

A New Lesson Plan Design and Development Assistant? Using Chat GPT to Support Pre-service Teachers

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Abstract

The promising role of Artificial Intelligence (AI) tools like ChatGPT in education, particularly in teacher preparation programs, is explored in this study. While there are concerns about students over-relying on AI for assignments and potentially hampering their learning of essential knowledge and problem-solving skills, AI can be a beneficial resource when used ethically. The study focuses on pre-service teachers who use ChatGPT for lesson planning, allowing them to draw on examples and frameworks as they develop their own plans while aligning with Texas state standards. Participants completed pre- and post-surveys assessing their confidence in lesson planning, revealing increased confidence levels after utilizing AI support. Though participants entered the assignment with a moderate confidence level, the use of AI significantly alleviated planning stress and improved their overall confidence in various planning domains. This study suggests that AI can effectively augment human intelligence in educational settings.

1. Introduction

Artificial Intelligence (AI) tools such as ChatGPT hold vast promise for uses in education. Many in the education field, especially teachers, are concerned about the ethical use by students for completing assignments. Concerns that students who rely too heavily on artificial intelligence will not gain the necessary knowledge and problem-solving skills requisite in their coursework dominate conversations around the use of AI in schools. While writing and composing is a higher order cognitive process that is necessary for learning and should not be supplanted by AI, in some instances, AI is a beneficial tool for students to use. Allowing its use in classes, accompanied by ongoing discourse and modeling, affords students and teachers the opportunity to successfully navigate the murky waters of ethical use for the augmentation of learning. One such area for potential use is in the process of lesson planning for college students in teacher preparation programs. Early in teacher education programs, most students have limited

classroom experience and may find it challenging when designing engaging, interactive, and rigorous lessons and assessments. AI can help boost students' knowledge by providing exemplars from which to draw. The nature of how AI works and that it draws upon a vast bank of knowledge can provide students with limitless pedagogical approaches to teaching various standards. Having models to emulate and examples to draw from when developing lesson plans is invaluable for students in the nascent stages of learning to lesson plan.

The research will be interactive and aims to explore using ChatGPT being used with pre-service teachers in lesson planning and development as an assistant. "Here, we argue that one potential role for AI in education is to provide opportunities for human intelligence augmentation, with AI supporting us in decision-making processes, rather than replacing us through automation" [1]. Pre-service teachers first ask ChatGPT to write a lesson plan about a specific topic for a specific grade level, aligning with their PDS mentor's classroom. Next, students must use state standards (TEKS) to revise the lesson plan. Reiss [2] shares that the integration of artificial intelligence (AI) can be transformative in education and that we may see the first signs of this with students in education. Our pre-service teachers will be expected to create appropriate modifications specifically for the students in their professional development (PDS) classroom to the Chat GPT lesson plan. As well, pre-service teachers are surveyed about their lesson planning confidence levels before and after the process as well as compare the experience to writing and developing lesson plans without Chat GPT.

ChatGPT has quickly emerged as a popular AI tool in educational settings due to its ability to provide personalized and interactive learning experiences for students. This AI-powered chatbot is capable of understanding and responding to natural language queries, making it an ideal tool for helping students with their homework, answering questions, and providing feedback on their work.

One of the key advantages of ChatGPT in educational settings is its ability to adapt to the individual needs of each student. By analyzing the

student's responses and interactions, ChatGPT can understand their learning style, strengths, and weaknesses, allowing it to tailor its responses and recommendations accordingly.

Additionally, ChatGPT can also be integrated with existing educational platforms and tools, making it easy for teachers to incorporate this AI technology into their lesson plans and assignments. This seamless integration allows students to access ChatGPT's assistance whenever they need it, whether they are working on homework assignments, studying for exams, or seeking additional information on a specific topic.

Overall, the emergence of ChatGPT in educational settings signifies a growing trend towards incorporating AI technology into the classroom to enhance and personalize the learning experience for students. With its ability to provide instant feedback, personalized recommendations, and interactive learning experiences, ChatGPT has quickly become a valuable tool for educators and students alike.

