



Teachers' Perspectives and Use of Artificial Intelligence in Pedagogy

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Abstract

Artificial intelligence (AI) can be used in pedagogy in infinite ways. Specifically, AI provides a wide body of information quickly to support a variety of teachers' needs such as planning, delivery, and feedback to facilitate deep learning. However, little is known about how artificial intelligence tools are integrated in schools. The purpose of this basic qualitative study was to explore how teachers integrate artificial intelligence tools in pedagogy. The conceptual framework was Venkatesh's Unified Theory of Acceptance and Use of Technology. Two research questions guided the study: What are teachers' perspectives of AI in education, and how do teachers integrate AI in pedagogy? I conducted semi-structured interviews with 11 participants who taught in a K-12 learning environment for more than 2 years and used AI tools in their teaching practice. Six key findings emerged from the study under two themes - that artificial intelligence supports teachers both professionally and personally. Regarding professional support, I found that teachers perceived artificial intelligence as beneficial for supplementing the curriculum, generating ideas for instruction, assessment, and providing feedback. Regarding personal support, I found that utilizing artificial intelligence in pedagogy helped teachers alleviate burnout and teacher-related stress. This study supports the scholarly conversation about how teachers utilize artificial intelligence in instructional design to support teachers' agency.

Keywords: *Artificial Intelligence; Pedagogy; Educators; Teachers; K-12; Perspectives*

Introduction

Artificial intelligence (AI) is transforming how teachers prepare, teach, and assess learning in content area subjects (Cope et al., 2021; Gillani et al., 2023). Although some teachers perceive challenges with accessing reliable content to supplement curriculum and instruction (Park et al., 2023), teachers who had more knowledge of AI tools had a better understanding of how to integrate artificial intelligence in pedagogy (Celik, 2023; Wang et al., 2023).

Artificial intelligence provides limitless content for educators to integrate during teaching and learning. One of the many benefits of artificial intelligence (AI) is that AI is competent in transposing information quickly and providing users with corresponding content (Cope and Searsmith, 2021; Alissa and Hamadneh, 2023). In other words, teachers can employ artificial intelligence in pedagogy to increase their effectiveness and productivity in teaching, learning, and evaluation (Cope, 2021; Gillani, 2023). However, despite the benefits of integrating AI in pedagogy, very few teachers incorporate AI-based tools into their teaching and little is known about how artificial intelligence tools are integrated in schools (Galindo-Domínguez et al., 2024; Seufert, 2021).

Participants

Table 1 shows the participants' demographics.

Table 1. *Participants' Demographics*

Participant	Role	Years as a teacher	Subjects Taught
P1	Teacher	9	English
P2	Teacher	6	English
P3	Teacher	3	science
P4	Teacher	7	History & Human Geography
P5	Teacher	4	Science
P6	Teacher	5	Digital Information Technology
P7	Teacher	3	Reading
P8	Teacher	11	Science
P9	Teacher	5	Health Science
P10	Teacher	10	Computer Studies
P11	Teacher	9	Dance

Research Problem

Teachers with high skill levels for AI readiness integrated AI tools in pedagogy and experienced high job satisfaction (Wang et al., 2023). However, researchers found that although some teachers had a positive attitude toward AI in education and perceived it made them productive and efficient, many did not integrate AI tools in pedagogy (Gopalkrishnan and Bedarkar, 2022; Searsmith, 2021; Park et al., 2023; Sanusi et al., 2022; Galindo-Domínguez et al., 2024). Finally, although there is research that shows applying AI in education is a transformative tool that supports students' learning and personalizes instruction (Gillani et al., 2023), there is a paucity of literature regarding how AI tools are integrated in schools (Galindo-Domínguez et al., 2024; Seufert and Sailer, 2021).

Purpose Statement

The purpose of this qualitative study was to explore how K-12 teachers integrate artificial intelligence (AI) in pedagogy. Teachers utilize AI in teaching, to facilitate and assess learning. The study provided insight into the role artificial intelligence plays in supporting teachers' professional development and to improve students' learning. The following research questions guided the study.

1. What are teachers' perspectives of artificial intelligence in education?
2. How do teachers integrate artificial intelligence in pedagogy?

Literature Review

Generative AI increases opportunities for professional development for teachers. A generative AI takes prompts and produces outputs (Alissa and Hamadneh, 2023; Cope and Searsmtih, 2021). For example, when teachers have access to additional academic content, they can supplement the curriculum and adjust instruction (Alissa and Hamadneh, 2023; Gillani et al., 2023; Kaplan-Rakowski). Extant literature shows that teachers leverage AI to support student-teacher interactions, offer students timely feedback to their responses, and quickly create supporting material to address students' academic needs (Alissa and Hamadneh, 2023; Cope and Searsmith, 2021).

