



The Perception of ChatGPT among Educators: Preliminary Findings

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ABSTRACT

ChatGPT was first released in November 2022, which has led to varying reactions among educators. Educators are one of the major stakeholders in the education system. As a result of this, educators' perceptions of ChatGPT are worth investigating to inform future policy decision-making. This study examined the perceptions of ChatGPT among educators using an online survey. Thematic coding was conducted to interpret perceptions about their concerns about ChatGPT and their thoughts on the potential benefits of ChatGPT in education. The results indicated that even though educators did not know much about ChatGPT yet, they were open to receiving training about its applicability within education. Educators mentioned plagiarism/cheating, loss of higher-order thinking skills, overreliance on technology, lack of authenticity, decreasing content comprehension, fears of the unknown, and concern for social-emotional well-being as their concerns. On the other hand, educators were hopeful about developing teaching materials to reduce workload, instant information access, and a higher level of teaching using ChatGPT. The findings of the study suggest some important implications and recommendations for educators and policymakers.

KEYWORDS

ChatGPT; artificial intelligence; educators; thematic analysis.

INTRODUCTION

Artificial intelligence (AI) has already been implemented in various fields, including finance, business, coding, marketing, advertising, and consulting. Large Language Models (LLM) are included within artificial intelligence, which are deep learning algorithms that are trained using large datasets. This intricate process of training contributes significantly to enhancing the capabilities of LLMs, enabling them to be indispensable assets in various educational and professional settings.

Artificial intelligence (AI) has already been implemented in various fields, including finance, business, coding, marketing, advertising, and consulting. Large Language Models (LLM) are included within artificial intelligence, which are deep learning algorithms that are trained using large datasets. As a result, these models can identify, forecast, and produce personalized content tailored to the user. Lately, educational settings have been increasingly incorporating large language models (LLMs) to assist educators with a range of demanding and time-consuming tasks. As the LLMs-based generative AI chatbot, ChatGPT needs only natural language prompts has taken place in educational settings. ChatGPT is developed based on natural language processing (NLP), a branch of artificial intelligence dedicated to enabling machines with the ability to comprehend and produce human language, which has allowed users to personalize their requests to better meet their needs in comparison to other online resources (Eysenbach, 2023).

Since its release in November 2022, ChatGPT has stirred up controversy in the education sector. Educators have mixed reactions toward ChatGPT (Grassini, 2023). Some college campuses, and education departments, which include the New York Department of Education and Los Angeles Unified schools, have banned ChatGPT in educational settings (Korn & Kelly, 2023). On the other side, some schools have been working on the adaptation of this new tool and even some educators have given students ChatGPT projects.

ChatGPT can summarize, solve math problems, explain terms and abstract concepts and theories, write and fix computer codes, and write various texts, including poems, stories, or novels, and more (Azaria, 2022; Mintz, 2023). It can respond to follow-up queries, admit mistakes, and reject inappropriate requests (OpenAI, 2023). Although it can provide convincing information, it sometimes gives incorrect information. Since the date of its release, ChatGPT has advanced its functions. Currently, ChatGPT Plus is the latest version that is superior to the publicly available GPT-3.5. In this study, educators have been using GPT 3.5, which is the current free version.

Before ChatGPT, research on AI in education had been conducted. For instance, Zheng et al. (2021) conducted a meta-analysis to examine the impact of AI on learning achievement and found positive effects of AI on learning achievement and learning perception. Similarly, Lin (2022) reported that AI-assisted teaching positively influenced teaching effectiveness. However, it has been noted that teachers had difficulties connecting technology with teaching practices (Angeli & Valanides, 2009; Naidoo, 2021). Chounta et al. (2022) found that teachers in Estonian

K-12 education had limited knowledge about artificial intelligence and its usage in education. However, they perceived it as an opportunity for education. Similarly, in their systematic review on AI applications in higher education, Zawacki-Richter et al. (2019) reported a limited understanding of pedagogy for teaching AI in higher education. In their literature review, Makeleni et al. (2023) explored four main concerns regarding AI related challenges among academics in the global South universities. The challenges included restricted language choices, academic dishonesty, biases, a lack of accountability, and instances of laziness among both students and lecturers. Choi et al. (2023) pointed out that perceptions related to usefulness, ease of use, and trusts in AI are determinants of acceptance of AI among teachers.

