ChatGPT Reliance of Students: Teachers' Challenges Towards ChatGPT Usage of Students for Schoolwork in an Online Learning Environment

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This qualitative study anchored on Transactional Distance Theory (1997) explored the challenges of eight California high school teachers on their students' ChatGPT reliance for schoolwork. The study findings revealed from the thematic analysis that teachers' challenges included inaccuracies in detecting ChatGPT usage and the negative impact on students' learning. The study also highlighted the driving factors influencing the teachers' challenges, such as inappropriate use of ChatGPT, plagiarism, and the carefree attitude of students toward their learning. Future studies may explore the different interventions for detection, assessment tools, and teachers' adaptation strategies in a regime of ChatGPT as a learning tool.

Keywords: academic integrity, artificial intelligence learning, ChatGPT reliance and prevalence, plagiarism, online learning environment, Transactional Distance Theory

INTRODUCTION

The emergence of Artificial Intelligence (AI) learning tools, such as ChatGPT in the educational sector, has raised concerns about students' use of these tools for their schoolwork. With the launch of ChatGPT in November 2022, some of the biggest public-school districts in the United States immediately stopped the students from using ChatGPT to prevent academic dishonesty (Nolan, 2023). Nevertheless, it is becoming a mainstream tool used by secondary students for schoolwork—according to the survey of U.S. teens conducted by Pew Research Center in September-October 2023, cited by Sidoti and Gottfried (2023), it found that 17% among Grades 9 and 10 students and 24% of Grades 11 and 12 students are already using ChatGPT for schoolwork. The key features of ChatGPT which include "contextual understanding, language generation capabilities" (Ray, 2023, p. 124) or the ability to generate information/responses in a quick manner, make it a desirable option for students. Furthermore, ChatGPT's "rapid feedback and interactive learning experiences enriched the students' educational journey by boosting motivation, engagement, and better information retention" (Zhang and Tur, 2023, p. 13).

However, in previous studies, a number of findings point to concerns and issues arising from ChatGPT use in the learning environment—issues on plagiarism, integrity of work, false information, bias, transparency, and privacy are among the negatives identified (Abd-alrazaq et al., 2024; Cong-Lem et al., 2024; Ogurlu & Mossholder, 2023). There are also issues and concerns on its effect on the students' learning behavior, critical thinking, analytical thinking, and in decision-making (Duhaylungsod & Chavez, 2023; Grassini, 2023). "The top five negative effects of AI dependency include laziness, the spread of misinformation, a lower level of creativity,

and reduced critical and independent thinking" (Zhang et al., 2024, p. 1). Addressing these issues and concerns is an essential element of the teachers' role and responsibilities to ensure that the students' learning process are aligned with their learning goals—to achieve positive learning outcomes. As Moore and Kearsley (2005) conveyed, the "instructors must be able to guide students into being actively involved in the learning process" (p. 136).

The paradigm shift from traditional learning (face-to-face) to an online learning environment has prompted a shift of teachers' role and teaching strategies—Moore (1997) stated that there is an "enormous variation in these strategies and techniques and in the behaviours of teachers and learners" (p. 22). Similarly, AI technology is causing a shift from traditional learning systems to smart learning systems. "This paradigmatic shift is characterized by a critical assessment of educational objectives, meanings, content, and methodologies" (Yu, 2024, p. 3), and it is happening in an accelerated phase. It becomes imperative that the teachers' teaching skills and strategies must be adapted to address the challenges in their students' new learning methods, although AI is not yet integrated in the school curriculum.

In the problem statement, the teachers' role is to ensure that the students' learning journey will be aligned with their learning goals. The emergence of Artificial Intelligence (AI) learning tools such as ChatGPT, and their students' reliance on it for schoolwork disrupted the students' learning style. Most studies in literature delving on ChatGPT reliance highlighted the issues and concerns such as plagiarism, integrity of work, false information, bias, transparency, and privacy (Abd-alrazaq et al., 2024: Cong-Lem et al., 2024; Ogurlu & Mossholder, 2023). These studies mostly focus on students using ChatGPT as a learning tool, however, these studies do not dwell on the impact of ChatGPT reliance on the teachers' teaching process—thus, this study was conducted.

The researcher argues that the students' ChatGPT reliance may contribute negatively to the students' learning outcomes due to the associated risks of ChatGPT usage which poses a big challenge to the teachers in managing their classroom. Without AI guidelines in place, the teachers are doing it blindly and acting reactively, putting them in a position of undue stress and uncertainty. This difficult situation demands a thorough examination because the teachers are expected to perform their duties and responsibilities at the utmost efficiency.

In this context, the purpose of this qualitative instrumental case study of eight high school teachers in an online learning environment using the Edgenuity learning platform was to examine the teachers' challenges in relation to their students' ChatGPT reliance for schoolwork and understand the issues and concerns in managing the classroom to ensure positive learning outcomes for their students. To fulfill the purpose of this study, the following research question was explored: How may the teachers' challenges in classroom management and ChatGPT usage prevalence in relation to the students' ChatGPT reliance in doing their schoolwork be described?

By examining the students' ChatGPT reliance, the study aimed to provide a qualitative case study highlighting the teachers' insights and challenges of how ChatGPT reliance disrupted the students' learning style leading to potential negative learning outcomes. Also, it is hoped that the study's findings will contribute to future research in the areas of detection, impact on teaching and learning, policy direction, and AI literacy.

REVIEW OF LITERATURE

> The ease of convenience offered by AI technologies like ChatGPT may tempt students to transfer the entirety of their learning responsibilities onto these platforms, potentially engendering a dependency detrimental to their capacity for independent and innovative thought… It is incumbent upon educators to ensure that AI utilization in education serves to augment rather than replace the cultivation of students' independent learning and critical thinking abilities. (Yu, 2024, p. 7)

In the systematic review of 25 papers on AI education in K-12 classrooms from 2018-2023 of Lee and Kwon (2024), they found that AI tools applied in learning and learning about AI proliferated in the K-12 level worldwide, although AI is not yet integrated in the school curricula. This extra-curricular use of AI in the K-12 education focused on using the AI tools in enhancing the students' learning experience such as incorporating gaming in their classes. Lee and Kwon's paper recommended using age-appropriate AI tools since younger students have a shorter attention span, emphasizing that AI learning strategies must be 1) in line with the developmental stages of the

students and 2) result in a learning outcome with strengthened critical thinking abilities. On integrating AI in the curricula, Bobula (2024) emphasized that "integrating these AI models into curricula can nurture creativity, promote critical thinking, and prepare students for a future where AI collaboration is commonplace in professional life" (p. 15).