2. Literature Review

2.1 The Role of ChatGPT in Education

ChatGPT, an advanced AI language model developed by OpenAI, holds significant promise in transforming the educational landscape. Its capabilities extend beyond mere interaction; it can provide personalized learning experiences that cater to the diverse needs of students. This customization is vital in a world where students often have varying learning paces, styles, and preferences. By leveraging ChatGPT, educators can create adaptive learning environments that respond dynamically to each student's progress, ensuring that no learner is left behind [3].

One of the standout features of ChatGPT is its ability to provide instant feedback. In traditional educational settings, students may face delays in receiving feedback on their assignments, which can impede their learning process. ChatGPT, however, can offer real-time corrections and suggestions, enabling students to learn from their mistakes immediately. This immediate feedback loop encourages continuous improvement and enhances student engagement [4]. Students can pose questions at any hour of the day, making learning more accessible by providing support outside of conventional classroom hours. This 24/7 availability is particularly beneficial for learners who may struggle to engage with material during standard school hours due to various personal obligations or learning styles.

In addition to supporting students, ChatGPT can also act as a valuable tool for educators. Teachers often juggle numerous responsibilities, from lesson planning

to administrative tasks. By utilizing ChatGPT, educators can streamline their workload, allowing them more time to focus on direct student engagement and teaching. The model can assist in creating lesson plans, generating quizzes, and even suggesting teaching strategies that align with desired learning outcomes [5]. Furthermore, its applications can extend to specialized domains, providing educators with resources and information tailored to their subjects, thereby enhancing their teaching effectiveness [6].

However, the integration of ChatGPT in education is not without its challenges. Concerns regarding academic integrity arise as the model's capabilities could lead to potential cheating, where students might rely excessively on AI for completing assignments. This gives rise to ethical dilemmas concerning the authenticity of learning and the role of technology in evaluating student competence [7]. Additionally, ethical concerns surrounding the use of AI, alongside issues of privacy and data security, must be carefully addressed to protect both students and educators.

2.2 Frameworks and Theoretical Approaches to Using ChatGPT in Education

The integration of artificial intelligence tools like ChatGPT in educational settings has garnered significant attention from researchers and educators alike. Various frameworks and theoretical approaches have emerged to guide the effective utilization of this technology in teaching and learning environments. One prominent model is the IDEE framework, which emphasizes four key components: identifying intended outcomes, analyzing automation levels, addressing ethical considerations, and establishing evaluation methods to assess effectiveness. This framework [8], seeks to create a structured approach to integrating ChatGPT in educational practices, ensuring that the technology's implementation is intentional, and outcomes focused.

In addition, another significant study aligns ChatGPT with established language teaching theories. The study [9] explores how ChatGPT can be used to enhance language learning by connecting its capabilities with pedagogical theories that have been tested over time. This alignment not only situates ChatGPT within a broader educational context but also reinforces the importance of leveraging existing knowledge in designing effective language instruction that incorporates AI tools.

At a more granular level, a micro-level framework emphasizes three crucial areas: pedagogical support, professional development for educators, and ethical considerations [10]. This framework recognizes the necessity of equipping educators with the skills and knowledge required to effectively use ChatGPT in their

teaching practices. It also highlights the importance of providing ongoing professional development to help teachers navigate the ethical implications of utilizing AI, ensuring that they can foster a positive learning environment that maintains academic integrity.

The FIRST-ADLX framework [11], further supports the responsible integration of AI in education. This framework underscores the importance of establishing guidelines that promote ethical usage and practical application of AI technologies. The emphasis on responsible AI integration is crucial in a time where concerns about data privacy and algorithmic bias are growing in importance.

Moreover, some argue for strategic implementation of chatbots within educational settings. They argue that a thoughtful approach, coordinated among various stakeholders, can lead to enhanced educational experiences. The strategic perspective emphasizes the need for alignment with institutional goals and pedagogical strategies to ensure that the use of AI enriches rather than detracts from the educational process.

