

## CHATGPT IS HERE TO STAY: USING CHATGPT WITH STUDENT TEACHERS FOR LESSON PLANNING

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### Abstract

ChatGPT, the latest iteration of AI, is impacting education. Some concerns about what students can do with ChatGPT to get around learning have caused some pushback against its use. However the authors propose the necessity of developing ways for student teachers to practice using ChatGPT. This article describes an exploratory qualitative study that analyzes student teachers' interactions with ChatGPT and draws conclusions on how it could help student teachers work smarter and become critical consumers of AI responses. Student teachers need to know how to curate what is accurate and pedagogically sound whether they use Google/Safari (or other browsers) to look up activities or use chatbots to write full lessons. This study presents the case that student teachers should practice with ChatGPT in two major ways. First, they need practice writing prompts to both direct and redirect ChatGPT toward revising lessons that align more effectively with their students' needs, interests, and cultural backgrounds. Second, they need to practice evaluating the lessons created by ChatGPT.

Keywords: *AI, ChatGPT, student teaching, teacher preparation, lesson planning, pedagogy*

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### Introduction

At the time of this study, March-May, 2023, ChatGPT 3.5, an artificial intelligence (AI) chatbot that came out in November 2022, became very popular with college students for writing papers and essays. In layman's terms, ChatGPT is a chatbot that can be prompted to search the internet using complex algorithms and compile information in prescribed ways aligned to the prompt given. For students, this means they can write a prompt to the chatbot for answers to questions, solve equations with explanations, and write and check code. ChatGPT can create full papers from multiple sources making plagiarism hard to detect (Cotton et al., 2023). Despite ChatGPT's limitations like bias and incorrect or fake information, it seems that it is here to stay (Whalen & Mouza, 2023).

Since ChatGPT is a recent development, there are limited studies exploring its use with student teachers. However, we theorize that these new technologies should be evaluated and used in authentic ways that encourage students to work smarter and spend more time revising or fine-tuning their teaching. We hoped to find that using ChatGPT would save student teachers time and mental energy by generating ideas and afford them time for revision and differentiation of lessons specifically for their unique students.

In our setting, student teachers are in the field teaching or co-teaching lessons daily, and their mentor teachers create lessons from a variety of sources. From our observations as field supervisors, we noted many were using school materials and curriculums provided by their campuses and districts (textbooks and district-vetted websites). Consistent with current studies (Sawyer et al., 2020; Schroeder, & Curcio, 2022) many also used lessons or support for lessons from the internet (TeacherspayTeachers, Twinkle and Pinterest). As part of our instruction on curriculum literacy, we require student teachers to critically evaluate curriculum and instructional materials. This semester, we asked them to incorporate ChatGPT as a new potential tool. Our goal was to have our student teachers use

ChatGPT for two lessons that would be taught and evaluated in person by university faculty. We acknowledge that there was little to use as a template except our own limited experience with ChatGPT and our teaching programs' use of Understanding by Design. Though we provided a structured approach for these plans, we expected varied results in the use and impact on the student teachers' lessons. In this article, we briefly describe the instructions we gave our student teachers regarding their use of ChatGPT, what they did and did not do when they used Chat GPT, and the lessons we learned about how to support student teachers in creating effective lesson plans using ChatGPT.

### **The Assignment: Use ChatGPT to Design an Effective Lesson for Implementation**

Eight student teachers who are also paraprofessionals in their classrooms were assigned the task of creating two rounds of lessons for evaluation with ChatGPT. The student teachers in this study were all working on prek-6<sup>th</sup> grade certification except for one student seeking a secondary English certification. All were female of different ethnicities: 2 Hispanic, 3 White, 2 African American, and 1 Middle Eastern. Their ages varied from young twenties to middle fifties.

Students were given a quick tutorial on how to access and use ChatGPT with a model that included prompting, evaluating, and reprompting. Students were also given a template (the Dialogue Lesson Guide) to follow step-by-step to guide them in prompting and revising their prompt and the lesson given from ChatGPT (see appendix). Then they could choose how to use their results for implementation: use it as is, modify it or reject it and create or find their own. Student teachers turned in three parts to get full credit for the assignment: A completed Dialogue Lesson Guide, the ChatGPT Dialogue screenshot or PDF (instructions for this were in a recorded video), and the final lesson plans they implemented.