Previous studies focused on K-12 levels agree on balancing the students' use of AI and mediating risks such as bias, privacy, transparency, hallucination, plagiarism, and security. In their findings, concerns on dependency or reliance on AI, hindering creativity and innovation, impact on critical thinking, analytical thinking, and decision-making, and laziness are encompassing themes (Abd-alrazaq et al., 2024; Cong-Lem et al., 2024; Duhaylungsod & Chavez, 2023; Grassini, 2023; Krecar et al., 2024; Ogurlu & Mossholder, 2023). "Young learners could unintentionally share personal details with ChatGPT, underscoring the need to protect users' privacy, particularly the younger demographic" (Bobula, 2024, p. 11). Similarly, Lee and Kwon (2024) conveyed that with the satisfaction of getting quality work from AI usage, the students' drive to do coursework on their own diminishes and increases their dependence on AI and added that plagiarism is becoming an issue in AI usage for writing courses.

Nguyen et al.'s (2024) study of ChatGPT's influence of students' learning behaviors of 73 university students and 15 university faculty members in Vietnam, revealed that most of the students use ChatGPT at least once daily, and concerns were raised on developing overreliance on ChatGPT which will eventually lead to reduced critical thinking of the students. Similarly, Zhang et al. (2024) identified in their study of 300 university students in Seoul, South Korea that AI dependency is inversely proportional to self-efficacy, borne out of academic stress and performance expectations. They further emphasized that students see AI as a resource to help with their coursework, which in turn will lead to AI dependency. Further, the students reported issues in creativity, critical thinking ability, laziness, and plagiarism. The study concluded that AI use must be guided accordingly, to mitigate the risks and issues identified in the study.

In the United States, the Department of Education, Office of Educational Technology has published a report entitled Artificial Intelligence and the Future of Teaching and Learning last May 2023, to provide guidance and the challenges of AI in education. The report recognizes that AI tools do not fit with the learning goals completely, such that finding the actual fit for AI in education will be challenging, i.e., the AI model must not limit, instead it must adapt to the learning environment. The underlying principle of the report is on the understanding that teachers are engaged in their students' learning process, such as motivating students and moderating self-regulation. The report outlined the strengths of AI, such as enabling adaptivity in learning and intelligent tutoring systems. The adaptivity of AI is a way of learning that meets students' needs as they build their knowledge and skills. The report also elaborated on the AI intelligent tutoring systems where the feedback mechanism is enhanced; it can keep the student on track and provide feedback on a 'step-by-step' level. In addition, the report also called attention to the fact that AI in education must be taken into two perspectives: learning with AI and learning about AI. Learning about AI means at the outset, students need to know the risks, like bias, cybersecurity and privacy concerns while using AI—as an example, an AI tool can limit or redirect a student to a different learning objective because of the inherent bias of the AI tool itself. Overall, the report calls for balance in AI as a tool and incorporating 'learning about AI in the students' learning process.

In the literature review of Instructional Leadership at K-12 Levels in the Age of Artificial Intelligence (AI) by Ayyildiz and Yilmaz (2023) focused on writing as a course subject, they strongly advocate for teachers' competence in AI usage to manage the AI application in the classroom, ensuring that safety in AI use is paramount. Amongst their findings is the impact of AI use in the teachers' interaction with their students, since AI usage promotes independence, the students will have minimal interaction with their teachers. Mah et al.'s (2024) study on teachers' and students' perceptions of cheating and learning with ChatGPT underscored the value of AI literacy among teachers to objectively assess their students' coursework and facilitate their learning using ChatGPT. Twelve high school students and fifteen teachers participated in the study, and the result highlighted that a better understanding of ChatGPT use in the right context and objectives constitute whether the ChatGPT use is considered cheating or not. The findings included the areas of tension where the teachers' and students' perception of cheating varies with ChatGPT usage, these are: 1) shortcut versus as a scaffold; 2) to generate ideas versus language; 3) getting support from ChatGPT versus analogous support from other sources; and 4) learning from ChatGPT versus learning as a whole (p. 9). The authors recommended that the four tensions identified in the study

be considered to guide teachers' professional development to move forward and enjoy the benefits of ChatGPT usage as a learning tool. Mabuan's (2024) study of integrating ChatGPT in English Language Teaching (ELT), has emphasized that for an effective teachers' professional development in an era of AI, it must include content on ChatGPT as resource for ELT. In response to the issue of academic integrity, van Wyk et al.'s (2023) study concluded that teachers need to find new ways of assessing the students' capability. They also emphasized that teachers must be knowledgeable of the emerging AI technologies before they can apply these tools themselves; again, the direction points to the teachers' professional development.

Overall, the overarching theme of balance between AI usage and regulation can be drawn from the foregoing review of literature. Most of the studies emphasized the importance of AI literacy for both teachers and students—to be able to understand that in using ChatGPT some risks and concerns may be detrimental to the students' cognitive abilities and impact their learning outcomes. Teachers' competence is also broadly identified and needs to be addressed through professional development. Moreover, the studies demonstrated that understanding the variables: ChatGPT Reliance/prevalence, students' learning, and challenges encompass ideas throughout literature and thus provide the direction to address the research question of this qualitative study.