2.3. ChatGPT as a Support for Teachers

Chatbots like ChatGPT provides significant assistance to educators across various aspects of teaching and learning. It has proven to be a valuable resource in areas such as lesson planning, content creation, and assessment, with research highlighting its utility in enhancing pedagogical practices. The AI-generated tool can deliver diverse learning materials, which not only saves time for teachers but also enriches the educational content available to students. Additionally, ChatGPT offers personalized feedback tailored to individual learning needs and can streamline administrative tasks, thereby improving the overall efficiency of instructional processes [12].

In the context of computer-mediated, online, and distance learning environments, ChatGPT has shown the ability to enhance teaching efficiency further and improve learning experiences. It aligns well with the demands of modern educational practices, facilitating interactive learning environments where students can engage more actively with content. Furthermore, this technology plays an essential role in developing 21st-century skills, such as critical thinking, collaboration, and digital literacy, crucial for students in today's world. It also provides support for students with disabilities, enabling inclusive educational practices that cater to diverse learning needs [13].

Despite these advantages, the integration of virtual assistants in education does not come without challenges. Concerns surrounding academic dishonesty have been raised, particularly with the potential for students to misuse AI-generated content and present it

as their own work [14]. This risk highlights the necessity for teachers to engage in critical evaluation of the outputs produced by ChatGPT, ensuring that the information is accurate and suitable for educational purposes.

While most educators recognize the potential of virtual assistants to revolutionize classrooms, many express concerns regarding the practicalities of implementation, particularly time limitations and the alignment of generated content with existing curricula [15]. These concerns underline the importance of thoughtful integration, where teachers can use ChatGPT effectively without compromising the integrity or intent of their lessons.

To ensure that the benefits of ChatGPT are fully realized, effective implementation requires the establishment of clear guidelines and monitoring processes. Educators will need enhanced training to navigate the use of AI tools properly, so they feel confident incorporating them into their teaching strategies. This professional development is vital to maximizing the potential advantages that ChatGPT offers while addressing valid.

2.4. ChatGPT's Impact on Lesson Planning and Teacher Training

Recent studies have begun to delve into the transformative potential of ChatGPT in the realms of teacher education and lesson planning. This innovative AI tool has garnered attention for its ability to assist educators in generating structured lesson plans, promote critical thinking among students, and enhance overall openness in educational settings [16]. As educators increasingly seek efficient and effective ways to prepare their teaching materials, ChatGPT has emerged as a versatile resource.

One of the noteworthy applications of ChatGPT is its integration into science learning activities by pre-service teachers. New studies highlight that these future educators have successfully utilized the AI tool, demonstrating its utility in crafting interactive and engaging learning experiences [17]. However, this integration is not without its challenges; concerns regarding the accuracy of the content generated and the risk of overreliance on AI solutions have been raised. As such, while ChatGPT offers powerful support, it is essential that educators remain critical and discerning in their use of AI-generated materials.

The validity of lesson plans generated by ChatGPT has been explored, particularly in the realm of elementary English education. Kim and Ahn [18] found that lesson plans produced by ChatGPT demonstrate a high degree of validity, particularly in relation to lesson goals and assessment strategies. This highlights ChatGPT's potential to aid educators in adhering to

educational standards while also promoting creativity in lesson implementation.

Although ChatGPT can provide valuable insights and resources, it is vital for teachers to thoughtfully evaluate the materials it generates. Engaging in this critical assessment ensures that AI-produced content aligns with curricular objectives and maintains pedagogical soundness.

Additionally, ChatGPT can have profound implications for teacher training programs. It has the capacity to act as a supplementary resource that offers personalized support to teacher trainees, thereby enhancing collaborative learning experiences. By incorporating AI tools into teacher education, educators can optimize the training process and better prepare future teachers for the classroom challenges they will face.

3. Methods

Participants in the study were students enrolled in a beginning level, required, teacher certification course at a small, midwestern university in the United States. The course is an introductory foundational course in which lesson planning is a key component and is first introduced. Students who chose to participate in the study took a pre-and post-survey in which they rated their confidence levels on planning a lesson that adheres to Texas state standards. Once participants completed the pre-survey, they were then given the planning assignment, which is a required course assignment (see Appendix A).