### **The Completed Dialogue Lesson Guides**

The Dialogue Lesson Guide had three phases with seven steps. Students turned in their completed assignment electronically. As researchers we were bound by IRB not to view these until grades were finalized. Only seven templates were completed out of a possible 14 that should have been done. One additional one was partially completed. This greatly impacted the pool of data but left us with the question of why the template was left incomplete. Did the students not want to use ChatGPT? Was the template confusing? (We surveyed students after the study to ask these questions, and these results are discussed below in the survey section).

The seven completed guides and prompts were evaluated, and the decisions made by the students on whether to use their results from ChatGPT were recorded. All students wrote at least one prompt for ChatGPT to create a lesson. All were specifically aligned to their state standards. Only one was simplistic, "Create a lesson plan for theme for 8<sup>th</sup> graders." The rest were more complex, including the lesson format and specifics they wanted included in the lesson. This was the initial prompt of a second-grade student teacher, "Create a 5R [sic] lesson plan for second grade. The students will recognize characteristics of persuasive text. Also, include questions or activity to assess the objective. Provide a hook and use a fairytale book." Some were very complex as evidenced by this student teacher.

Create an understanding by design lesson plan for prekindergarten using the text Please Mr. Panda, with the objective: Students will retell or re-enact a story with a clear beginning, middle, and end using dramatic representations. The students will be retelling and reenacting the story using puppets. Be sure there is vocabulary support for the terms retell, re-enact, beginning, middle, and end. Also, include questions that deepen student understanding of retelling a story. Assessment evidence: Students will be able to clearly retell or re-enact a story with clear beginning, middle and end.

Six of the seven student teachers who completed the guide evaluated the lesson created by ChatGPT and typed in another prompt to revise the lesson. These six also used the lesson guide to make a list of things they still wanted to add or change and gave ChatGPT a third prompt. The changes will be discussed below under "Interacting At the

with ChatGPT”. Their final step was to use an evaluation form to check the elements of the final ChatGPT plan. Students’ checklist results are in the next section.

**Interacting with ChatGPT: Students’ Screenshot Data**

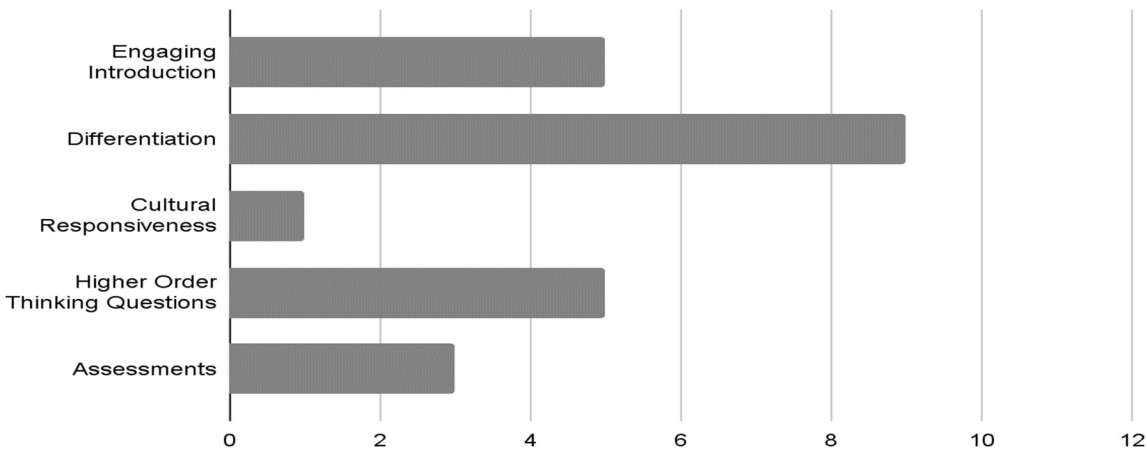
Twelve students uploaded screenshots of their interactions with ChatGPT. As mentioned above, their initial prompt was to request a lesson based on their standard(s) or specific objective(s). Additional promptings were used to revise their lessons. In the last step of the Dialogue Lesson Guide, evaluation criteria were given to evaluate the ChatGPT lesson. The items listed for the students to check included: standards, objective(s) in ABCD structure, engaging introduction, connections to prior knowledge, cultural/personal connections, differentiation for Individual Education Plans, differentiation for 504 accommodations, differentiation for gifted and talented, differentiation for emergent bilinguals, and cultural responsiveness (connected directly to students’ context for learning).