The technology acceptance model (TAM, Davis, 1989) is one of the most widely employed theories to examine the acceptance of a particular technological tool among humans (Silva, 2005). According to TAM, as users perceive the usefulness and ease of the technological tool, they accept and adopt of that tool. Perceived usefulness refers to the belief that using a new technology would improve their work performance. Perceived ease of use is the belief of easiness to learn and utilize it. Some studies have shown that ChatGPT was considered useful (e.g., Ivanov & Soliman, 2023) and user-friendly (e.g., Raman et al., 2023, Strzelecki, 2023) in educational settings.

ChatGPT has the potential to be a valuable tool in education. McMurtrie (2022) argued that it could be part of everyday life, just like calculators or computers. It was able to perform well in some high-stakes exams, including the United States Medical Licensing Examination (USMLE) and the U.S. Bar Exam (Bommarito & Katz, 2022; Gilson et al., 2022; Kung et al., 2022). Webb et al. (2023) revealed that ChatGPT outperformed university students on the Raven's Progressive Matrices aptitude test. A rapid examination of the literature on ChatGPT's proficiency in various subject areas with 50 articles using content analysis, Lo (2023) found that ChatGPT's performance varied across different subject domains, ranging from outstanding (e.g., economics) and satisfactory (e.g., programming) to unsatisfactory (e.g., mathematics).

Several guidelines on using ChatGPT in classrooms have been published (e.g., Herft, 2023; Lieberman, 2023; Mollick & Mollick, 2022; Ofgang, 2022; Sabzalieva & Valentini, 2023) without any scientific analysis of their effects on students learning. Some educators have already written about the challenges and opportunities of using ChatGPT (e.g., García-Peñalvo, 2023; Kasneci et al., 2023; Zhang, 2023) However, more empirical data is needed about using ChatGPT in educational settings.

Many potential challenges and concerns have been expressed regarding the use of ChatGPT in education, such as integrity, plagiarism, and the detection of the originality of student work. Yeadon et al. (2022) expressed concerns about ChatGPT being a significant threat to the authenticity of short-form essays. Warner (2022) articulated that it could be challenging to evaluate the information critically through ChatGPT, since it merely produces an imitation of what is being shared.

We asked ChatGPT about the concerns and benefits of using ChatGPT in education. Using the prompt "What are the concerns of using ChatGPT in education", it gave us the following response:

- "Quality of information: ChatGPT generates responses based on the data it has been trained on. While this data is vast, it may only sometimes be accurate or up-to-date. Therefore, there is a risk of students receiving incorrect or outdated information.
- Lack of personalization: ChatGPT generates responses based on the input it receives without considering each student's needs and learning styles, which could hinder students requiring personalized instruction.
- Lack of feedback: ChatGPT cannot provide feedback to students on their responses or their understanding of the material. This can be problematic, as feedback is crucial to the learning process.
- Ethical concerns: ChatGPT can generate essays or other written work, which raises ethical concerns around academic integrity. In addition, there is a risk of students using ChatGPT to generate responses for assessments, which could undermine the integrity of the assessment process.
- Technical challenges: ChatGPT requires a stable internet connection and may need to work better on devices with limited processing power. In addition, it may not be accessible to students with disabilities." (ChatGPT, personal communication, March 15, 2023)
- Besides challenges, several potential benefits have been stated for using ChatGPT in education. For example, it could provide individualized instruction and services to meet students' needs (Baker, 2021), enable the collection and analysis of data from various sources, and facilitate the provision of solutions more quickly (Dhawan & Batra, 2021). By automating specific tasks, such as grading or generating personalized feedback, educators could spend more time interacting with students (Alshater, 2022). Moreover, ChatGPT could help educators adjust learning goals to focus on improving students' creativity and critical thinking rather than merely general skills (Zhai, 2022). It could also serve as a self-study tool for students (Nisar & Aslam, 2023), or be incorporated into flipped learning approaches (Rudolph et al., 2023). According to Ray (2023), in the field of education, ChatGPT can be used to develop personalized learning materials, to provide real-time feedback, to create educational content, and to provide adaptive learning environments that adjust in response to the progress of each individual learner.
- We also discussed the benefits of ChatGPT in education with ChatGPT using the prompt "Now discuss the benefits of using ChaptGPT in education", it responded as follows:
- "Instant access to information: ChatGPT can provide students instant access to vast information. This can be particularly useful for students who must quickly look up a definition, fact, or concept.