When planning a lesson, teachers identify content to support the curriculum. Researchers illustrate that some teachers accepted pedagogical suggestions from AI tools and integrated AI content in pedagogy to help students participate in deep learning to improve their knowledge, develop skills, and make connections to the academic content (Park et al., 2023; Utami et al., 2023; Alissa and Hamadneh, 2023). However, Park et al. (2023) found that teachers first assessed the facts produced by AI to supplement the academic content.

Teachers employ appropriate instructional strategies and create learning opportunities to meet diverse students' academic needs. AI can be integrated in pedagogy to provide teachers with tools for preparing lessons, assessing student responses, and providing feedback (Adams et al., 2023). AI tools supersede the cognitive speed and range of human capacity. In fact, Cope and Searsmith (2021) describe AI as tools that can accomplish more than a human mind or body can achieve without assistance. To this end, teachers can integrate AI to support their work and ultimately improve student outcomes. In short, teachers with technological knowledge of AI are better able to assess decisions of AI to combine technological output with their knowledge of pedagogy in infinite ways to support delivery and deep learning (Celik, 2023).

AI tools can be leveraged to increase teachers' professional capacity and positively affect pedagogy. Teachers with high levels of AI readiness demonstrate high AI-enhanced innovation in pedagogy (Cope and Searsmith, 2021; Celik, 2023; Alissa and Hamadneh, 2023). It was found that human cognition and skill competence is necessary to collaborate with AI for creating reliable content (Sanusi et al., 2022). In a case study, Dilek (2025) found that when teachers had participatory engagement with AI during training, they had a better understanding of the AI concepts.

However, researchers have found that there are barriers to motivating teachers to adopt AI in pedagogy (Biton et al., 2025; Eke, 2024). Some of the challenges included a lack of

confidence in the content, the perceived need to fact-check AI before supplementing the curriculum, and lack of support with learning the AI features (Eke, 2024; Gopalkrishnan & Bedarkar, 2022; Park et al., 2023). According to Venkatesh et al (2003), performance expectancy, effort expectancy, social influence, and facilitating conditions affect individuals' use of technology. Teachers will need targeted support and ongoing training to integrate AI in their practice.

Zafer (2025) used the Teachers' Acceptance of AI in Education (TAAI) framework to evaluate the effectiveness of a generative AI platform with supporting teachers' use of artificial intelligence in pedagogy. The study revealed that teachers experienced greater self-efficacy, and reduced anxiety with utilizing AI tools after training (Zafer, 2025). Teachers who received targeted training and support felt empowered to integrate AI in pedagogy (Eke, 2024; Ismaniati, et al., 2025; Zafer, 2025). The findings suggest that professional development and adequate infrastructure, are critical for teachers to adopt the technology of AI in their practice. Further, Eke (2025) stated that successful AI integration occurs when comprehensive training is implemented. Venkatesh et al (2003) described the structure of support as facilitating conditions, which is the extent to which a person believes infrastructure exists to support their use of technology.

Methodology

The study was basic qualitative to explore how K-12 teachers integrate artificial intelligence (AI) in pedagogy. I conducted a study with 11 participants who responded to a social media post about teachers' perspectives and use of AI in pedagogy. The requirements to participate were that the teacher should have over two years of experience in education, should be working in a K-12 classroom environment, and should use AI in their role as a teacher.

I conducted semi-structured interviews with the participants on Zoom and used otter.ai to create an initial transcript, then the data was hand coded. I created open codes from participants words (see Ravitch & Carl, 2015), analyzed the data, and combined the codes to develop themes (see Kostere & Kostere, 2021). I used member checking with participants to clarify the information that was shared during the semi-structured interview (see Ravitch & Carl, 2015; Yin, 2015).

Data Analysis and Results

Table 1 illustrates the codes were mapped into themes and aligned with the research questions and conceptual framework. The Unified Theory of Acceptance and Use of Technology created a framework for exploring how teachers perceive and use artificial intelligence in pedagogy (see Venkatesh et al., 2003).