Using the guide, only two students were able to check off all areas. Even though all students did not complete the guide or this section, we still identified prompting that aligned with items on this evaluation. One student using the prompt “Create an engaging hook to introduce the frog life cycle to first graders” received this ChatGPT response: An engaging hook to introduce the frog life cycle to first graders could be to bring in live tadpoles or pictures of tadpoles and ask the students if they know what they are. You could then explain that they are baby frogs and ask the students if they know how they grow and change to become adults. This will capture their attention and spark their curiosity about the life cycle of frogs. You could also show a video or a book that explains the life cycle of frogs in an age-appropriate manner.

Students requested revision for engaging introductions (hooks), differentiation, and cultural responsiveness. See Figure 1 below for the breakdown of students’ screenshots of interactions with ChatGPT. We also found prompts requesting higher-level thinking questions and assessments, even though they were not on the evaluation list.

**Figure 1**

*Frequency of Prompt to ChatGPT by Student Teachers*



A closer analysis of the differentiation prompts revealed one for gifted and talented, four for ability (special education or possibly 504), and four that were specifically for emergent bilinguals.

**Survey about Using ChatGPT for Lesson Planning**

As previously stated, the IRB prevented us from opening the uploads of the ChatGPT assignment before grades were finalized. When we opened the files, we found that only one of the eight students did the full assignment with all of the required documentation for both lessons. Additionally, when reviewing the screenshots, we realized that only half used the ChatGPT for both lessons. Two of these students did not use ChatGPT for both lessons because they had already taught lesson two before the assignment was created, but they also chose to not use ChatGPT for their final lesson as well. We wondered what they thought of the interaction with ChatGPT. To better understand their decisions, we sent a four-question Google form as a follow-up to our eight participants (now graduates). The survey questions included: *Did you use the information from ChatGPT for your actual lesson plan(s)? Check ALL that apply, If you made changes to what ChatGPT gave you, what were the changes about? Will you use ChatGPT in your lesson planning this coming semester? Why or why not?* There was an optional question at the end to help us better design this assignment: *How could we make the experience with ChatGPT better or more clear?* The request to take the survey was sent by email and then via text two days later. Five of the eight students completed the Google form.

For the first question about how they used ChatGPT, four graduates (80%) checked, “Yes, I used what it gave me, but I asked it to adjust it for my learners.” Four (80%) checked, “Yes, I used what it gave me, but I changed some of it on my own.” And three (60%) checked both choices. No one agreed that they used all or rejected all that ChatGPT gave them. When asked about how they used their revision prompts, there were four answer choices: rigor (making it involve deeper thinking or more thinking), engagement (hook, hands-on, active, multi-model), cultural connection (to your community, the race/ethnicity represented in the class), differentiation for ability (GT or SPED). Two graduates (40%) chose rigor, three (60%) chose engagement, and two (40%) chose cultural connections as the reason for their revision prompts. One (20%) chose all three as her reasons for revision, and one (20%) chose both rigor and engagement. Survey questions three and four results are represented in Table 1 below.

**Table 1**

*Survey Results*

Respondent	Question: Will you use ChatGPT in your lesson planning this coming semester? Why or why not?
1	I think it is something I might use when I do not like what my district provides but I don't think it is something I will use very often
2	I might use it while working as a teacher. I found it to be quite helpful and easy to use.
3	Yes I will use ChatGPT, I am looking forward to seeing how it could help me in creating lesson plans.
4	Maybe.
5	Yes, it provides meaningful and detailed lesson plans.
Respondent	Question: How Could We Make the Experience with ChatGPT Better or More Clear?
1	The ChatGPT lesson plan template was confusing for me, I think maybe a different template that is a little more organized.
2	I think the instructions you gave us were sufficient.
3	Advanced lesson plans
4	I like it the way it is. It organizes itself, I can copy and paste the lesson plan to another platform, and I can regenerate answers numerous times.