4. Data

Data collected for this study were pre and post surveys in which students respond to 33 Likert-type statements using a scale of 1-5; 1 being not confident at all in planning a lesson to 5 indicating very confident at planning a lesson. Additionally, students were asked to respond to one open-ended question reflecting on their planning journey (see Appendix B for the complete survey). 18 students agreed to participate, and each created a unique identifier so their post-surveys could be linked to the pre-surveys and the students would remain anonymous.

5. Analysis

The framework utilized for analyzing student responses corresponds to their confidence levels in the four domains of the Texas Teacher Evaluation and Support System (TTESS) [19]. The Texas Teacher Evaluation and Support System was designed as a growth-oriented evaluation tool by Texas educators,

education leaders, and policy experts. The T-TESS evaluation system has been refined so that it reflects the ongoing feedback from districts and campus practitioners with the purpose of supporting the growth and professional development of educators. The tool utilizes five performance levels: Distinguished, Accomplished, Proficient, Developing, and Improvement Needed to provide feedback to educators in areas of strength and opportunities for development. The T-TESS assesses six broad standards for performance which include Instructional Planning and Delivery, Knowledge of Students, and Student Learning, Content Knowledge and Expertise, Learning Environment, Data-Driven Practice, and Professional Practices and Responsibility. These standards are reflected in the tool's four performance dimensions: Planning, Instruction, Learning Environment, and Professional Practices and Responsibilities which are discussed in greater detail below. The four domains were used to guide the survey questions the researchers used in determining student confidence levels when planning a lesson. This instrument was selected by the researchers as it aligns with the expectations of the state and reflects the elements of effective planning which leads to successful instructional delivery.

The following elements are included in the Planning domain. Evidence of these is critical for effective lesson planning. *Standards and Alignment* encompasses the ability to teach the appropriate standards and ensure that all activities and assessments are aligned with the standards and related educational objectives. *Data and Assessment* includes planning to collect informal and formal, formative and summative data throughout a lesson with the aim of adjusting the lesson to meet learning goals and determining whether or not lesson objectives have been met. *Knowledge of Students* demonstrates the ability to plan for individual student needs in the classroom. This could mean planning for students with disabilities and special needs as well as taking learning styles and preferences into account. Lastly, *Learning Activities* that are included in a lesson must be relevant as well as engaging and motivating for students and include student-centered technology and ideally possess an element of being student-directed.

In the Instruction domain evidence of these is critical for a successful lesson. *Achieving Expectations* is the ability to assess whether or not objectives have been met. Possessing the requisite *Content Knowledge* and expertise is critical for planning and delivering an effective lesson. *Appropriate Communication* of lesson objectives, concepts as well as behavior and activity expectations are crucial in a successful lesson. *Differentiation* refers to the ability of the teacher to plan for and deliver instruction in a variety of modes as well as considering learning styles and student preferences. *Monitor and Adjust* refers to the ability to appropriate

plan for and execute various formal and informal assessments throughout the lesson in order to be responsive to students needs and ensure the objectives are met.

The Learning Environment domain refers to the *Classroom Environment* and the teacher's ability to plan for and create a safe, inclusive, environment conducive to learning. Teachers must demonstrate the ability to plan for and carry out *Routines* and *Procedures* as well as planning for and teaching students in their classes about the routines and procedures and how to successfully meet expectations. Routines and procedures include things like how to enter the classroom, what students to first thing in the morning, or how to turn in work. *Managing Student Behavior* with corrective feedback or reinforcement also includes planning for opportunities to motivate and reward students throughout the year with systematic approaches is vital for a smoothly running classroom environment. *Classroom Culture* refers to the teacher's ability to create a classroom that is respectful, responsive, and provides students with an appropriate level of autonomy and agency.

Professional Practices and Responsibilities refers to the professional goals and responsibilities of educators. *Professional Demeanor and Ethics* includes understanding and taking appropriate action in ethical dilemmas. Understanding the code of law by which educators must follow. *Goal Setting* and *Professional Development* refer the educator's ability to set professional goals and continuously improve their practice by continually attending professional development opportunities or taking advanced courses. This is also linked with classroom outcomes in that teachers should recognize professional opportunities for growth and seek out professional development for those specific areas. Lastly, *School Community Involvement* refers to the involvement and investment in the school and community in which an educator works.

