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AI in the Classroom – A Teachers Perspective



Dean Norris, November 2023

As an early adopter of technology, I bring a 25-year history of managing and teaching, with a recent focus on post-pandemic education for middle and high school students. As a technologist, my collection includes old cell phones, an original Macintosh from circa 1990, and years of files saved to DVD.

My discovery of generative AI in 2022 – large language models that generate predictive text – immediately captured my interest. To date, I've curated a library of over 1,000 articles and links, and authored an introductory course on generative AI that I provide to my students, fellow teachers, health professionals, and business owners. The series is available on my website, [Practicebasics.com](https://practicebasics.com) where I post daily upgrades, developments, and expanding uses of AI, its misuse and abuse.

AI moves information (and disinformation) from the traditional “slow flow” media routes to a new vector of distribution. Moreover, malicious actors, including arsonists, nihilists, and hackers, are quickly realizing how they can exploit this new tool to leverage their malcontent. Our students are absorbing, influenced and exposed to this

new torrent of information – good and bad. As their teachers we must understand where they get their information, their facts, and how to teach them to be critical thinkers.

In my experience there are those among us who teach, heal, and build business with good intent. Generative AI is an incredible tool for us. However, as has always been the case, it is also a tool for those intent on spreading disinformation, causing confusion, and disrupting order.

From the Teacher's Desk

"Teaching is a challenging profession. Though the rewards are often immediate, they are not always financially substantial. Nevertheless, it remains a demanding job. Generative AI is an incredible tool for teaching. Since many schools I collaborate with restrict access to ChatGPT, I bring my personal laptop to use it during teaching. It aids in creating spontaneous lesson plans aligned with state standards and answering the students' intriguing questions on the spot.

Targeted at educators, this article highlights how generative AI can be a time-saving tool. Effectively used, it can enable you to explore topics previously constrained by time limitations. Ranging from generalized [to individualized lesson plans](#)— particularly beneficial for students with learning disabilities or limited home support — it can serve as a perpetual assistant in your classroom.

References:

- [ChatGPT has entered the classroom: how LLMs could transform education](#) Nature.com Nov. 2023
- [Artificial Intelligence and the Future of Teaching and Learning](#) (pdf) Office of Educational Technology

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Ethical Use of Generative AI in Education: Basic Practices.

The rapid introduction and integration of generative AI are poised to transform many aspects of our work and its impact on education is just now beginning to work its way into the profession. As the curator of Practicebasics.com, I have compiled numerous online articles that address lesson planning, best practices, productivity tips, and other educationally related topics. Additionally, Practicebasics.com offers an introductory essay series titled "Introduction to Generative AI," covering AI's origins, architecture, ethical use and misuse, and initial prompting techniques.

A thorough understanding of the ethical issues and best practices in generative AI is essential for its effective use this is understood educators can more effectively use AI for lesson planning, augmented individual tutoring, and individual professional development.

References:

- [Center for Teaching Innovation](#), Cornell University, Fall 2023
- [Exploring the ethics of artificial intelligence in K-12 education](#), Michigan State University, Nov. 2021
- [Ethical Considerations for AI](#), Lincoln University, July 2023
- [Educating in a World of Artificial Intelligence](#), Harvard Graduate School of Education, Feb. 2023

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Lesson Planning

Generative AI's ability to access real-time digital content and link to its referenced resources significantly enhances teachers' capacity to create meaningful lesson plans. This includes creating prompts that yield verifiable, meaningful responses, suitable for supporting citations.

Learning and understanding generative AI takes time, but mastering the basics ([Practicebasics.com](https://www.practicebasics.com)) lays a solid foundation. This knowledge enables educators to develop lesson plans aligned with state standards.