- Personalized learning: ChatGPT can be customized to provide personalized learning experiences. For example, teachers can program the model to provide tailored responses based on a student's learning level or individual interests.
- Enhanced engagement: ChatGPT can create interactive and engaging learning experiences. For example, teachers can create chatbots that guide students through an interactive learning experience or provide feedback on their work.
- Timesaving: ChatGPT can save teachers time by automating specific tasks, such as answering common questions or grading assignments. This frees up time for teachers to focus on other aspects of teaching, such as lesson planning or individualized instruction.
- Improving access to education: ChatGPT can help to improve access to education for students who may have limited access to resources or face other barriers to learning. For example, students in remote or rural areas may have limited access to qualified teachers but could use ChatGPT to access learning materials." (ChatGPT, personal communication, March 15, 2023)

Yan et al. (2023) did a systematic literature review on using LLMs to automate and support educational tasks with the sample of 118 peer-reviewed papers. They categorized nine main potential uses for LLMs in education tasks which are “profiling/labelling, detection, grading, teaching support, prediction, knowledge representation, feedback, content generation, and recommendation”. They also identified some challenges, including low technological readiness, lack of replicability and transparency, and insufficient privacy and beneficence considerations. Tlili et al. (2023) conducted a study to examine the concerns of using ChatGPT in education by using social network analysis of tweets, content analysis of interviews, and investigating user experiences. They concluded that ChatGPT was a powerful tool in education, but it should be used with caution and guidelines to ensure safe usage in education.

Shum and Luckin (2019) suggested that communication with stakeholders such as teachers, students, parents, and policymakers is necessary to address concerns and challenges successfully. Understanding these concerns challenges is crucial for using research into educational technologies that stakeholders can utilize in effective teaching and learning practices (Adams et al., 2021; Baena-Rojas et al., 2023; Mabungela, 2023). Thus, a study on educators' perceptions of ChatGPT can provide valuable data to inform the development of programs and policies for using ChatGPT and AI in general. Given the revolutionary nature of this tool, there is a need to examine teachers' perceptions of ChatGPT explicitly. In light of these documented needs, this study aims to reveal self-identified concerns and potential benefits educators think of while engaging in using ChatGPT for educational purposes. In his literature review, Baytak (2023) found that most of the studies about generative AI were on ChatGPT and mostly in higher education. In this study, we also included other educators in other educational institutions. Even though, there are various AI based educational technologies; this study focuses on the concerns and hopes perceived by educators regarding particularly the use of

ChatGPT in education. To this end, we examined the concerns and potential benefits of ChatGPT that educators hold. Thus, our research questions are:

- What are the concerns of educators regarding ChatGPT?
- What are the potential benefits of ChatGPT from educators' perspectives

METHOD

According to Merriam and Grenier (2019), qualitative research provides a thorough understanding of a phenomenon by examining personal experiences and viewpoints. Since qualitative research focuses on interpretations of interviews, observations, and records to formulate themes and patterns, it is subjective and not intended to generalize the results (Yin, 2003). However, through qualitative studies, researchers can obtain in-depth knowledge from the participants. In this study, we investigated perceptions of ChatGPT among educators using open-ended questions.