THEORETICAL AND CONCEPTUAL FRAMEWORK

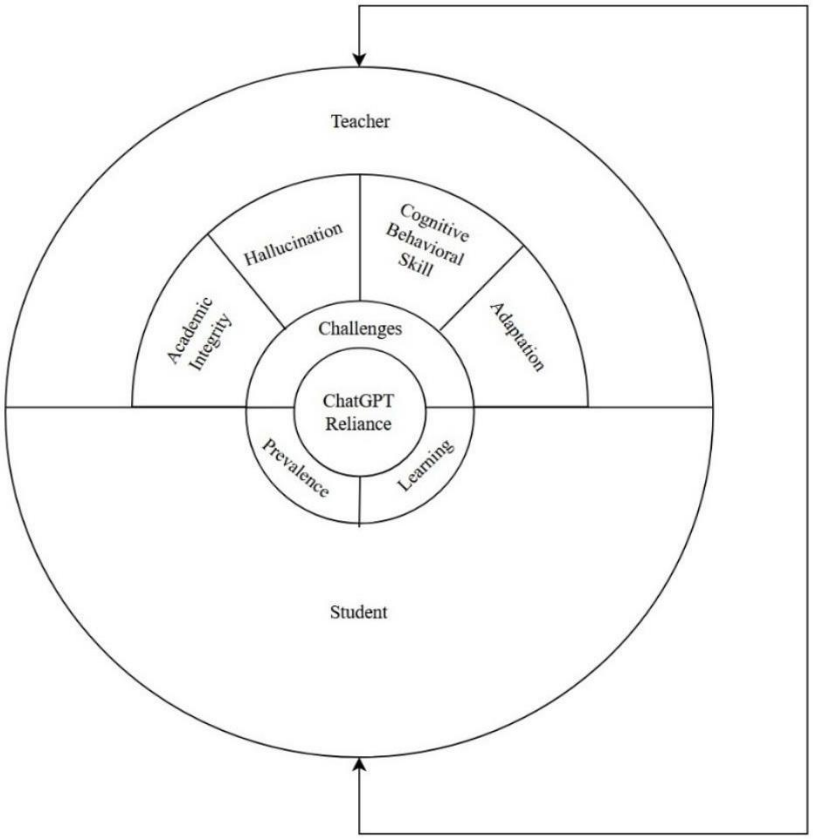
This study is anchored on the Transactional Distance Theory (Moore,1997) and is used as the theoretical frame to probe and analyze the results of this instrumental case study of eight high school teachers at the California High School (CHS) in an online learning environment. The Theory of Transactional Distance (TDT) defined distance education as "a concept describing the universe of teacher-learner relationships that exist when learners and instructors are separated by space and or by time" (Moore, 1997, p. 22). Furthermore, he emphasized that it is "the separation of learners and teachers that profoundly affects both teaching and learning; with separation there is a psychological and communication space to be crossed, a space of potential misunderstanding between the inputs of the instructor and those of the learner" (p. 22). The three variables of TDT are dialogue, structure, and autonomy.

The TDT described dialogue as an "interaction or series of interactions having positive qualities that others might not have. A dialogue is purposeful, constructive and valued by each party... The direction of the dialogue in an educational relationship is towards the improved understanding of the student" (Moore, 1997, p. 23). The second key variable is structure, referring to "the elements in the course design, or how the teaching programme is structured so that it can be delivered through the various communication media... Structure expresses the rigidity or flexibility of the programme's educational objectives, teaching strategies, and evaluation methods" (p. 24).

"Learner autonomy is the extent to which in the teaching/learning relationship it is the learner rather than the teacher who determines the goals, the learning experiences, and the evaluation decisions of the learning programme" (Moore, 1997, p. 26). "Autonomy is a variable that is highly affected by course structure, as a highly structured course takes away an individual's ability to be completely self-directed" (Shearer, 2009, p. 6). He further explained that "if a student is highly autonomous, he or she may not need high structure or a high level of communication/dialogue in a course to be successful, therefore, the intellectual exchanges or transactions may be minimal" (p. 6).

To understand the teachers' challenges in managing their students' ChatGPT reliance for schoolwork, the teacher-student interaction referred to in the TDT is described in the research paradigm shown in Figure 1. The teacher challenges emanating from the students' ChatGPT reliance for their schoolwork are informed by the following variables: academic integrity, hallucination, cognitive and behavioral skill, and adaptation. Student learning variable captures the learning style and behavior of the students in their dependence on ChatGPT for schoolwork and the degree of their ChatGPT usage represents the variable prevalence. Academic integrity relates to the dishonesty in submitted schoolwork constituting plagiarism or cheating. Hallucination is about false information or inaccuracies in information. Students' ChatGPT reliance may result in diminished cognitive abilities such as critical and analytical thinking and affecting behavioral skills which will result in laziness as an example, eventually leading to negative learning outcomes. Adaptation is the ability of teachers to manage the challenges of their students' reliance on ChatGPT schoolwork.

FIGURE 1
THE RESEARCH PARADIGM SHOWING THE RELATIONSHIPS OF THE VARIABLES



These variables have the most influence on the teachers' challenges, in reflection from previous literature, and the most potential to cause issues in the students' learning process. Lee and Kwon (2024) emphasized that with the satisfaction of getting quality work from AI usage, the students' drive to do coursework on their own diminishes, and increases their dependence on AI, adding that plagiarism is becoming an issue in AI usage for writing courses. Similarly, Zhang et al. (2024) identified in their study of 300 students that AI dependency is inversely proportional to self-efficacy, and the students have reported issues in creativity and critical thinking, as well as laziness and plagiarism. van Wyk et al.'s (2023) study also identified the potential risks of affording dishonesty and cheating among the students, despite the benefits ChatGPT as a learning tool. While Mah et al.'s (2024) study on teachers' and students' perceptions of cheating and learning with ChatGPT underscored the value of AI literacy among teachers to objectively assess their students' coursework and facilitate the students' learning using ChatGPT. In the literature review of Instructional Leadership at K-12 Levels in the Age of Artificial Intelligence (AI) by Ayyildiz and Yilmaz (2023) which focused on writing as a course subject, they strongly advocate for teachers' competence in AI usage to manage the AI application in the classroom, ensuring that safety in AI use is paramount.

As demonstrated in the review of literature, it is critical to examine the teachers' challenges brought about by their students' reliance on ChatGPT for schoolwork, to ensure that the student's learning process leads to achieving a positive learning outcome and is aligned with the constructs of the Transactional Distance Theory.