Table 1. Codes Mapped Into Themes, and Aligned with Theoretical Framework

Research Questions	Codes	Themes	Theory of Acceptance and Use of Technology
RQ 1: What are teachers' perspectives of Ai in education?	Additional Content Helpful Require clear prompts Support Curriculum Supports Instructional Practice	Theme 1: Teachers perceived Ai is beneficial for generating ideas to supplement the curriculum	Effort Expectancy
RQ 1: What are teachers' perspectives of Ai in education?	Beneficial Effective Empowered Growth Reduces Stress Saves Time	Theme 5: Teachers perceived utilizing artificial intelligence reduced stress and saves time.	Effort Expectancy
RQ 1: What are teachers' perspectives of Ai in education	Incorrect Information Insecure Lack District Support Teacher Initiatives Teacher Resistance Unreliable	Theme 6: Teachers found there was lack of district support with teacher preparedness for utilizing AI in pedagogy.	Facilitating Conditions
RQ 2: How teachers integrate artificial intelligence in pedagogy?	Creates Notes Critical Thinking Feedback Grading Plan Unit Writing Prompts	Theme 2: Teachers perceived artificial intelligence is beneficial for supporting pedagogy regarding assessments, rubrics, and feedback.	Performance Expectancy

RQ 2: How teachers integrate artificial intelligence in pedagogy?	Create Graphs Deepen Understanding Diverse Needs Lesson Planning Several Options Student Engagement Varying Perspectives	Theme 3: Teachers perceived artificial intelligence is beneficial for supporting personalized teaching, adaptive learning, and engaging diverse students.	Performance Expectancy
RQ 2: How teachers integrate artificial intelligence in pedagogy?	Instructional Coaches Business Stakeholders Microsoft Forms Magic School Provides Samples	Theme 4: Teachers employed AI tools such as Microsoft Forms, Meet Johnny, ChatGPT, Notion AI, and Tome in the instructional design	Social Influence

Six themes emerged from the data to reveal that teachers receive professional and personal support when they integrated AI in pedagogy. Themes 1 and 2 illustrate that teachers employ artificial intelligence as teaching support to supplement the curriculum, create quizzes, and provide feedback. Teachers plan their lessons to create the conditions for learning and employed AI tools that enhanced teacher effectiveness. These findings suggest teachers employed the use of AI because they perceived it enhanced their professional performance.

The third theme illustrated that artificial intelligence supported personalized, adaptive learning. Teachers have the task of meeting the varying needs of students in a changing educational landscape. Themes 1, 2, and 3 are related to performance expectancy because teachers perceived artificial intelligence was beneficial for tasks related to their jobs, such as, generating ideas for instruction and assessment for diverse students' needs. Performance expectancy is an individual's perception about the expected consequences of using technology (Venkatesh et al., 2003).

Theme 4 illustrated that teachers employed AI tools such as Microsoft Forms, Meet Johnny, ChatGPT, Notion AI, and Tome in the instructional design. Some teachers in the study stated that artificial intelligence was a prevalent resource used in the corporate environment and could be useful in education. Many expressed initial curiosities as they observed its use via social media then determined it to be a valuable technology for pedagogy. Theme 4 related to social influence because teachers wanted to mirror effectiveness in their work environment. Social influence reflects the weight that one places on the views of external others (Venkatesh et al., 2003).

Theme 5 illustrated that teachers perceived utilizing artificial intelligence reduced stress and saved time. Educational policies, the expectations of parents, students, administrators can create demands on teachers' time and abilities. Theme 5 reflects effort expectancy, which is the degree of ease associated with the use of the system (see **Maruping et al., 2017**). Teachers in the study stated that although employing OpenAI tools reduced personal effort and stress, some experienced low effort expectancy, due either to fear or lack of support, and therefore did not employ artificial intelligence in pedagogy.

Finally, Theme 6 reflected that teachers found there was lack of district support for utilizing artificial intelligence in pedagogy. Some participants shared that their colleagues were averse to trying new things and that learning how to use AI was tedious and complex. Lack of district support reflects the construct of facilitating conditions. Facilitating conditions is the degree to which an individual believes that there is infrastructure to support the use of the technology. Only one participant expressed receiving

emails from an instructional coach, none of the teachers in the study expressed receiving support from their school district.

Theme 1: Teachers perceive AI is beneficial for generating ideas to supplement the curriculum.

Seven participants stated that artificial intelligence was useful for supporting the curriculum. For instance, Participant 1 stated:

I did a lesson on haiku rules; however, I didn't think it was enough. It seemed like a very basic informational document for a lesson. So, I typed into ChatGPT to provide an instructional sequence for a lesson on haiku. My prompt was “what is the Japanese like”, “explain the history”, “what are the defining characteristics.” I also asked about Haiku poets and required an example. From that information, I copied and pasted in what I needed for my lesson.