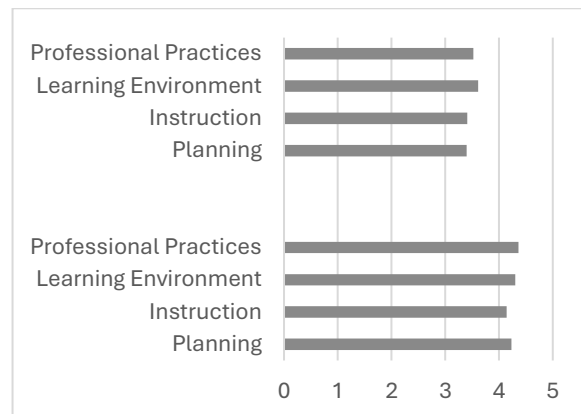
While the T-TESS is used to evaluate in-service teachers in the state of Texas, using it as a framework for analysis is valid as it thoroughly encompasses all the pertinent planning areas for creating an effective lesson plan. On the survey that was given to the participants, the planning domain included 20 questions/statements, the instruction domain included 2, the learning environment 8, professional practices and responsibilities area included 4. The variance of the number of questions/statements in each domain is due to the nature of the criteria for that domain and which elements are items that a teacher plans for as opposed to what they will carry out in the course of their job. For instance, in the Professional Demeanor and Ethics domain included is a teacher's ability to locate potential issues with a plan and correct them, yet it does not include evidence or documentation of a teacher seeking

professional development to improve instruction. Therefore, students were only asked if they felt confident in recognizing potential issues with a lesson plan not if they planned to attend professional development.

To simplify, the analysis and display of data, researchers calculated mean scores for each question and then aggregated those questions and responses into categories in which overall means were then calculated. In the analysis presented in this manuscript, individual student responses were not linked using pre and post surveys but will be used in further analysis at a later time. These means were based on a five-point Likert-type scale, indicating that the closer to 1 the less confident in planning students felt and the closer to 5 the more confident in lesson planning they felt.

Comparing the mean scores from the pre-survey and post-survey in each domain shows an increased level of confidence in each of the four main areas (see Table 1).

Table 1. A comparison of pre and post surveys means in each domain



The researchers did not conduct a T-test statistical measure for this initial study as a comparison of individual components within each of the four domains as that would have been outside the scope of this study. Rather, a simple comparison of mean scores demonstrates there was an overall increased level of confidence of planning a lesson in each area.

Considering that the lowest level of confidence was indicated with a 1 and the means for the pre-survey were in the 3.40 to 3.61 range, it is clear that participants were fairly confident going into the lesson planning assignment. Preservice teachers have been found to overestimate their in regard to performance [20], so this was not wholly unexpected. Also, one of the participants stated on the open-ended question, "I answered with more confidence on the pre-survey and did not take into account that I had not previously made a lesson plan with as many details. Using AI made it

easier to plan a lesson, it took away some of the stress of planning a lesson.” However, even if the confidence pre-scores were artificially high, there was still a significant boost in confidence levels after the ChatGPT lesson plan assignment.

The lowest area on the pre-survey was planning, specifically data and assessment and standards and alignment. Accounting for this is most likely that students at this point in their curriculum have not had much experience with creating educational assessments, interpreting data and creating an instructional action plan based on the data. Additionally, students haven’t had much opportunity to align the educational standards in any instruction or applied planning activity.

Not only did the numbers indicate an increased level of confidence, but students also indicated on the open-ended response question that they found using AI for planning helpful. Several comments from participants illustrate this: “I feel like using AI helped me get a sense of what I would do with my lesson plan. Allowing me to then determine how I wanted to go about creating assignments,” and “I do more confident than before. AI significantly helped me plan my lesson better and allowed me to see different variations of things like rubric or modifications or games to incorporate that I might not necessarily do all but can take bits and pieces from.”