Participants

For this study, we gathered a sample of educators who currently teach at educational settings from elementary through higher education. We recruited participants through social media. Social media serves as a suitable platform for connecting and communicating with users, gathering and spreading information, sharing knowledge, engaging in discussions, and collaborating within communities for professional networking (Dhar et al., 2018). In their integrative literature review, Darko et al. (2022) revealed that the use of social media was a cost-effective and efficient strategy for recruiting research participants despite some concerns like limited participation of older adults or less diversity in social media recruitment. Also, social media users are not a representative sample of the population, tending to skew towards young and urban individuals. We posted our survey link to some social media (Facebook) groups that are formed by educators and asked educators to fill out the survey.

Data were collected from a sample of 92 educators currently teaching. However, seven participants did not fill out all of the survey questions. Thus, we decided to exclude them. The final number was 85, consisting of 15 educators in higher education, 21 in high school, and 49 in middle and elementary schools. Socio-demographic information was collected, including gender, experience, and whether the educator worked in a rural area. Of the educators, 63 were female, 16 were male, and six did not report their gender. Fifty-four educators had more than 11 years of experience, and 37 were working in rural areas.

Data Collection and Analysis

The researchers used an online survey with an open-ended questionnaire to collect data, which was distributed from April 10, 2023, to April 30, 2023, with IRB approval from the researcher's university. The survey included questions on educators' opinions about ChatGPT, including concerns and potential benefits. We included questions about only ChatGPT, no other AI tools since ChatGPT is one of the most popular AI tools, being the first on the stage and controversies were being widely discussed around ChatGPT during this research. Researchers wrote initial

questions. Survey questions were first reviewed by two experts in technology and then piloted with three educators in higher education. Changes were made to the wording of the questions based on feedback.

The researchers utilized thematic coding to analyze the responses about the fears and hopes with the use of ChatGPT. Thematic coding requires linking passages of responses that are connected by a common theme (Gibbs, 2007). Thematic coding enables researchers to organize the responses into categories in order to establish a framework of thematic ideas about it (Gibbs, 2007). To do so, we employed two cycles of coding.

To minimize possible researcher bias, the researchers read the responses several times before independently and manually coding the responses. We examined participant responses sentence by sentence to identify open codes, which is the process of looking through data to create codes (Bryant & Charmaz, 2010). To ensure reliability, two researchers started with descriptive open coding, grouping similar ideas and assigning a phrase that described the nature of the data set. We met to review the initial codes, eliminating codes if necessary, relabelling codes, and incorporating codes with significant overlap into more thorough categories.

In the initial phase of coding, two researchers autonomously assigned supplementary codes to the dataset before convening for discussion to determine which codes best described each response. After this stage, the researchers updated the codebook and then began second-cycle coding. Elliot (2018) described the second-cycle coding process as pattern coding, which involves grouping similar codes to form a smaller number of larger categories. Focused and axial coding techniques were used during this cycle. Focused coding involves finding the most frequently used codes from the first cycle. Axial coding is grouping similar codes from focused coding to create fewer codes and themes (Saldaña, 2016). The researchers reconvened to deliberate on the codes and categories identified in the second-cycle coding process. An interrater reliability score of 92% was calculated by assessing the agreement between the researchers in assigning final codes to each data set. During this meeting, we refined the wording to accurately capture the meaning of each entry. The lists of themes were reviewed collectively and accepted by the researchers. This meeting helped to provide clarity while refining certain themes within the data set.

RESULTS

The demographic questions were first provided and then educators' worries were evaluated by using thematic analysis under seven themes. Lastly, we analyzed the potential benefits of ChatGPT from educators' point of view in the following section. Table-1 shows how much educators know about ChatGPT.

Table 1.*How much do you know about ChatGPT?*

Responses	Frequency	Percent	Cumulative Percent
None at all	28	32.9	32.9
A little	33	38.8	71.8
Some	22	25.8	97.6
A lot	2	2.3	100
Total	85	100.0	

As seen in Table-1, results of survey answer analysis indicated most of the educators do not know enough about ChatGPT yet. Table-2 demonstrates that most of them have not received any training about ChatGPT in education. However, many educators are willing to participate in training sessions about ChatGPT (Table-3).