Participant 2 explained that:

I teach creative writing and sometimes I'll use it to create prompts. ChatGPT gives me a number of prompts that I can use for my creative writing. It helps me generate ideas for what I want to do with the students on a chill day. For instance, if I said, “create a creative writing prompt on” and I give a particular topic, then I'll tweak the suggestions and create short line writing prompts and creative writing prompt for students. We were doing a lesson on a Time Machine so I used the AI to create samples of writing on that topic that students we can read and critique together. It was interesting, too.

Participant 3 employed AI in two main ways. First, the participant allowed artificial intelligence to expand the lesson and secondly, utilized AI to make the content more accessible to students. For instance, the participant stated:

When I'm going to expand on a lesson, I check to see what other teachers have done. When I go into Canva, I am going to see up to 100 slides and all I need to do is customize the content, take my own content, put in the work around, and put in my school logo. Now the advantage is that I don't have to create anything. There are customizable templates that I can tweak to make the content more digestible for students.

In addition to employing AI to generate ideas to support the curriculum, Participant 9 explained the benefit of visibly creating summaries of difficult content:

I use it to get stories, pictures, and instructional images such as charts. So, I teach health science and the content is quite bulky; but it is also interconnected. I can just easily tell AI to break this into a flowchart diagram. And then you see how this connects to one thing or to something else. And then you need to see how the AI arranges it. Students easily get to see the concepts that are connected these. For me, it really helps.

Similarly, Participant 4 also incorporate AI in pedagogy to allow difficult content to be more accessible to students. For instance, Participant 4 stated:

Sometimes, in my history class, I may be covering a speech, or historical events that is unfamiliar to the students. I would use AI to gather additional information about the content in a summary form. This usually gives them enough information in a short article or it might put another spin on it where it's providing background information that they need. As teachers, we want to bring in background information, but we might not know it. However, when we get it from ChatGPT, the important thing is that we have to double check everything to make sure the information is correct.

Participant 6 held the following perspective of artificial intelligence as teaching support to supplement the content they deliver to students:

Teacher should understand the curriculum first. So I think they would want to either deliver the lesson first or just make sure they have read the curriculum version and the learning goals and then use ChatGPT to find supplementation. Teachers should be able to make that call. It is critical that teachers understand what the curriculum is asking of them before using AI to supplement the lesson.

Participant 2 added:

When I'm going to expand on a lesson, I check to see what other teachers have done. When I go into Canva, I am going to see up to 100 slides and all I need to do is customize the content, take my own content, put in the work around, and put in my school logo. Now the advantage is that I don't have to create anything. There are customizable templates.

Participant 11 had limited resources in the dance curriculum and used artificial intelligence to create content:

One of my goals this year is to provide more opportunities for students to dance and write. Can you imagine reading and writing in dance class! Yes! This year I planned to be more intentional about it. It was hard to find articles about dance that was not solely about performance. Dance seemed to be at the bottom of a totem pole. I was looking for information on the topic of why dancers need to stretch before they dance. That was the topic, and I couldn't find nothing. Everything I found was about athletes. Of course, dance is athletic, it is a sport; but I wanted something specific to the sport of dance. So, I had to create it. Artificial intelligence helped me do that.

Theme 2: Teachers perceive artificial intelligence is beneficial for supporting pedagogy regarding assessments, feedback, and rubrics.

Four participants found that AI helped them create assessments and determine students' understanding of the concepts. In addition, some participants employed AI to provide feedback to students and create rubrics.

Participant 9 believed not enough teachers use AI for assessment and utilized AI to create tests.

I use AI to create tests and notes. For example, if I want to see if students understand cause and effect, I give them an assessment and if the student scores below 80 on any of the assessments, then I take further action. For example, I can give them a video to watch to clarify misconceptions and then offer another assessment. AI helps me to adjust the content of the assessment. One thing I must be certain of with the AI is to make sure that the assessment is checking for cause and effect – not for anything else.

Participant 9 further stated that many teachers do not employ AI for the deep work of assessment after instruction. To explain, the participant stated:

A lot of teachers are using ChatGPT to help to write lesson plans or to help develop worksheets. But most are not using it for that deeper critique of students' performance. I believe teachers would benefit from learning how to use other AI tools for assessments and feedback.

Like Participant 9, Participant 10 also used AI for assessment and feedback. For instance, Participant 10 said:

For assessing students, I can insert the scores and the questions, and we get feedback based on how they perform that will give me an analysis of their strengths and weaknesses. Then I can use AI to create a plan of action for that student based on their strengths and weakness that will guide me to help them do better.