**Lessons Learned**

This early study was exploratory and experimental. Our goal was to support student teachers' authentic use of AI in lesson planning, specifically using ChatGPT. We hoped to see three rounds of revision and evaluation of key areas of the lessons given in the Dialogue Lesson Guide. As stated in the introduction, we had scarce literature

to support our use of ChatGPT to support student teachers. The lessons we learn from this first round of lesson plans inform us for instructing student teachers this fall. As we asked our students, we too will revise our plans in response to our analysis of student interactions and results.

We want to point out that these student teachers had background knowledge for evaluating and revising lessons. In the first semester of student teaching, they completed a module on curriculum literacy. Students learned what “high quality instructional materials” means and what to look for when evaluating lessons. We stressed alignment to standards, rigor or deep thinking, and cultural or personal connections to their unique students. We had hoped residents would use these previously learned skills with the AI prompts to cover these three areas needed for revision. We did see alignment in all lessons between the objectives and assessments. Also, we recognized some prompts for deeper questioning, several for differentiation for specific student groups in the classroom (special needs, gifted and talented, and emergent bilinguals), and one for cultural responsiveness. However, this does not mean that the lesson(s) were missing these components. Only two student teachers finished the final evaluation check, but we can see in the final lessons that the components were present.

Additionally, these student teachers evaluated their first lesson with this same evaluation tool at the beginning of the semester, so it was familiar to them. They also evaluated a model lesson for extra practice during the fall seminar. So one lesson we have learned is to specifically stress the need for doing all three prompts for revision and the final evaluation check to ensure a full evaluation of the product produced by ChatGPT. We also need to ask them to highlight the parts of the ChatGPT lesson they will keep for use. We suspect that most student teachers changed large parts of the lesson because they only used one prompt to get the basic plan. In future studies, we will find out if student teachers are creating their own modifications for their students instead of prompting ChatGPT for this purpose. Also, we will intentionally discuss this in our pre-conference stage of the lesson cycle.

We were astonished and disappointed that so few of our students did the entire assignment. Since all students did the ChatGPT once and no one responded negatively to using it in their fall teaching (question 3 on the Google form), we can conclude that they found it useful. From the responses to question 4, we do not believe it was the Dialogue Lesson Guide that inhibited them from doing the assignment. We surmise students were overwhelmed (which is a continuous theme for our paraprofessional students) and did not want to spend or have the time to complete the guide. So a possible lesson we can take from this is to require the Dialogue-Lesson Guide for just their first ChatGPT lesson, and for the second ChatGPT lesson, just require the evaluation checklist. For both lessons, the instructor will need to address how they use ChatGPT in the pre-conference stage and ask how they modify the lesson for their students before the lesson is taught.

### **Implications**

So how does this impact our teaching? We concluded that we wanted to do this assignment again with some changes. None of our graduates said they would not use it, so we want to support our current students in their ability to use it critically. As ChatGPT gets smarter and more popular, we believe teachers are going to expect to use ChatGPT to create lesson plans. We want to sharpen our student teachers' ability to evaluate what ChatGPT gives them. Additionally, we propose some pre-work with residents (clinical student teachers) to build their knowledge of and comfort with writing prompts for ChatGPT before introducing the assignment. We also want to explicitly demonstrate the limitations of ChatGPT including bias and misinformation. Next semester, we will assign more than one practice evaluation of a lesson using the criteria and then conference with small groups to let students compare their evaluations and discuss the purpose and outcomes of evaluating these lessons. We will seek ways to encourage accountability for the assignment and focus on evaluating and revising the lesson outputs given by ChatGPT as an authentic skill for lesson planning.

We hope to expand this exploratory research to all residents in our growing program (about 60-80 student teachers) and examine their final evaluation and revision to reveal patterns and issues we need to understand to better use ChatGPT with student teachers.

### Recommendations

Technology is always expanding, and as teacher educators, we recommend learning about ChatGPT by testing teaching strategies that embrace AI for teacher preparation through lesson planning. We also recommend that teacher educators expand their use of ChatGPT to support student teachers in other teacher duties: creating assignments and assessments and learning new teaching strategies or content similar to the content in professional development (Kasneci et al., 2023). Although the literature is brief, we see how ChatGPT could be used to increase understanding for educators on personal trouble spots (like supporting positive behaviors while reducing negative behaviors) or deficits in their understanding of teaching strategies for particular standards.