References:

- [Using AI to Help Organize Lesson Plans](#) Edutopia Nov. 2023

The Art of the Prompt

The challenge to effective lesson planning is that you must compress meaningful content into a 40-to-50-minute timeframe and connect the content and themes over a directed curriculum. As an educator you already possess a high-level understanding of your subject matter. Utilizing this knowledge combined with a skill in how to utilize prompt engineering techniques can save you time, and as follows – allow you some on-the-fly resources and adjustments while teaching.

At the heart of a good prompt is context, directions, and role (voice). In [Practicebasics.com's](https://www.practicebasics.com) introduction to generative AI covers this in detail in its essays on Prompt Basics and Structured

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Prompts. Essentially – the more detail and direction provided in the prompt the better the response.

An initial prompt example:

Please create a lesson plan that provides a 50-minute lesson plan which details the following lesson plan summary and ends with a 5 question exit quiz and write it to provide references to Arizona State Standards for grade 10. Lesson plan summary: The US Constitution's First Amendment provides for the freedom of speech. This is not an absolute right, please detail defined limits to 1st Amendment and reveal sources researched and available active links.

ChatGPT Response:

Creating a lesson plan based on the summary you've provided, tailored for 10th grade students in Arizona, and integrating the state standards, would look something like this: (pdf format):

10th Grade Lesson Plan: Understanding the Limits of the First Amendment

Subject: U.S. Government/Civics

Grade Level: 10th Grade

Duration: 50 minutes

Standards: Aligned with Arizona State Standards for Social Studies (see references)

Objectives:

Students will understand the scope and limitations of the First Amendment, particularly freedom of speech.

Students will learn to differentiate between protected and unprotected speech.

Students will engage in critical thinking about the role of the First Amendment in a democratic society.

Materials:

- Computer and projector for presentation
- Handouts with key points and case studies
- Whiteboard and markers
- Exit quiz sheets

Lesson Plan Outline:

1. Introduction (5 minutes)

- Brief overview of the First Amendment.
- Discuss the importance of freedom of speech in a democracy.

2. Presentation and Discussion (20 minutes)

- Presentation on the limits of the First Amendment (defamation, obscenity, incitement, etc.).
 - Discuss landmark Supreme Court cases that defined these limits (e.g., *Brandenburg v. Ohio*, *Miller v. California*).
- Interactive Q&A session.

3. Group Activity (15 minutes)

- Divide students into small groups.
- Each group analyzes a hypothetical situation and determines if the speech is protected or not.
- Groups present their findings and rationale.

4. Review and Reflection (5 minutes)

- Summarize key points.
- Encourage students to reflect on the balance between freedom of speech and societal responsibilities.

5. Exit Quiz (5 minutes)

Hand out a short quiz with 5 questions to assess understanding.

Exit Quiz Questions: (answer one):

1. Define one limit to the First Amendment's freedom of speech.
2. Give an example of speech that is not protected under the First Amendment.
3. Why is it important for there to be limits on freedom of speech?
4. Name one Supreme Court case related to the

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limits of the First Amendment and summarize its significance.

5. How does understanding the limits of the First Amendment help in a democratic society?

References and Resources:

- [Arizona State Standards for Social Studies](#)
- [Landmark Supreme Court Cases](#)
- [First Amendment Overview](#)

Additional Notes:

- Tailor discussions to ensure alignment with Arizona State Standards for Social Studies, focusing on Strand 3: Civics/Government, Concept 1: Foundations of Government.
- Utilize active participation and critical thinking exercises to deepen understanding.
- Incorporate current events where relevant to make the lesson more engaging and relatable.

This lesson plan provides a comprehensive approach to teaching the complexities of the First Amendment, ensuring that students not only understand the content but also learn to apply critical thinking skills in real-world scenarios.

Real Time Adjustments

I have learned that using the responses you get from a structured prompt can provide excellent support material while teaching. Referring to the above response you can have included supplemental links to [Landmark Supreme Court Cases](#), additionally with minimal research you can create [informative handouts](#).

Best Practices

My survey and use of generative AI in the classroom have led me to identify four principal areas of focus and concern from September to November 2023.

