supported by you, the child's teacher. *One important caveat to note is that not all students may be able to access the materials

and resources you require at home. If you choose to provide a video or digital tool for at-home learning, you should make sure all students are able to access the resource. If not, you should consider alternative ways for them to learn the content at home, such as printing notes or assigning a reading.

Methods to Check for Engagement and Understanding

It is not enough to simply provide a way for students to learn the content when they are outside of your classroom. You have to do your best to make sure that students are actually viewing it and interacting with it as you have planned. There are a number of ways to increase student engagement and check for understanding. This should be a part of the out-of-class learning experience so that you can collect and analyze any needed data about your students' understanding of the basic concept you provided to them before they begin more rigorous coursework with you in class.

You must be mindful of the kinds of checks you provide to students in an out-of-class environment. Open-ended responses or analytical kinds of tasks can easily be completed using a chatbot. Instead, consider requiring short reflection prompts, monitoring student completion of a video you require them to watch, requiring completion of a short, timed quiz based on the at-home lesson material, etc. Your goal is to monitor that students have completed the learning assignment and can answer basic, low-level questions about the content.

The In-Class Lesson Delivery

Once the out-of-class activities have been completed by students, and they come back into the classroom, it is time for them to dive deeper into their learning. In-class activities should require students to engage more deeply and rigorously with the content. You can incorporate cooperative learning so that peers can have conversations and share ideas about the new content. In-class activities also allow time for teacher-student interactions, as well as for appropriate assessment and intervention for students struggling to master the content.

This is also where AI is kept out of learning. When you require writing, reasoning, practice, problem-solving, etc., to happen during your class, students aren't able to utilize a chatbot. Pen-and-paper practice, class discussions, and hands-on activities promote deeper learning and human connection, which are essential for students to thrive academically. The U.S. Department of Education's Report on AI

<https://www.ed.gov/sites/ed/files/documents/ai-report/ai-report.pdf> emphasizes the importance of "humans in the loop," which, in the context of your classroom, means keeping teachers and learners in the position of deciding when and how AI is used. By keeping most deep-thinking tasks in the classroom, with you as the facilitator, you can ensure you control how AI is used to learn your classroom concepts.

Cooperative vs independent work

One of the benefits of true Flipped Learning is the interactions and dialogue that can happen among peers, so most of your activities will likely be rooted in cooperative learning strategies, like small group discussions or group investigations. This may be the time for a hands-on science lesson after students have learned about chemical reactions. Or, after being introduced to fractions at home, you might require some hands-on learning using fraction tiles in your classroom.

However, you know your students and your content best, and there may also be times when independent practice is necessary and will still lead to high levels of cognitive thinking. For example, you might require your students to independently write a response to their previous night's reading, or perhaps you want to independently quiz students on the new vocabulary they should have studied last night.

A combined approach would also be appropriate, where students have the flexibility to work independently but also to more deeply discuss and engage with peers during a cooperative component of the lesson as well. The key is that the work you choose should be rooted in rigorous interaction with the content, at a deep level, allowing you to engage students in learning content with you facilitating learning, and not an AI tool.

What Flipped Learning Can Look Like Across Content Areas

Take a look at a few examples of out-of-class and in-class work to better understand how flipped learning can look across different classrooms.

Middle School Science

Out of class: Students watch an 8-minute teacher-selected video on the parts of plant and animal cells that she has placed in Canva. She also asks them to complete a printed worksheet on the concepts covered in the video to serve as their notes, and requires them to turn it in tomorrow when they arrive at school.

In class: Students work in small groups to build a "cell analogy," comparing a cell to a school, a city, a factory, or a sports team, and explaining each organelle's specific role. The teacher circulates the room and helps any students struggling with their analogy. She ends the lesson with a closed-note assessment requiring students to label parts of the cell so she can determine whether students need more practice.

High School ELA

Out of class: Students read or listen to the assigned short story. They should come to school the next day prepared to write about and then discuss the short story.

In class: Class begins with a handwritten prompt: *Describe the moment where the plot shifted for the main character, and explain why.* They will use specific evidence and quotes from the short story in their writing. Students are able to utilize their book, a piece of looseleaf, and a pencil to complete the activity. Afterward, the teacher facilitates a whole-class discussion, where students share their handwritten responses. A student who skipped the reading and asked AI for a summary the night before likely would not be able to hold a deep discussion or participate meaningfully in the discussion.

Elementary Math:

Out of class: Students watch a short worked-example video showing how to place fractions on a number line. She includes a short 5-question quiz just to ensure that the students are paying attention to the video. They are also given access to an optional digital app that allows them to visualize different fractions on a number line.

In class: Students work hands-on with physical fraction strips and a large number line, while the teacher circles the room and works with individual students who seem confused. She then provides an independent activity for students to complete, while she pulls a small group to re-teach the concepts for those who are still struggling.

High School Social Studies:

Out of class: Students watch a teacher-selected video summarizing the major causes of the Civil War. The teacher tells her students that they can also ask a chatbot questions about each cause if they would like to learn more, emphasizing that using AI to learn can be a nice supplement for their studies.

In class: Students work in small groups with a packet of primary sources to identify and order the major causes of the Revolution, discussing and debating which cause was the most significant trigger. Students then individually write a handwritten position paragraph in class, citing evidence from the primary-source packet. The teacher facilitates the debate and provides immediate feedback on student reasoning.

A Final Reflection

AI is an incredible technological advancement, and it can be a gift to learning. There are genuine ways it can support student learning, like helping a struggling reader access background knowledge, giving an English language learner a translation, or helping students master basic facts and fluency [<https://apps.modelteaching.com/>]. When used well, AI can elevate learning if individuals use it responsibly and purposefully for the true intention of learning.

But, this article was about what to do when you suspect AI is becoming a crutch for your students, or when you feel it could be replacing the cognitive work that a student should be doing themselves. In those cases, you need to protect your students and ensure they are doing the cognitive work so they are focused on learning. When you worry about overreliance on AI, flipped learning is one strategy you can incorporate into your classroom to ensure your students think critically and learn content deeply. While flipped learning won't solve every challenge AI brings into the classroom, it gives you a structure you can rely on to ensure your students are doing the thinking themselves.

To understand the flipped learning model better and practice planning for strong classroom activities, you can take our flipped learning course here:

<https://www.modelteaching.com/professional-development/flipped-learning-an-effective-at-home-in-class-instructional-model>

References

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