Similarly Participant 6 found that AI helped to facilitate feedback to the students. To explain, the Participant stated:

AI helps me better communicate feedback. For example, magic school helps me to curate comments. When I have to write End of Term comments, Magic School helps me produce comments in the way that helps me better balance the weaknesses and the strength of the layers. I am able to provide students with the areas where they need improvement in a very professional way instead of me racking my brain on how I can put the words into use.

Participant 5 also found AI beneficial for providing feedback. The participant stated:

I have graded 30 papers in 2 days with AI where it would have taken me over a week to do so. My prompt is “Using the Project One Rubric, provide feedback to the student under each criterion. Determine the grade for all criteria: Exemplary, Proficient, Needs Improvement, and Not Evident. Address the feedback directly to the student. Use this submission” then I put in the student submission. The feedback is so detail that it totally shocked me. You do need to check the feedback. Once I checked about 3 or 4 papers and saw the consistency, it was on from there!

On the contrary, Participant 1 was unaware of AI that could provide feedback on students’ work. The participant said, “I don’t really use AI to provide feedback. Actually, I can’t think of an AI that gives worded feedback.” Nevertheless, the teacher explained AI was helpful for creating assessments. To explain, the participant stated:

I like using ChatGPT to digitally create assessment questions. For instance, I might write a quiz for chapter two of The Great Gatsby. One drawback is that the questions ChatGPT generates might not be from Chapter two so you have to always check. I like to use Magic School AI for helping me plan out a unit of study.

Participant 11 utilized artificial intelligence for creating rubrics to assess students’ level of competence.

I utilize ChatGPT more so for rubrics such as creating rubrics for performance and for content like dance theory dance. I remember creating rubrics for an integration of social studies in dance. The AI also created a movement map. The map had all the elements of a map like a title, the legend and so on. From there I created a rubric of a four-point root for the map lesson.

Theme 3: Teachers perceived artificial intelligence is beneficial for supporting personalized teaching, adaptive learning, and engaging diverse students.

Six participants articulated the need for supporting all learners and integrated artificial intelligence in pedagogy to prepare for diverse students’ needs.

Participant 8 found that artificial intelligence helped create the learning experience for all learning styles. For instance, the participant stated:

I use AI when I need to personalize teaching content for differentiating instruction. I can streamline teaching content based on the different learning styles and capacity because we have different paces and different levels. So personalized teaching is also an area that we actually integrate AI so we can diversify efficiently. In addition, I can get ideas on possible ways to engage students with the content. For instance, it could be a project, a short response, or some kind of collaborative component.

Participant 8 also found that artificial intelligence was useful for supporting the curriculum and explained how it supported students’ learning. The participant stated:

We are teaching, plants and animals, as we get a bit more advanced in the content, the AI tool also gives us best ideas on how we can, curate lesson plans to teach the content. For instance, I can ask what method we can utilize to teach the lesson, and it could suggest a project piece into the curriculum. So, AI helps me determine what are the best methods that can actually drive the concepts, so the learning is faster and more efficient. For instance, we have kinesthetic learners that learn better with hands-on activities. So, AI provides activities that even the kinesthetic learner and other type of learners can use as participation. I can also use AI to provide the visuals or even an audio content for the lesson.

In the same way, Participant 5 explained that, “if I have a child that is struggling with content, I can utilize Magic School to find activities that the student has interest.”

Participant 7 also expressed the same sentiment. The participant said:

I use ChatGPT to create interesting passages for students and questions to improve their thinking skills. My students like cartoons so I use cartoons that the children know to introduce a particular concept. I create reading power passages with a popular character to make them interested in reading the passage. I integrate the reading through their interest.

Participant 3 stated:

I want my students to have a very engaging time - all my students. I use AI to help me generate questions. When I get the questions, then I put in the correct answer. I then use the questions to create a slideshow with very interesting graphics.

Participant 11

AI helps me determine what are the best methods that can actually drive in the concepts so the learning is faster and more efficient. For instance, we have kinesthetic learners that learn better with hands-on activities. So, AI provides activities that even the kinesthetic learner and other type of learners can use as participation. I can also use AI to provide the visuals or even an audio content for the lesson.

Participant 9 utilized AI to simplify content to increase students’ access point to difficult content.

I use it to get stories, pictures, and instructional images such as charts. So, I teach health science and the content is quite bulky; but it is also interconnected. I can just easily tell AI to break this into a flowchart diagram. And then you see how this connects to one thing or to something else. And then you need to see how the AI arranges it. Students easily get to see the concepts that are connected these. For me, it really helps.