Table 2.*Has your district/organization offered training around ChatGPT in education?*

Reponses	Frequency	Percent	Cumulative Percent
No	79	92.9	92.9
Yes	6	7.1	100.0
Total	85	100.0	

Table 3*Would you have interest in participating in a training session on ChatGPT?*

	Frequency	Percent	Cumulative Percent
No	34	40.0	40.0
Yes	51	60.0	100.0
Total	85	100.0	

Concerns about ChatGPT

Researchers asked educators whether or not they are worried about ChatGPT in regard to their instruction and then provided an open-ended question to allow participants to expand on their concerns. Responses were analyzed by researchers using thematic analysis. Most of educators reported that they are not worried about ChatGPT (63%). Their responses to the open-ended question were grouped into the following seven themes: Plagiarism/cheating, Loss of higher order thinking skills, Overreliance on technology, Lack of authenticity, Decreasing content comprehension, Fears of the unknown, Concern of social emotional well-being.

Theme 1: Plagiarism/cheating

For many participant respondents, the occurrence of plagiarism or sorts of cheating presented the biggest concern regarding ChatGPT. Plagiarism is the act of presenting someone else's work

or ideas as one's own without proper attribution. Since ChatGPT can solve math problems or write various essays in seconds, educators worry about students “working around” doing their homework, and instead utilizing ChatGPT to submit their assignments. Therefore, ChatGPT could undermine academic integrity. The capability of creating answers to problems for the students would cause them not to master the content and become over-dependent on technology. This was a significant concern among the educators who participated in this study. Some comments elaborated on the concern of cheating. One respondent wrote, “Plagiarism seems to be the biggest fear. Deep fake photos as well”. One participant stated, “Students using it to cheat.” Another participant noted his biggest fear as, “I think it raises real questions on assessments and grading student work done outside of the classroom in general.”

Theme 2: Lack of authenticity

Lack of authenticity is closely related to plagiarism or cheating. It could be demonstrated through submitting work that is not original, honest, or reflective of the student's true abilities or ideas. Students may experience short-term gains, such as better grades or a reduced workload, but in the long run, it can have significant negative consequences for their academic and personal growth. Educators reported their concerns of lack of authenticity as in these comments “Students lacking authenticity when creating content. Whether it is in lesson planning or simply orchestrating ways of communicating, I fear that AI will take away the authenticity of everyday (virtual) communication.” or “Students lacking authenticity when creating content” or “Students will no longer produce their own thoughts”

Theme 3: Overreliance on technology

Educators stated overreliance on technology as another concern. Students would become overly dependent on technology to perform various tasks as one educator pointed out, “My fear is that students will be so dependent on technology they won't be able to communicate effectively without it”. This overreliance would significantly impact students' academic motivation. One participant mentioned “making us lazy”. This could also cause overuse of computers with no social connections as we see in these comments, “Students are overusing it.” “People need more people, not technology.” “I see the harm that is happening with our children who spend so much time in front of a computer screen.” Overreliance on technology can lead to a lack of higher-order thinking skills which was another concern of educators.

Theme 4: Loss of higher order thinking skills

High order thinking skills are advanced cognitive skills that involve critical and creative thinking skills and problem-solving skills in general. Loss of higher order thinking skills refers to a decline in the ability to think critically, analyze, synthesize, and evaluate information. The concern can occur due to a lack of opportunities to engage in challenging cognitive tasks. When individuals are not exposed to intellectually stimulating activities, such as reading, solving problems, or engaging in creative pursuits which can be done by ChatGPT, they may not develop or maintain their higher order thinking skills. One participant responded as “An increased reliance by students on information that does not come from their own critical thinking and reasoning.”

Another one stated "Students will lose the critical thinking skills necessary to move from the investigation/research phase to the real-world application phase."