METHODOLOGY

Research Design

The study implemented a qualitative research approach using an instrumental case study design to explore the teachers' experiences in managing their students' ChatGPT reliance. Creswell and Poth (2018) defined the case study research "as a qualitative approach in which the investigator explores a real-life, contemporary bounded system (a case) or multiple bounded systems (cases) over time, through detailed, in-depth data collection" (p. 96). Baker et al. (2015) specified that "it is important to note that the purpose of instrumental case studies is to understand and learn a deep level about one specific case... Others may transfer learning from this case study should the circumstances be similar" (p. 223). Furthermore, an instrumental case study is to "understand a specific issue, problem, or concern and a case or cases selected to best understand the problem" (Creswell & Poth, 2018, p. 98). For this study, the issue is the students' reliance on ChatGPT and the case—teachers' management of this issue will extend the understanding of the problem probed through the lens of Transactional Distance Theory.

Using the researcher-made questionnaire, this qualitative study perused open-ended questions script for interviews. The open-ended questions were to elicit the views from the participants for an in-depth probing of the topic (Creswell, 2014). The data were analyzed through the step-by-step thematic analysis which will serve as the roadmap to process data that "follows a structured, sequential approach to interpreting data" (Naeem et al., 2023, p. 2).

Study Site

The study was conducted at the K-12 California High School (CHS), an accredited 9-12 charter school by the Western Association of Schools and Colleges, under the supervision of the California Unified School District in Northern California, United States during the second semester of school year 2024-2025. CHS started as an online learning environment without its own physical building during the school year 2020-2021 as a response to the challenges brought by the Covid-19 pandemic. Recently, the school introduced an in person and virtual tutorial service for students who need help in their studies. Currently, the school staff comprises 21 teaching staff, one school counselor, and one administrator. The other office personnel include the registrar, attendance technician, secretary, and I.T. support. The school's student population is 445. The school's online learning management system is Edgenuity, an asynchronous online technology infrastructure, combined with one-on-one and group teleconferencing delivered through Microsoft Teams once a week between teachers and students. The researcher is also a teacher at the study site and handling Grades 11 and 12 students. The researcher has prior experience on the issue of students' ChatGPT reliance and because of this experience, the researcher selected the issue for the case study. The researcher relied on her interpersonal skills and proceeded with the study anchored in "building trust, maintaining good relations, respecting norms and reciprocity, and sensitively considering ethical issues" (Marshall & Rossman, 1998, p. 85).

Participants of the Study

The eight participants of this qualitative research were purposefully selected (Creswell, 2014) in a process that included 1) a personal one-on-one briefing to present the purpose and objectives of the study, 2) answering the question from the researcher if the teacher has experienced the use of AI and ChatGPT for schoolwork by their students, 3) if the answer is yes to the question, then they were invited to participate in the study. The affirmation that they had experienced the issue of ChatGPT reliance suffices for the purpose and objectives of this case study. There were no requirements regarding age, gender, length of service or other personal information as selection criteria. Only those who had accepted the invitation formed part of the study as teacher participants. All eight high school teachers at CUSD have experience in traditional and online learning settings where most of them have served the California Unified School District for a long time.

Research Instrumentation

The researcher-made study questionnaire was divided into two parts to address the research question. Part I of the questionnaire focused on the sociodemographic background of the teachers to gather data on their professional information about the grade levels they teach, their number of years teaching, and the type of

certification they hold. The second part of the questionnaire covered the teachers' experiences in classroom management on their students' reliance on ChatGPT for their schoolwork. This section included questions on issues and concerns in detecting students' ChatGPT prevalence and reliance, impact to learning behavior, impact to cognitive skills and to the students' autonomy.

The questionnaire was provided to the teacher participants via a link provided by the researcher after all the proper authorizations and consent to participate were obtained. Upon the return and initial review of the completed questionnaire, the teachers were asked through an email for a follow-up interview based on their answers to explore more specific and in-depth understanding of their thoughts and experiences regarding the current trends and issues on the ChatGPT use of their students. The interviews were conducted using the English language and lasted between 10-20 minutes in duration. The process of completing the questionnaire ensured the participants had time to understand the questions. Moving forward with the interview further clarified the points raised in the completed questionnaire. The questionnaire was pre-validated with a technical expert. Furthermore, this research did not "use language or words that are biased against persons because of gender, sexual orientation, racial or ethnic group, disability or age" (Creswell, 2014, p.100).

Methods of Data Gathering

Before data gathering, the researcher applied for the ethics review of the manuscript through the university's Ethics Review Committee upon including all suggestions by the advisory committee during the outline presentation. The next step was seeking the approval of the Associate Superintendent of the Educational Services of the California Unified School District to conduct the study. Upon authorization, the researcher approached the potential teacher participants personally to introduce the purpose of the research objectives. Afterwards, the consent form was sent via school email explaining the confidentiality and data reporting procedures and that participation is completely voluntary. Each participant was given a copy of the signed letter of consent. Those who agreed to participate in the study received the link to the survey and a primer on the study objectives and description of the Transactional Distance Theory and ChatGPT. Data was collected using a questionnaire for teachers' sociodemographic information and answers to open-ended questions. All of the participants agreed to individual interviews to follow up on the questions used in the questionnaire employing a semi-structured interview. The researcher used Microsoft Form for the questionnaire, Teams Meeting for online interview, or face-to-face interviews with audio recordings. To protect the identity of the teacher participants, pseudonyms were assigned to teachers in all the manuscripts. Responses to the questionnaire were recorded, while video recordings of face-to-face interviews were transcribed comprehensibly. The data collected will be stored in a secured place in the researcher's home for five years and discarded after, avoiding misappropriation (Creswell, 2014).

Methods of Data Analysis

To address the issue of bias in the data collection and analysis due to the researcher's direct involvement, the teacher participants were allowed to review their responses based on the transcribed and recorded data from the interviews; this ensured the accuracy and credibility of data (Creswell, 2014). "If studying the backyard is essential, then the researchers hold the responsibility for showing how the data will not be compromised and how information will not place the participants (or researchers) at risk" (p. 188). In this qualitative research approach, the collected data were segregated according to themes grounded in the Transactional Distance Theory. The Theme Analysis is a flexible manner to analyze data since the "thematic analysis is not wed to any pre-existing theoretical frameworks, and so it can be used within different theoretical frameworks" (Braun & Clarke, 2006, p. 9). The step-by-step Theme Analysis of Braun and Clarke (p. 35) were adapted and included the following steps: 1) Familiarising yourself with your data; 2) Generating initial codes; 3) Searching for themes; 4) Reviewing themes; 5) Defining and naming themes; and 6) Producing the report.