As expected, not all comments were positive. One participant who had previous experience planning didn’t find that using AI was all that helpful. “AI was not able to provide a lesson for my objective that was suitable or engaging for students. I ended up writing the entire lesson myself. Using AI did not prove to be helpful.” Evident from his or her comments, is the student’s experience in planning and his or her ability to assess the value of the activities that ChatGPT generated, which were found lacking. “The activities present in this lesson would typically be accomplished over a few class periods with other various skills incorporated into the lesson as well.” Those with experience planning may not benefit as much from the assistance as beginners do, indicating that at this point AI might be best utilized for those in the beginning stages of learning how to plan. Additionally, as highlighted by his or her comment, “This is likely due to my content area, and I feel that as AI technology improves it may prove to be helpful to me in the future.” The experience of this particular student indicates that using virtual assistants for lesson planning may not be as helpful in some subject areas as others.

6. Conclusion

Results from this study indicate that chatbots may be a beneficial tool for pre-service teachers to use when

learning how to plan. This study also highlights how a virtual assistant can increase a student’s confidence in their ability to plan. Less evident is whether those who have experience planning will receive much benefit from using chatbots to assist in planning. Additionally, whether the quality of the lesson improves is also another avenue for further research. In addition to the data collected and the examination on of ChatGPTs value in assisting pre-service teachers’ lesson planning, was the valuable knowledge gained by the researchers during the process. Since the launch of virtual assistants, much discussion has surrounded how students and teachers will navigate the emergence of such technologies. This research has been additionally beneficial because it modeled for students an ethical way to utilize virtual assistant technology. Instead of forbidding the use of chatbots, by providing the assignment as a model, the researchers encouraged its use in an ethical way and provided guidelines for how to go about it. As AI is here to stay, assignments like these are a positive step in the right direction.

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Appendix A

Lesson Planning Assignment Using AI

Part 1

For Part 1, you will do the following:

- a. Explore the TEA website: <https://tea.texas.gov/academics/curriculum-standards/teks-review/texas-essential-knowledge-and-skills>
- b. Find the standards, Texas Essential Knowledge and Skills (TEKS), that meet your certification area. For example, “2nd grade” or “High School ELAR”, etc.
- c. Read through your standards. Now,

Complete Step 1:

- d. Pick standards/topic for your lesson plan. Choose from your certification area. For example “2nd grade or 8th grade social studies.” Next, using the standards, (TEKS), choose a student expectation that you will build your lesson around. For instance, 2nd grade ELAR: “Students will demonstrate phonological awareness by producing a series of rhyming words.”

Part 2

For Part 2, start by:

- a. Go to this website: <https://chat.openai.com/>
- b. Get comfortable with this website – register for a free account.

Now, Complete Step 2:

- a. ChatGPT
- b. Write me a 50-minute Texas standards-based lesson plan including summative assessment and formative assessment for the topic 2nd grade phonological awareness using rhyming words.

Part 3

For Part 3, start by using the ChatGPT lesson plan and modify it to fit the West College Lesson Plan template and your given virtual class.

- a. Modify the format to follow the West College Lesson Plan. The template is attached here but is also available in the Lesson Plan tab in D2L.
- b. Modify the lesson plan to align it to the standard. Make sure that the TEK is correct and that the objective for the lesson aligns with the TEK as well as the assessments and activities ChatGPT generates.
- b. Modify the lesson plan for your given class. You will select from one of three virtual class options based on your certification level (elementary, middle school, high school). These are available in the Lesson Plan D2L folder. Read through your virtual class assignment and modify your plan based on the “students” in your class.
- c. Modify for the following components which align to the College Lesson Plan and Rubric.

Appendix B

Student Invitation to Participate

Dear Student,

You are invited to participate in a study by faculty (listed below) in the College of Education. By answering questions in this survey you are consenting to participate in a study examining student confidence levels pertaining to lesson planning with ChatGPT. Your participation in this study will be completing this survey and a post-survey plus the use of your final lesson plan draft for analysis. You will not be asked to do anything else.