Theme 5: Decreasing content comprehension

Educators are concerned that ChatGPT could cause decreasing content comprehension among students. It refers to a decline in the ability to understand and retain information presented in written, verbal, or visual forms as one educator stated, "Failure to truly understand the content." They may struggle to grasp the main ideas or themes presented in the content, as well as the supporting details or nuances. One participant reported, "Submission of work that student had not done and therefore may not gain the covered information and skills". "Educators have some learning objectives or content to have their students master. This learning process could be tiresome so students could easily rely on easily accessible information through ChatGPT. One participant quoted, "it would be students not learning material because they rely on ChatGPT."

Theme 6: Fears of the unknown

Some educators are fearful about ChatGPT because they do not know about it. This fear of the unknown may stem from various factors, including a lack of familiarity with AI technology, concern about loss of control, and fear of the potential consequences of interactions with ChatGPT. Some educators stated, "I don't know what it is so I'm not sure what to fear." "Fears of the unknown; my own ability to learn and share its benefits with preservice teachers." "The unknown is fearful for me." "I am not sure what this is to be fearful."

Theme 7: Concern of social emotional well-being

A few educators mentioned their concerns of social-emotional well-being. They provided some negative impacts on an individual's social and emotional health. One educator stated, "It would be a problem if the program advocated something like suicide to a depressed student." Another participant explained, "People need more people, not technology" to point out the importance of human-human interactions.

Hopes about ChatGPT

Researchers also asked participants whether or not they are hopeful about ChatGPT regarding their instruction and an open-ended follow-up question as to what the potential benefits of ChatGPT in teaching would be. 39.1% of educators reported that they were hopeful about ChatGPT. As we did for concerns, we categorized their responses to the open-ended question about the potential benefits of ChatGPT into the following themes: Developing teaching materials to reduce workload, instant information access, and a higher level of teaching.

Theme-1 Developing teaching materials to reduce workload

Participants stated that using ChatGPT would help them develop teaching materials so their workload could be reduced while saving time that often went beyond the regular work hours. By creating materials such as lesson plans, assignments, and assessments with the help of ChatGPT, educators can focus on delivering the material to students instead of spending time creating content. Here are some examples of responses that show the potential benefit of

developing teaching materials to reduce workload:

“There may be ways of ChatGPT assisting in grading and developing course procedures that would benefit University professionals. I'd be interested in knowing about these ideas.”

“Making the tedious and time-consuming tasks less so.”

“The abilities that it has to enhance and assist in planning and what we cover is endless.”

“I have used ChatGPT to develop lesson plans and other class materials. I have also used ChatGPT to help write better letters of recommendation.”

“In regards in preparing lessons, ChatGPT is a great starting point, especially matching with standards. “

“The creation for lessons and assessments could be something to look more into”

“Writing out prompts and plans”

Theme-2 Instant information access

In today's digital age, we can access a wealth of information on any topic within seconds virtually, from anywhere in the world. Educators perceived that ChatGPT could have the ability to quickly and easily retrieve data, facts, or knowledge and utilize this instant information for the sake of their teaching. One educator stated, “From what I understand, it could be a great starting place in collecting information about a topic.” Another participant mentioned, “Using it to save time on creating dynamic presentations for students, being a different viewpoint in approaching ideas, working smarter not harder, and connecting teaching to the future because AI isn't going anywhere.” “I think that it can help to get the creative process started. If I am stuck writing a chord progression for a song, I can ask ChatGPT to generate a chord progression in Eb Minor that incorporates a diminished IV chord, and it will give me something to start from.”

Theme-3: Higher level of teaching

Higher level of teaching focuses on promoting the development of advanced skills, critical thinking, problem-solving, and decision-making abilities among students. It includes the use of teaching methods and strategies that are designed to challenge students and encourage them to think deeply and critically about concepts and issues. Participants perceived that they could implement a higher level of teaching with the help of ChatGPT. For instance, one educator hoped “development of deeper thought/comprehension questions.” The other participant thought “an educational shift from rote learning to advanced analyzing and creating. Less DOK [[Depth of Knowledge] 1 and 2 and significantly more innovative creation”. Another educator stated that “Supporting students in getting them started with thinking outside the box”. Another one wrote, “Different ways to solve problems, show students what math is capable of, find different connections to their lives by using it”.