Initial steps included the transcription of data and finding the key words that will be essential to the objectives of the study. Codes were assigned to the collected data to easily classify, retrieve and analyze the data gathered. In data analysis, coding assists in identifying patterns and relating them to the objective of the study (Babbie, 2010). From theme development, certain patterns emerged from the data that lead to certain conclusions interpreted within the study's theoretical framework. The thematic analysis employed in this case study utilized the following six steps. First is familiarizing with data, transcribing data (if necessary), reading and rereading the

data, noting down initial ideas. The data results were transcribed and inputted into Delve, a qualitative data analysis software to code, categorize and organize insights. Second, generating initial codes—using Delve, going through the transcripts, the first initial codes were determined, and excerpts were highlighted. Another round of coding was done to check the assigned codes' credibility. A copy of a set of codes for sampling was sent to the technical expert to establish the accuracy of the coding. Several codes and transcripts were examined to ensure nothing is missed in the code setting. The third step, searching for themes—after coding, the researcher collated the codes into groups for potential themes and subthemes and gathering all data relevant to each potential theme. The fourth step is reviewing themes. The extracted data for each theme or subthemes were examined to check on relevancy in relation to the coded excerpts. The fifth step is defining and naming themes—three main themes and two subthemes were drawn from data analysis. The last step is producing the report—while going through the data analysis results and themes, further refinements were done by the researcher, as other important assertions were found in the course of writing the final report.

RESULTS AND DISCUSSION

Sociodemographic Profile of the Participants

The eight participants of the study, highly qualified to teach in California, represented a diverse group of teachers with teaching backgrounds from elementary to high school levels including administrative positions. Teacher Alex who is teaching Gr. 11-12 students started as a high school English teacher for five years then served as a high school vice principal for five years and a high school principal for 15 years. Teacher Alex returned to teaching about 10 years ago as an independent study teacher and started teaching at the California Unified School District (CUSD) high school level in 2020. Teacher Bob came from another state with a language certificate and started teaching in the district in 2001. Teacher Bob taught Spanish for 19 years and now has been at the California High School (CHS) teaching online for four years, currently teaching 10th, 11th, and 12th grade students. Teacher Charlie has been teaching for 15 years and has been working with independent study students for two years and has 11 and 12 grade students. Teacher Don has 31 years of teaching in CUSD and worked with 5th grade, 3rd grade, 2nd grade pupils. Additionally, Teacher Don, with multiple subject credentials, has taught in the district's Gifted and Talented Education program. This is Teacher Don's 3rd year teaching 11-12 graders at CHS. Teacher Emma has been teaching for 32 years and taught in the regular classroom in various grade levels 6-12 for 28 years. Teacher Emma taught all sciences, and middle school math. Teacher Emma is certified to teach all science classes, and math through Geometry, including ELD science and math classes. Teacher Emma started teaching online independent study at CUSD five years ago with an initial 7-8th grade assignment but switched to 11-12th grade last year. Teacher Fiona has a BA in Elementary Education and spent 22 years teaching at the elementary level in kindergarten, 1st, 2nd and 4th grades. Teacher Fiona has spent the last four years teaching online and started with 6-9th grades and currently teaches 9th, 10th, and 11th graders. Teacher George has earned a multiple subject teaching credential in 2010 and has been a teacher in CUSD for six years. Teacher George joined CHS in Spring 2022 working with grades 9-12 students. Teacher Jake holds a bachelor's degree in Secondary Education (Mathematics) and earned a master's degree in teaching mathematics. Teacher Jake has a single subject credential in Math, and taught various levels of mathematics, from middle school to high school at five different schools spanning more than 30 years. In addition, Teacher Jake has also worked in adult education. Teacher Jake has been teaching at an online school for 12 years, five of which were part time and started teaching at CUSD in 2022 and is currently teaching 9th and 10th graders.

Teachers' Challenges in Classroom Management and ChatGPT Usage Prevalence

In this qualitative instrumental case study, eight high school teachers in an online learning environment using the Edgenuity learning platform, presented their insights and experiences relating to their challenges in managing their students' ChatGPT reliance. The study findings highlighted the teachers' challenges driven by the issues and concerns such as laziness, reduced critical thinking, independent thinking and negative impact on learning when the students used ChatGPT inappropriately as their learning tool for their writing assignments (Zhang et al., 2024). The overall finding of this study revealed that the teachers' challenges emanated from the impact on the students' learning abilities brought about by the negative influences of ChatGPT reliance on their behavioral and cognitive

skills. Three main themes: *monitoring challenges*, *taking the shortcut to learning*, and *gaining knowledge fair and square* emerged from the analysis of data. These themes have captured the complexities and dynamism describing the teachers' challenges in managing their classrooms related to their students' ChatGPT reliance.

Monitoring Challenges

The current study findings revealed that the teachers' challenges regarding their students' ChatGPT reliance is driven by plagiarism. The first theme: *monitoring challenges* described the issues encountered by the teachers in detecting plagiarism and ChatGPT use in their students' reliance on ChatGPT their writing assignments. While a plagiarism tool is incorporated in the Edgenuity learning platform, and the teachers have called out the students for their ChatGPT-generated content submissions, the students still depend on ChatGPT for their writing assignments. The ChatGPT dependence is prevalent among high school students resulting in a change in the students learning styles. With ChatGPT, the students can easily access information—simply put in a prompt, and content is generated (Cong-Lem et al., 2024; Grassini, 2023; Mosaiyebzadeh et al., 2023; Ray, 2023; van Wyk et al., 2023; Zhang & Tur, 2023). Hasanein and Sobaih's (2023) study determined that students use ChatGPT, aside from the ease of use, it also provides a non-judgmental learning environment and boosting their self-confidence.