Theme 4: Teachers employed AI tools such as Microsoft Forms, Meet Johnny, ChatGPT, Notion AI, and Tome in the instructional design.

Many teachers referenced specific AI tools that supported their instructional practice. Six teachers utilized ChatGPT for planning and delivery while three employed AI for enhancing instructional materials.

Participant 8 said, "A lot of teachers are mostly using ChatGPT to help us to write lesson plans. It also helps me develop worksheets. I don't think many of us are using it for deeper critique of students' performance."

Participant 7 also referenced employing ChatGPT:

I teach reading but I have always been interested in gadgets and tools. It seems as if AI could be a useful technology to perform tasks that would normally require human intelligence or skills. Not that it

could replace teachers; but it could enhance the teaching and learning processes. So, I follow the latest trends on how AI tools can be used to curate lesson plans on specific topics. For instance, I use GPT4.0 to create interactive presentations and engage students.

In addition, Participant 5 stated that:

The most popular one I use is ChatGPT. But we use other AI tools. We use Firefly with images. We use we use AI to do videos. I use AI mostly for intervention to support the curriculum. For instance, the first thing I do when I start to prepare a lesson is look at the learning objective. Then I create resources around that lesson plan using an AI tool. So, I can use AI to look at the learning objective and create a five-day lesson plan.

Participant 10 also explained finding pre-made lessons and utilizing AI to prepare the lessons.

I use AI for test prep resources for STEM. I can find lesson plans, ebooks, handouts and worksheets. I can also use AI to get images in addition to content. AI also helps me to create videos.

Similarly, Participant 6 employed the use of ChatGPT to create lesson plans

I learned about these AI tools because I always try to find out what's going on with my work. Generally, without doing something, I really hate routine, and teaching has a lot of routines. AI help me not to have to do the same thing over and over. So, just to give you a little backstory, we used to write lesson plans for what I am going to teach and then submit them. That was prior to 2018. I keep teaching the same class so instead of writing plans all over again like I wrote a year ago, I use ChatGPT to create the plan based on my specific prompt.

Finally, Participant 1 also utilized ChatGPT for instructional design.

I also rely on ChatGPT to provide higher-level thinking questions based on the title or content of the story. I can also create very interesting graphics. Then I add Kahoot, which I consider an AI. I put in the questions, and the right answer for students to select the options. They pay attention because they know I'm going to grade them. The leaderboard will show who got the questions correctly or not, and also place students according to rank. It's always very engaging.

Like Participant 1, Participant 4 also engaged students with AI for academic games

I've used AI for competitions to increase engagement. I use AI to create questions and to launch the game. Then all the students can log in or scan and pick a username. Students vote in their phones. Some teachers don't allow phones in their classrooms. Some schools have a NO Phone policy. But, AI is great for engaging students.

Participant 11 utilized Notion AI to summarize academic content.

Once I got passed the fear, I started to learn more about using AI in pedagogy. I use Chat GPT a lot. However, I mostly use Notion AI. Notion has own AI system. I use it to summarize content notes from a book to provide students with the history of dance.

Participant 3 found that Meet Johnny created visuals

AI can be really helpful. The other one I use is Meet Johnny. Meet Johnny helps me create visually appealing content. I create images, pictures, and I can even animate them. This AI takes the content and creates graphics and paint designs. So essentially, I create most my activity centers with AI. I find it to be really helpful.

Participant 9 found that Tome facilitated appealing slide designs:

I also like to use Tome. It is essentially like a PowerPoint. However, the difference is rather than get content, and start designing the slides myself, I use Tome to get content online and create the file. So it's like content generation and recycling. Then I look at it, increase the content, check if the content is correct or if I need to explain or adjust things based on what I'm looking for from the lesson. I check for the content and the design. It's very visually appealing.

Theme 5: Teachers perceived utilizing artificial intelligence reduced stress and saves time.

Some participants noted that they have found some errors in the content. However, nine participants found that using artificial intelligence reduced stress, improved their mental health, energy, and increased their available time for personal use.

Participant 2 stated that "AI reduces the stress of working as a teacher; it makes it better. But you still have to be a thoughtful observer. There are a few errors I've noticed when I put in a prompt to find support for curating a lesson."

Participant 10 explained a similar sentiment:

Not everything that AI produces is accurate, you know. So, we can't simply use what we get from an AI blindly. But, using it has improved my efficiency, so that's a good thing because it reduces my work stress.