DISCUSSION

This study aimed to investigate the perceptions of educators regarding the use of ChatGPT in their instruction, which has generated controversy in the field of education. Some educational institutions have even banned its use on campus due to concerns about its potential harm. This

study, one of the first to explore educators' thoughts on ChatGPT, asked respondents about their concerns and hopes related to teaching. As the survey was conducted during ongoing debates about ChatGPT in education, the study provides significant preliminary findings on the impact of ChatGPT on educators, who are key stakeholders in education.

Most educators reported that they did not know enough about ChatGPT and have not received any training on it. However, many expressed their willingness to participate in training on the topic. These findings are important to understand the level of knowledge and openness to learning about ChatGPT among educators. Despite limited knowledge, educators generally had positive attitudes towards ChatGPT, consistent with a nationwide survey indicating that a majority of teachers believed that technology helped facilitate learning (Edgenuity, 2016). In a related study, Chocarro et al. (2023) found a positive and substantial impact of perceived usefulness of a Chatbot on teachers' technology use in teaching.

Concerns about ChatGPT

Based on the responses that educators shared about their concerns, we categorized them into several categories including Plagiarism/cheating, loss of higher-order thinking skills, overreliance on technology, lack of authenticity, decreasing content comprehension, concern for social-emotional well-being, and fears of the unknown. These concerns are closely interrelated. Plagiarism is a growing concern in education, as more and more students are turning to technology for information. With the easily accessible information that ChatGPT provides, it is easy for students to copy and paste from what ChatGPT generates. Khalil and Er (2023) demonstrated that ChatGPT could produce sophisticated text outputs that cannot be detected by plagiarism check software. As of today, technology to detect AI is ongoing, and there is a continuous concern about identifying it accurately. Also, plagiarism detectors are commonly used in high school and higher education. It is not often used in elementary/middle school. Plagiarism results in a lack of authenticity in students' work. Students may rely too heavily on ChatGPT and submit what it provides without producing their original work or ideas. Ogborn Corpuz (2019) found that there was a growing reliance rate for technology and internet access use for students. Technology could occasionally misdirect users, or give incorrect information (Grissinger, 2019). Thus, accepting what ChatGPT provides without questioning could cause a loss of high order thinking skills such as critical thinking or problem-solving skills. Based on 20 in-depth interviews of Norwegian and New Zealand teaching educators, educators expressed concerns regarding students' in-depth learning and critical thinking skills that are influenced by digital technology (Madsen et al, 2021). Kubey et al. (2001) found a negative correlation between internet use and academic achievement. This could suggest that there is a belief among educators that students may rely too heavily on ChatGPT to understand the material, rather than actively engaging with the content themselves. It could also suggest that educators may be concerned about the quality or accuracy of the responses provided by ChatGPT, which may lead to confusion or misunderstandings for students.

As educators engage with new technology or are unsure of how to use it, they might experience a fear of the unknown. They may feel hesitant or anxious when they first start using ChatGPT because they are unsure of how the tool works or what kind of responses they will receive. This fear of the unknown can stem from a lack of familiarity or a sense of uncertainty about what to expect. Also, educators could be emotionally, behaviorally, and cognitively resistant to change (Laumer & Eckhardt, 2010). This resistance might be demonstrated through fear.

Even though ChatGPT cannot impact social-emotional well-being directly, the way students interact with ChatGPT could potentially affect their social-emotional well-being. For instance, relying too heavily on the advice that ChatGPT provides could lead students to isolate and disconnect from human connections. Also, receiving negative responses from ChatGPT could contribute to feelings of depression. Overusing it could result in computer addiction, which would have harmful effects on the social and emotional wellness of students.

Hopes about ChatGPT

The results showed that most educators were not optimistic about ChatGPT. This could be because they did not know much about it. We categorized the potential benefits of ChatGPT that educators proposed into the following themes: developing teaching materials to reduce workload, instant information access, and higher-level teaching.