The study participants have identified that Edgenuity has a tool to scan the students' submitted work for plagiarism. Still, the findings described it as unreliable and cannot detect the extent of ChatGPT usage. Some of the participants resort to online third-party checkers to validate the plagiarism scan report of Edgenuity, which the participants also found lacking in accuracy too in its ability to detect ChatGPT usage. In addition to the Edgenuity plagiarism checker, some participants use GoGuardian application live screen monitoring program, a third-party checker, and/or by being intuitive using their keen observation skills. From the findings the challenges of monitoring students' ChatGPT reliance are driven by the technological tools and the ability of the teachers using their intuition or observation skill to ascertain if their students are cheating or using plagiarized work. Teacher Emma and Teacher George narrated:

> *"So, monitoring what they are doing when completing assignments isn't something we can do, other than utilizing Go Guardian to see what their computer screen shows. The Edgenuity AI scanner can let us know to what extent something is plagiarized but with regard to ChatGPT, all we would know is they used AI."*

> *"I find that sometimes it is inconclusive as to whether or not the student wrote their response with ChatGPT. The checkers do not always pick up the use of AI, however, I know that what is written is not the way the student would typically respond."*

When the plagiarism checker fails, some participants resort to their intuition in judging whether the student's work is original, partly original, or copied wholly from ChatGPT-generated content. Teacher Bob described it as:

> *"The students who use it as the sole writer of their assignment and turn in what ChatGPT did without changing anything, you can tell. It doesn't sound like them, and sometimes it uses so many big words that it doesn't always make sense anymore."*

The teachers wanted some detection tools that would be more exact in telling them if the students' submitted work is plagiarized or copied from a ChatGPT-generated content. However, according to Grassini (2023), some plagiarism detectors may also suffer from trustworthiness and obsolescence due to the fast-paced evolution of AI technologies. Moreover, Mosaiyebzadeh et al.'s (2023) study found that the plagiarism checkers were ineffective due to AI's improving ability to generate human-like contents. In the words of Grassini (2023), despite the precautionary measures, recent studies have highlighted an alarming trend where sophisticated AI models like ChatGPT can successfully circumvent these plagiarism detectors. Teacher Don conveyed:

> *"My concern would be that ChatGPT has become too accessible and even can be undetectable."*

While the teachers tried to make use of the detection tools available in the Edgenuity, or seeking third-party checkers, the frustration is evident among the teachers because when they feel that the students' work is plagiarized and see the disparity in quality of their students submissions compared to their previous work, they are helpless in a way without concrete evidence to prove plagiarism. One of the teachers, Bob, intuitively determined the student's cheating because the submitted work contained words that seemed unfamiliar with the student and did not make sense. In this context, ascertaining ChatGPT use, and determination of cheating is arbitrary, and it is a very subjective method. As explained by van Wyk et al. (2023), it would be difficult to ascertain the students' ChatGPT reliance by observation alone because the intrinsic capabilities of students as individuals are unique to each individual. Another reason teachers' intuition or observation may fail is described by Grassini (2023), such that distinguishing between human-generated and AI-generated content will soon be more difficult due to the quick evolving AI technology. This suggests that teachers need to learn techniques in determining AI-generated content from their students' submitted work, and furthermore, the teachers have to become familiar with their students' writing style or previous work submissions. van Wyk et al. (2023) acknowledged the urgency that guidelines must be in place to mitigate issues such as plagiarism/academic integrity and detection.

Taking the Shortcut to Learning

While the dynamics in an online learning environment is already complex, the emergence of ChatGPT as a learning tool has driven a revolutionary change in the students' learning styles. In the words of van Wyk et al. (2023), ChatGPT is transforming education. The ease of use and quick generation of information have afforded ChatGPT the preferred choice of students for their writing assignments (Cong-Lem et al., 2024; Grassini, 2023; Mosaiyebzadeh et al., 2023; Ray, 2023; van Wyk et al., 2023; Zhang & Tur, 2023). Grassini (2023) agreed that these features of ChatGPT motivate the students to engage ChatGPT and to shortcut their learning. The second theme: *taking the shortcut to learning* revealed that the teachers' challenges are driven by the students' indifference, lazy behaviors, lack of motivation and carefree attitudes toward their learning, and inappropriate use of ChatGPT (Grassini 2023; Zhang et al., 2024). Teacher Bob described it as:

> *"Students who don't use ChatGPT correctly are not really learning at all. They are just trying to get by, so they don't have to think hard."*

The students' ChatGPT reliance has obviously disrupted the learning style of the students, and the teachers are one step behind in their reaction—or the students are advanced in their resourcefulness. With the emergence of AI technologies in the educational setup, Aaron et al.'s (2024) study ascertained that it must be assumed that students seek out to use ChatGPT. The present prevalent use of ChatGPT is undeniably greater than the Pew Research Center survey in September-October 2023, cited by Sidoti and Gottfried (2023), that 17% among Grades 9 and 10 students and 24% of Grades 11 and 12 students are already using ChatGPT for schoolwork. Teacher Fiona and Teacher George shared:

> *"Some of my current students use ChatGPT daily to complete their assignments…However, students are able to work on their assignments 24 hours a day which make it difficult to know how many of them are using ChatGPT."*

> *"Most of my students use ChatGPT or other AI when they are asked to write an informational response or essay. I have seen some copy everything word for word from ChatGPT, while others only use a few sentences throughout their response."*

The current study findings revealed that the teachers are aware of ChatGPT, however, the students are more up to date with this new technology and motivated to use it for their assignments. Apparently, in Lee and Kwon's (2024) systematic review, they found that educators have started to recognize the importance of AI education in K-12 schools, however, in the current study, the teachers have shown ambivalence towards it. Lee and Kwon

(2024) also pointed out the positive attitude of students towards engaging AI which is consistent with the students' attitude of this study.