### Conclusions

ChatGPT can potentially make information students need easily accessible. However, student teachers need guidance. They need to know how to use it effectively, critically, and ethically. But this is something teacher educators can accomplish. Student teachers can be successful when we model effective planning using this tool. Through carefully worded prompts, evaluation, revision prompts, and further evaluation, student teachers can reliably and effectively use ChatGPT to save time creating lesson plans and focus more on creating equitable opportunities for the unique learners in their classrooms.

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## Appendix A - ChatGPT Lesson Plan – Dialogue Guide

Instructions: Turn in this completed Dialogue Guide, your ChatGPT Dialogue PDF, and your final lesson plan together to the Dropbox in D2L and to your Field Supervisor before your next observation.

### Step One - Prepare

Before starting your dialogue with ChatGPT consider what you need to ask for... Here are some items you need to prepare before you start.

#### Stage One

- Content:
- Grade Level:
- TEKS:
- ELPS:
- Prewritten Objective:
- Academic Vocabulary:

#### Stage Two Assessment Evidence:

##### Stage Two

Assessment Evidence: What evidence will you need to assure the objective will be met.

What type of lesson plan do you need? Direct Instruction, 5E, Understanding by Design (UbD), etc.

### Step Two – Synthesize

Synthesize the information above to create a request for a lesson plan.

NOW OPEN ChatGPT – Here’s the link: <https://chat.openai.com/chat>

Synthesis – First dialogue for ChatGPT

*“Add your ChatGPT request here”*

### Step Three – Review Lesson

Review the lesson produced by ChatGPT. Does it have the information you need based on your pre-identified criteria?

If no – Make a list of the things it needs to adapt.

LIST

Check the materials list on the plan. Make notes.

NOTES

Check the accuracy of the model of the lesson plan – Does it accurately represent the lesson plan model you selected?

NOTES

Assessment: Does the assessments align with the objective(s)? Is it something you can do, or does it need modification?

NOTES

Check the questions: Are they at different levels from understanding to evaluate?

NOTES

Step Four – Add Differentiation Stage3– Differentiation

Provide the modifications required for your IEPS, 504, and GT students: IEP: Provide the supports needed for EB students:

Synthesize the items that need attention from the last revision and add the items needed for differentiation in your next dialogue.

Synthesize the changes that need to be made into a dialogue for CHAT GPT.

*“Write your next ChatGPT request here”*

Step Five Final Revisions

Make a list of things you still want improved. LIST

*“ Write your next ChatGPT request here.”*

Step Six - Evaluation Criteria (From the Lesson Plan Scavenger Hunt)

- \_\_\_\_\_ Includes the TEKS
- \_\_\_\_\_ Objective in ABCD structure
- \_\_\_\_\_ Engaging Introduction
- \_\_\_\_\_ Connects to Prior Knowledge
- \_\_\_\_\_ Cultural/Personal Connections
- \_\_\_\_\_ Differentiation for IEP
- \_\_\_\_\_ Differentiation for 504
- \_\_\_\_\_ Differentiation for GT



\_\_\_\_\_ Differentiation for EB

\_\_\_\_\_ Culturally Responsive (Connects directly to context for learning) Lesson Structures – Choose just ONE

Independent Practice (Madeline Hunter, or I DO, WE DO, YOU DO)	5 E	Understanding by Design (UbD)
_____ Hook	_____ Engage	Stage One – Identify desired results  Stage Two – Determine acceptable evidence  State Three – Plan learning experiences and instruction.
_____ Modeling	_____ Explore	
_____ Guided Practice	_____ Explain	
_____ Independent Practice	_____ Elaborate	
	_____ Evaluation	
_____ Closure		
_____ Checks for Understanding		

Step Seven FINAL INSTRUCTIONS – Turn in your plans – both parts:

You will need to turn in your ChatGPT dialogue. To make a copy – highlight the text of the ENTIRE conversation. Then you will right click and choose print. Select PDF, and then scroll to make sure it captured the entire dialogue. Save it as a PDF in your files. DO NOT CLOSE ChatGPT until you double check that your PDF captured your entire conversation.

Turn in this completed Dialogue Guide, your ChatGPT Dialogue PDF, and your final lesson plan together to the Dropbox in D2L and to your Field Supervisor before your next observation.