They are:

- Training and Support
- Teaching Strategies
- Student Use



- Tools and Links.
Training and Support

[Practicebasics.com](#) offers a free course (under a Creative Commons License) comprising 10 essays, available either individually or as a complete work. Additionally, numerous articles provide access to free courses. More importantly, in mid-November of 2023 a comprehensive “[checklist of readiness](#)” was published by the [Council of Great City Schools](#) and, [Consortium for School Networking \(CoSN\)](#), that addresses the necessary steps for executive leadership, operational, technical, and data readiness to support ethical and proper use of generative AI.

Successful integration of generative AI requires support from a governance structure and established norms of practice. Not just the classroom, in the entire school. As this nascent phase evolves, AI vendors are also providing guidelines for more meaningful use.

Generative models like ChatGPT-4 introduce teachers and professionals to incredibly capable software. However, the details are crucial. Understanding AI's origins, its potential for misuse, and the ethical boundaries established today empowers teachers to use it effectively.

References:

- [ChatGPT releases teacher guide for AI use in the classroom](#). Geeky Gadgets Sept 2023
- [Leveraging the K-12 generative AI readiness checklist: A guide for district leadership](#) - eSchool News, Nov. 2023

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- [How To Remember Everything You Learn with ChatGPT](#) Alexander Young Oct. 2023
- [‘Is this an appropriate use of AI or not?’: teachers say classrooms are now AI testing labs](#) The Guardian, Oct. 2023

Teaching Strategies

Once a baseline of skills is established, teachers need to decide how to effectively use the application to support both their work and their students. If your school lacks an AI strategy, you can still utilize generative AI for your professional development and to create personalized teaching strategies for individual students [creating personalized teaching strategies](#) Advocating for responsible use of [generative AI in the education environment](#) and [leveraging the technology](#) will take time.

Central to a teacher's strategy in integrating generative AI is developing an understanding of, and respect for, critical digital literacy. (visit Practicebasics Digital Critical Literacy presentation [here](#)).

References:

- [AI could finally solve a problem that's long plagued education](#) - Fast Company, Oct. 2023
- [Students use calculators to do math. Let them use ChatGPT to write](#) - Big Think, Nov. 2023
- [ChatGPT has entered the classroom: how LLMs could transform education](#) Nature.com Nov. 2023
- [AI Literacy, Explained](#) Education Week
- [AI literacy for teachers and students all over the world](#) Raspberry Pi Foundation Nov. 2023

Generative AI in Student Learning

Many generative AI tools are freely available and accessible to students. Banning its use is impractical due to its widespread availability. [Teaching responsible use](#) is critical.

Understanding how your students use it students use these tools is equally important.

- **References:**

- [ChatGPT is landing kids in the principal's office, survey finds](#) - Fast Company, Oct. 2023
- [How AI can teach kids to write – not just cheat](#) - The Hechinger Report, Oct. 2023

Tools and Links

Edutopia has published two articles offering [age-appropriate resources](#) for using generative AI. These articles also suggest ways to [develop critical thinking skills](#) through AI use. This literature is expanding and updated frequently in Practicebasics monthly newsletter, [Insights](#).

References:

- [9 Tips for Using AI for Learning \(and Fun!\) Edutopia Nov. 2023](#)
- [Using ChatGPT to Support Student-Led Inquiry Edutopia, Nov. 2023](#)
- [8 Generative AI Lessons From The Classroom – Forbes Oct. 2023](#)
- [How Effective is AI in Education? 10 Case Studies and Examples Axon.com](#)

Conclusion

Once a teacher or administrator knows the basics, which include understanding the origins, ethical use, and basic prompting techniques, and are operating within a supportive governance environment. This environment encompasses policies, procedures, training support, professional development, and group support. In this context, the creative and work management advantages of generative AI are maximized. These benefits become readily available to educators and administrators.

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