From the findings, the teachers observed that their students' laziness and lack of concern about learning were alarming because they are definitely not building their knowledge and skills. This resonated with Zhang and Tur's (2023) study findings that the lack of comprehension and knowledge resulted from ChatGPT reliance of students. Teacher Charlie, Teacher Alex, and Teacher Don observed:

> *"Most don't even read the essays they turn in to ensure they even know what it says. They're lazy, not afraid to lie."*

> *"I think some students use it as a tool to help them with their writing. Unfortunately, learning is impacted when some students use it to write the whole essay from beginning to end."*

> *"In my opinion, the students want a quick way to complete a lengthily assignment. I also feel that they don't understand how to do research on their own or cite sources."*

Hasanein and Sobaih's (2023) study also noted that overreliance on AI diminishes the students' capacity for learning. Kohler (2024) emphasized the significant role of students' motivation in achieving their positive learning outcomes, adding that the students' attitude may impede their learning if the students find the learning process counter-intuitive to meet their needs. Teacher Charlie remarked:

> *"I believe it is greatly affecting their learning because they're not even trying to write anymore. They just put in the essay prompt and turn in what was created. Most don't even read the essays they turn in to ensure they even know what they say. They're lazy, not afraid to lie, and not getting the learning they need to be successful in life."*

Another driving factor in the teachers' challenges brought by the ChatGPT reliance of their students is the behavior or the act of committing cheating, when they know that the Edgenuity learning platform has a plagiarism checker, and they still submit their copied or plagiarized work without hesitation. To exemplify the students' behavior, in Teacher Fiona's words:

> *"Using ChatGPT is cheating, and they are using it without remorse."*

Considerably, this is an indication of the students' dismissive attitude and indifference towards their learning. Some of the teachers try to remedy the situation, like Teacher Charlie would ask the students about their work and to explain words or phrases—this kind of interaction aligns with Grassini's (2023) study that it is important to reinforce the values of academic honesty and turn in original work. The teachers reaching out to their students resonated with Mah et al.'s (2024) finding that approaching the issue of cheating towards the students learning than on policing mindset of teachers. Also, Grassini (2023) emphasized the importance of the teachers' social presence to provide motivation to their students to pursue their learning goals with honesty and perseverance. Teacher Alex stated:

> *"As a teacher it is a balance. You need to teach students how to appropriately use the software, but make sure your students still understand how to write."*

The study findings revealed that the students learning abilities were negatively impacted by their ChatGPT reliance, similar to the findings of Yu's (2024) study revealing that the students' independence and ability to be innovative were also affected negatively. Related to this, Teacher Fiona said:

> *"Students' reliance on ChatGPT has a negative effect on their learning behavior. With ChatGPT doing the work for them they don't need to pay attention or worry about asking questions when confused. There is no need to focus on the teacher in the videos or take notes."*

Within the Transactional Distance Theory, Moore (1997) explained that the teachers must assist their students to become autonomous or be independent in their learning process. When the students lose their autonomy, they are deprived of the opportunity to self-direct their learning journey. Ray's (2023) study elaborated that the issue of autonomy is a critical ethical issue, and individuals must maintain control over their choices. In contrasting view to the potential loss of autonomy of the students, at least one of the participants, Teacher Jake, mentioned that using ChatGPT encourages independent learning due to its tutoring features—however, the thrust of the teachers' findings on autonomy is geared towards the inappropriate use of ChatGPT vis-à-vis in the writing assignments. The study findings identified the inappropriate use of ChatGPT as one of the determinants of the negative impact on students' learning, which leads to potential loss of students' autonomy. Teacher Charlie and Teacher Fiona have similar thoughts:

> *"It greatly affects autonomy because students aren't learning the skills/information needed to make decisions and act based on what they want. They rely on ChatGPT to do their work and aren't developing skills or becoming educated to make informed decisions."*

> *"Students' reliance on ChatGPT will have a negative effect on student's autonomy. They will not be able to make an informed, uncoerced decision. Students may lose the ability to make their own choices."*

One of the findings in Ray's (2023) study described the ChatGPT-generated content as cognitive shortcut, because it is not the student's thinking that produced it. The foregoing suggests that teachers need to be aware of the students' motivation in using ChatGPT for their writing assignments and be able to address the inappropriate ChatGPT use to promote the students' autonomy. The implication to practice is strengthening the teachers' abilities in academic integrity formation and AI literacy so they can better explain the responsible use of ChatGPT in the classroom.

Gaining Knowledge Fair and Square

The third theme: *gaining knowledge fair and square* is about the teachers' challenges encompassing the issues on academic integrity and impact on cognitive behaviors of the students to achieve their learning goals. One of the challenges is driven by the culture of cheating brought about by the students' ChatGPT reliance, which negatively impacts the students' learning abilities. The study findings also identified the negative consequences of the students' ChatGPT reliance relating to the impact on their cognitive skills and learning process. Two subthemes emerged from the data analysis: academic integrity and impact on cognitive skills and learning. Teacher Emma expressed:

> *"Utilizing ChatGPT, the way that many students utilize it, is in a cheating process. So, it has only reinforced their desire to get better grades, or complete assignments, not to learn the material or become critical thinkers."*

The first subtheme, academic integrity, describes the challenges encountered by the teachers when their students are being dishonest and cheating when they submit their completed work either copied and/or plagiarized from the ChatGPT-generated content. From literature, Mah et al.'s (2024) study described how cheating can be determined by the cognitive lift and considering the goal of the assignment—but also mentioned that concepts like cheating are difficult to define. One of the research participants, Teacher Charlie, mentioned:

> *"The biggest challenge is that I can't prove that they are using ChatGPT. I can ask them (to me) about their work, explain words/phrases, but they are becoming deceptive that I can't prove they didn't do their own work. There is no integrity or honor which scares for me the most for all of our futures."*

In the findings, most of the teachers have identified concerns on the integrity of work submitted by their students, and the prevalence of ChatGPT usage. The findings are aligned with Lee and Kwon's (2024) study—they emphasized that with the satisfaction of getting quality work from AI usage, the students' drive to do coursework on their own diminishes, and increases their dependence on AI, adding that plagiarism is becoming an issue in AI usage for writing courses. The teachers added that the way students use ChatGPT have disregarded honesty and responsibility in their learning ethics. Teacher George emphasized that:

> *"I believe the program can be helpful when used appropriately to teach and develop understanding. However, it is concerning that students are using it to cheat and avoid doing the work themselves. The challenge for many students is having the answers at your fingertips but choosing not to use them or rely on them exclusively."*