Participant 6 went on to explain that:

It reduces our stress and also reduces the time it takes to complete some teacher activities, for example lesson planning. We don't allow our students to use it but there is some degree of acceptance for us with using AI. It really cuts down on my planning time. It frees me up to do other things.

Participant 7 added:

Sometimes with ChatGPT, you have to check to make sure the information is accurate based on your own understanding. You cannot solely rely on it without being critical about it. You do have to kind of be critical and make sure it's all accurate. It helps that I get to relax my own brain somewhat. It a great impact on time. So instead of it taking me days to write a lesson, I can simply refine and this reduces my stress.

Participant 3 attributed reduced stress to utilizing AI for assessing students. For example, the participant stated:

Using Microsoft helps reduce my stress level when its time to assess students' scores. At the end of the text, it gives you the scores. It gives you the scores and you get to see what questions students were not able to answer properly. It shows where students do not have sufficient understanding of a particular concept.

Participant 1 found utilizing AI saved time:

I can see where our teacher brain burns out. AI is certainly not the teacher in the room. No! AI is not going to replace us. But, it certainly helps me save time. ChatGPT helps me save time in acquiring materials. Another thing, I do literature circles with the kids and I use the AI to help them along. For instance, after they read a section, I would sometimes give them a summary of the previous section, so they can stay on track. ChatGPT can create the summary for me. Of course, I read through it first to correct any errors I see.

Participant 5 explained feeling empowered:

I use AI tools a lot more now. I don't have to be as hands-on now. I don't have to do the product creating. Using AI is almost like saying "I pretty much have a guy." I get to focus on the students and their learning. AI helps reduce your work, not replace your work. So, I tell other teachers every opportunity I get that AI is to assist you or help you start off. Using AI gives me time because it really creates the product for me. Now I have more time at church. Usually I would say, "I really do not have so much time to do this" or I say "sorry, I couldn't do this. No, no, no, no." Everything was usually no for me. AI helps with the framework that I need to create the lesson so I can really start enjoying my life.

Participant 4 expressed a similar sentiment:

Now I really love Saturdays. AI is constantly advancing because you can differentiate the lesson quickly. In fact, I could prepare an entire lesson and have ChatGPT critique the lesson. For example, I have, I'm going to teach American history to seventh grade, and I'm going to teach ninth grade, and then the content is going to provide for you ways to approach it different. I can get really great ideas, especially if I've prompted correctly. So I can prepare something for students quickly.

Participant 11 found utilizing artificial intelligence to be time-saving:

Instead of it taking me three days to write a lesson or to find appropriate articles and resources, this work literally took me maybe an hour! Probably not even that long. I read through the suggestions on ChatGPT and created lesson plans. For instance I would type, "Create a topic on how teachers can use poetry in art or dance class." It's a very broad topic then I narrow it down and voila I've created a plan for my lesson!

Theme 6: Teachers found there was lack of district support with teacher preparedness for utilizing AI in pedagogy.

Teachers share there is varying degree of acceptance with using AI and that some teachers will need support to access the benefits of artificial intelligence in pedagogy.

Participant 10 stated:

I don't see where the school district or the administrators spearheading training teachers to use technology. For us it's teachers training teachers, if you can call it that. We pretty much share what we do with our colleagues. It seems to be either the companies that are selling a product or the teachers who want to support other teachers.

Participant 8 expressed a similar view:

Over the last two or three years there has been a proliferation of edtech. So, people who are in technology with a focus on education will bring educational technology tools to our trainings. They are the ones who carry out engagement at our school site because they need the school to buy their products. They are the ones who are in the process of coming to pitch their products to the school.

Participant 6 stated some teachers expressed discomfort with learning how to use AI in pedagogy:

I think the major challenge after access to the information from the AI, is fear. Not everybody has what we call growth mindset. Some people who are very fixed, or very averse to new things. I don't think this is complex, but some teachers think it is too tedious a distance to cover to enhance their lesson.

Similarly, Participant 9 found:

There's a disconnect between what teachers see and what they use. Those individuals in the ed tech space need to come in, but districts have kind of closed their gates, and, you know, just operating in silos, but there's so much more out there, so it's like presenting that and then getting all the key stakeholders together so that teachers can benefit.

Participant 3 recognized there should be a culture shift to prepare teachers to embrace integrating AI in pedagogy. Participant 3 stated:

I believe a little bit of hand holding would be necessary to change that culture, because teachers have so much to do anyway. I couldn't imagine teaching without ChaptGPT. I think we could break the professional development interfaces, favoring all teachers who are unaware, into one phase, and then bring awareness, those who are aware, but they don't know how to use it, put them in another cohort, and then train, don't just teach it one time and think now we're going to go and be miracle workers in the classroom, we'll need to touch base again in the next quarter of school for follow up trainings. That would be my idea but I don't have time to explore it. In teaching it feels like everyone has to figure it out for themselves.