ChatGPT provides educators with quick access to vast amounts of information and resources. Educators can use these outputs to develop high-quality teaching materials that enhance the learning experience for students. ChatGPT is also capable of generating a wide range of questions and prompts, which educators could use to answer complex or difficult questions that students might ask during class or in one-on-one conversations. Additionally, ChatGPT could be used to create personalized learning materials for students, such as quizzes or study guides, tailored to their individual needs and learning styles.

In conclusion, educators have expressed concerns about ChatGPT, as well as potential benefits for their teaching. These concerns and hopes are valid. As a result of a review of the literature, Lo (2023) reported that ChatGPT had the potential to serve as an assistant for instructors and a virtual tutor for students whereas, there were challenges linked to ChatGPT (e.g., providing incorrect information and bypassing plagiarism detectors). Lo (2023) also suggested strategies to help alleviate the potential issues associated with ChatGPT in education which include: incorporating multimedia resources, adopting novel question types, using digital-free assessment formats, using AI-based writing detection tools and checking references, and establishing anti-plagiarism guidelines and providing student education.

However, ChatGPT should not be considered a substitute for human expertise and experience. Educators still need to use their judgment and critical thinking skills to determine how best to apply the information and insights provided by ChatGPT to their teaching practice. Educators have widely expressed their desire for more resources to help alleviate the overwhelming workload that is required of them throughout each school year. ChatGPT

presents the potential to be a significant pathway in both increasing professional engagement with planning and preparing coursework and other related materials. It is evident that educators both desire and need significant training to ensure that in-service educators experience the features that ChatGPT offers. Additionally, increased training and subsequent utilization of AI in the classroom may play a crucial role in teacher retention. This is particularly important due to the teacher shortage that K12 education is currently enduring. This work is just the starting point and hopefully, it will stimulate further exploration and expansion of utilizing ChatGPT as a tool to enhance teaching and learning.

Limitations

Due to our survey being conducted by recruiting volunteer participants through social media, it is important to note that our sample may not be representative. Future studies should consider utilizing other methods, including face-to-face interview techniques or some quantitative methods, to reveal educators' perceptions of ChatGPT. This study was conducted just after ChatGPT was released to analyze the preliminary perception of ChatGPT among teachers. The long-term impact on education remains uncertain. It is important for research to investigate the enduring effects of ChatGPT on educators and education as a whole. We did not compare the differences between rural and urban educators in their perceptions. Comparative research would expand the understanding of ChatGPT among different educator groups. We did not categorize the responses based on the participants' level of usage ChatGPT. Future studies would focus on different perspectives based on how much they use ChatGPT in order to examine the perceptual change as they use it. Since this research was about initial perceptions of educators, further research is needed to explore the potential benefits and challenges of integrating AI language models into education. We focused on only ChatGPT. However, there are other applications based on LLMs in educational technologies which would be researched regarding educators' perceptions in order to fully understand their perceptions of AI.

Recommendations

Offering advocacy for school districts, educators, and policymakers could prove to be beneficial, based on our interpretation of the data. Successfully integrating ChatGPT into education will require effective training and support programs for educators to optimize their use of these tools. As our results showed, educators were willing to participate in these training programs. It is important to educate individuals about the potential and current obstacles of AI, as well as the ethical considerations surrounding its development and use.

While ChatGPT can provide instant information, being critical of the information provided by ChatGPT is crucial. ChatGPT is still an AI language model and may not always provide accurate or reliable information. Educators should double-check it against other sources. ChatGPT should be used as a supplementary resource. As educators, over relying on it would result in some problems. Educators should use their own expertise and experience to utilize ChatGPT in their teaching.

Educators play a critical role in fostering a culture of authenticity by providing clear guidelines for assignments and emphasizing the importance of academic integrity. They should also provide feedback and opportunities for reflection that help students develop their higher thinking skills. ChatGPT can be used in a way that benefits society as a whole while also addressing any fears or concerns that individuals may have.

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