This finding resonated with Zhang and Tur's (2023) study finding that ChatGPT reliance encourages plagiarism and academic dishonesty. Further, the teachers wanted their students to subscribe to the standards of academic integrity in their learning methods and prevent cheating as a learned behavior. According to Teacher George and Teacher Bob:

> *"Students who rely on ChatGPT will learn that copying and pasting or cheating their way through assignments is okay. That learned behavior will follow them into adulthood."*

> *"My concerns are that they are not learning and not gaining the skills they will need to succeed in their future jobs and lives."*

The second subtheme, impact on cognitive skills and learning, describes the challenges of teachers regarding the negative impact on their students' cognitive skills such as critical thinking, problem solving skills and decision-making skills, and in their learning abilities when they rely on ChatGPT completely without human thought (Abd-alrazaq et al., 2024; Cong-Lem et al., 2024; Duhaylungsod & Chavez, 2023; Grassini, 2023). Some teachers have pointed out that the students have submitted copied ChatGPT-generated content and when asked to elaborate on their submission, they will not be able to do so—which means that they did not even care to study the content. Another teacher, Charlie, mentioned that the students are not able to remember details or the previous lessons. Teacher Don said:

> *"If put on the spot to write something, they will not be able to do it independently."*

From literature, Nguyen et al.'s (2024) research found that developing overreliance on ChatGPT will eventually lead to reduced students' critical thinking; comparably with the findings of Mosaiyebzadeh et al. (2024). Teacher George believed that:

> *"Students' reliance on ChatGPT does affect their cognitive learning abilities because they are neglecting themselves of the process in learning how to research, write, and evaluate their understanding of the materials."*

In addition to critical thinking, another major concern identified is that the students are not developing decision-making skills or becoming educated to make informed decisions which are linked to the students' autonomy. This is aligned with Ray's (2023) study which found that behavior and decision-making can influence an individual's autonomy. Reiterating Moore's (1997) discussion on autonomy, the students' decision-making skills are crucial to their ability to attain autonomy, being able to self-direct and making decisions about their learning goals are the characteristics of an empowered student in an online learning environment. The foregoing discussion suggests that challenges driven by the learning behaviors and cognitive skills of the students impact the students' autonomy, which is an indicator of the students' positive learning outcomes, and thus, there is a need

for teachers to improve on their teaching skills in handling the challenges in managing their students' ChatGPT reliance.

CONCLUSION

This instrumental case study of eight public high school teachers in an online learning environment presented their unique insights and perspectives on the challenges emanating from their students ChatGPT reliance. While there are studies in literature focused on ChatGPT usage, these are mostly the consequences of ChatGPT as learning or teaching tools where the focus is on the students rather than on the challenges experienced by teachers. The key takeaway from this study points to how ChatGPT reliance has disrupted the students' learning styles, resulting in negative consequences to their learning process.

This study drew three emergent themes: monitoring challenges, taking the shortcut to learning, and gaining knowledge fair and square. For the first theme, a reliable detecting tool for plagiarism is essential. When the plagiarism detection tool fails, the teachers had to resort to intuition and observation. While this method of detection is arbitrary and subjective, the teachers have no other way to do it, until new detection tools are available. The students' behavior towards their learning is cited to impact their learning. Teachers found that when students rely on ChatGPT, these students lose their motivation to learn but rather be compliant in completing their writing assignments without regard to the consequences on their learning process. Further, the inappropriate use of ChatGPT undermines the learning academic integrity and the students' learning style is characterized by cheating and indifference. The teachers are aware of ChatGPT but are ambivalent towards ChatGPT as a learning tool due to its impact on their students' behavior. The findings also suggested that the students are losing their independence in their learning process, due to the impact on their cognitive skills. The teachers described their students as unable to make informed decisions, problem-solve, and have diminished critical thinking skills. This description resonated with the findings in literature such that critical thinking, decision-making, problem solving and analytical thinking skills are driving the negative impact to the students' learning.

LIMITATIONS

While the findings of this study describing the teachers' challenges driven by the negative consequences of students' ChatGPT reliance contributed to the broad perspectives in literature, the researcher would like to acknowledge the limitations of this study—with the specific online learning environment and Edgenuity learning platform, the replicability of the study may be constrained. Also, the nuances identified in the study are limited to the teachers' perspectives and insights related to their students' ChatGPT reliance at a specific period in time; since ChatGPT technology is not yet integrated in the curriculum, there are no guidelines that may provide standard implementation across different educational setups. In the same view, the size of the sample and in the uniqueness of the teachers' experiences and the Transactional Distance Theory as a theoretical framework, it may be difficult to apply the findings in a generalized manner.

RECOMMENDATIONS

The study explored the perspectives and insights of teachers related to their students' ChatGPT reliance on schoolwork. Based on the findings, the following recommendations are offered.

Teacher training in AI such as ChatGPT for teaching and learning may be incorporated in their professional development including the psychological and pedagogical aspects of learning with ChatGPT to address the associated risks of ChatGPT dependence impacting their students' cognitive and behavioral skills. The study finding identified the challenges emanating from the inappropriate use of ChatGPT and the cheating culture among the students. This finding suggests that teachers must be equipped with necessary skills to manage their students' ChatGPT reliance to ensure they attain positive learning outcomes. The implication to teaching may include building capabilities in the areas of academic integrity, responsible learning, detection methods, and AI literacy.

The school administration may develop and implement the AI standards to guide the teachers in managing their students ChatGPT reliance. Without the standards, the teachers are left on their own in handling the change

in their students' learning style brought about by ChatGPT dependence, compromising the learning process since teachers cannot assess their students' work effectively because they cannot ascertain if the submitted work is an original work of the student or from ChatGPT-generated content. Furthermore, the school administration may need to source better technological tools to detect students' ChatGPT use to strengthen the integrity of the learning process. The teachers depend on the detection accuracy to determine their next steps adapting their teaching strategies.

On future research, this study recommends studies on finding the assessment and grading methods that can circumvent ChatGPT. Another area is the teachers' acceptance of AI/ChatGPT for learning and teaching and effective teaching techniques to mitigate the risks associated with ChatGPT reliance. Also, another learning theory could be adopted as a theoretical framework in probing the teacher challenges in the regime of ChatGPT in the classroom, to account for the learning that takes place in an online learning environment.

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