Likewise, Participant 5 found there is not a supportive structure for AI integration in pedagogy.

I feel some school leaders might not have the passion to support teachers with AI. Teachers have to try to solve their problems themselves. However, if a company wants to sell us a piece of technology, they will come to the school to do a demo during a staff meeting. But, I have not seen much about AI.

Participant 1 expressed a similar sentiment:

Our school does not provide enough information on AI. I am very involved various circles on Twitter where they talk about innovations. Our school and school district does not support the use of AI. If you want to learn about using AI, you have to be a person who's kind of outside the box and trying to figure out what can make life easier.

Participant 9 provided a contrasting perspective regarding school leadership and stated:

It would be beneficial for teachers to be trained on how to create prompts based on their curriculum. I actually think that that's one of the things that should come on the as one of the courses for our professional development but I don't believe that principals have autonomy to decide what professional development should be provided to teachers regarding AI integration.

Similarly, Participant 2 stated that:

Using AI is a personal call. We don't have trainings. Education is not a centralized system where we are told what to do as teachers. We have autonomy on how we want to do our jobs. It's not as if the things we do don't matter. However, everything rises and falls on leadership. So, it's whoever's calling the shots all the time. It's not a very structured environment where we have teacher mentors or supervisors who can say, "hey, this work is done," or "here's a new tool that you can use to do this." We sometimes get emails for our literacy coach on AI tools she thinks are interesting. I'm not sure if anyone opens the email or tries the information she sends.

Participant 4 went further to suggest:

I actually think that AI in pedagogy is one of the things that should be in one of the courses in college or during teachers' professional development. Just like in other jobs, or in corporate spaces where people go for training. Well, it's not so in education. We don't see change that fast. Maybe if schools have

a principal who is forward-driven we might see change. But sometimes the curriculum is so packed and there are so many events to so in the school year, teachers don't even have time to go for training.

Like Participant 4, Participant 7 believed teachers should receive support early in their teaching career.

Some of my peers are mostly interested in protecting students from AI without realizing the benefits. We cannot eliminate the human element. AI won't replace us. AI is a complement in the areas that humans are not able to function optimally. We still use the human emotion when we work with our students. But, in light of the era that we're moving into, there should be support and training for teachers. We would do well to get early support with Ed Tech so we can learn about AI tools.

Participant 11 experienced fear with accessing and utilizing artificial intelligence:

I had fear of the technology when I first learned about AI, even though I consider myself techy. Artificial intelligence felt a bit foreign in the way that people were explaining it. Then I realized I needed to make an effort. I couldn't keep going around forever without utilizing the tools. I serve as an Enrichment Instructional Coach for all related arts enrichment at my school. This includes the music teacher, PE teacher, art teacher, and I do dance. So, I am the instructional lead for our professional learning community. I only know two core content teachers last year who used ChatGPT. It would be great to provide opportunities for teachers to learn about this. So far, this has not been a school-initiative.

Unlike other participants, Participant 6 attends training for technology and uses the opportunity to support other teachers. The participant stated:

I teach technology so I go to conferences. When I meet with teachers, they ask me what have I tried. So, I think it was the introduction of education, technology, business of startups, or companies, they bring that knowledge into our schools. I believe when I go to the conferences, I am expected to champion the use of the technology to the leadership.

Conclusion

This study sought to explore how artificial intelligence tools are integrated in schools. Artificial intelligence transposes information quickly and, when utilized effectively, helps teachers meet diverse students' needs to facilitate their academic growth. Teachers in the study integrated AI when creating lessons, engaging students during instruction, assessing students' responses, and providing timely feedback. In addition, teachers expressed that employing AI helped reduce stress, lighten teacher work load, and freed some teachers to do the deeper work of adjusting instruction to meet specific needs and addressing different learning styles.

However, there is room for growth in school-wide teacher preparedness to integrate artificial intelligence in pedagogy. All teachers in the study expressed a lack of facilitating conditions to support their preparedness for utilizing AI effectively. The research supports the finding that there is a lack of support with learning the AI features (Eke, 2024; Gopalkrishnan & Bedarkar, 2022; Park et al., 2023). Based on this finding, school districts should consider offering professional development on AI tools for specific content area subjects. Further research is needed to explore how AI integration in education affects teacher retention and burnout.

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