Participation in this survey does not impact your grade, responses are anonymous, and you will not receive compensation. Any information that is obtained in connection with this study will remain confidential. To ensure confidentiality of all of your responses, all names will be removed during analysis and emails or identifiers are not being collected on this survey. The investigators will at no time attempt to identify you or use your name in the final report.

This study does not pose any risks to you and is completely voluntary. The decision whether to be in this study is entirely up to you. You can refuse to participate, or withdraw from the study at any time, and such a

decision will not affect your grade in your course or your relationship with the University, either now or in the future. There are no costs for participating in this study. Your participation will consist of one pre survey and then a post survey after a required classroom lesson planning assignment is complete.

Feedback regarding the broad findings of this study will be made available to you.

For dissemination purposes, the investigators may use selected responses in academic articles, books, or oral presentations at conferences or other professional proceedings.

If you have any questions about this study, please contact

Dr. Emily Reeves Fyfe
Dr. Christina Janise Wickard
Dr. Leann Curry

The investigators have agreed to answer any inquiries you may have concerning the procedures and have informed you that you may contact the Midwestern State University Human Subject Review Committee by writing to: Chair, Human Subjects Review Committee, c/o Office of the Provost, MSU.

Lesson Planning Self-Efficacy Survey

Please respond to the following statements indicating your level of confidence in regard to lesson planning for each domain and competency. The scale is from 1-5; 1 being not confident at all to 5 indicating very confident.

1. In order to pair the pre-survey and the post survey results and keep this survey anonymous, you will create an identifier. Enter the day of the month you were born, the last letter of your mom's name, and the number of letters in your first name. Example: 21Y6.
2. I feel confident creating a lesson that is aligned to the appropriate standards.
3. I feel confident that I can create objectives for a lesson plan that correctly identify TEKS/CCRS.
4. I feel confident that I can create objectives that are in the correct format, represent measurable outcomes and include higher order thinking skills.
5. I feel confident creating a lesson that is organized and sequenced properly for the students.
6. I feel confident that I can plan a lesson that describes

step-by-step directions for presenting and completing learning activities and include key items of instructional delivery outlined in the lesson plan format.

7. I feel confident in creating or selecting instructional strategies that are based upon practical experience, theory, research, and documented best practice that are appropriate for the students.
8. I feel confident creating or selecting instructional strategies and activities that support the lesson objectives and result in student centered instruction.
9. I feel confident in creating or selecting engaging instructional strategies and materials that will motivate my students to learn and participate.
10. I feel confident creating a lesson plan that utilizes activities with higher order thinking skills.
11. I feel confident selecting appropriate instructional strategies and materials to meet the needs of diverse learners.
12. I feel confident creating or selecting formative and summative assessments that will monitor my students' progress.
13. I feel confident that the assessment strategies I choose or create align to the lesson objectives and assess student learning from more than one perspective.
14. I feel confident creating or selecting both formative and summative assessments that are aligned with technology standards and provide data to inform student learning.
15. I feel confident locating and using data that will help me plan effective lessons for my students.
16. I feel confident in planning for grouping students in a way that will best help them master the learning.
17. I feel confident planning learning experiences that utilize interactive/student controlled and individual digital tools and resources that will support student learning.
18. I feel confident planning differentiated instruction that is not limited to students identified with specific learning impairments.

19. I feel confident planning a lesson that incorporates materials and resources utilized by students to activate learning based upon the identified objective.
20. I feel confident planning differentiated instruction for students with difficulty understanding concepts so they are provided different instruction regardless of the reason and this instruction is aligned to objectives and activities.
21. I feel confident in the content knowledge I possess in order to plan a higher order, developmentally appropriate, and standards-based lesson that connects to student's prior knowledge and challenges them to learn more.
22. I feel confident in creating higher order thinking questions to include in the lesson.
23. procedures so I can teach a successful lesson.
24. I feel confident that I can plan a lesson that includes the appropriate transitions so I can teach a successful lesson.
25. I feel confident that I can plan a lesson that includes the appropriate student roles and responsibilities so I can teach a successful lesson.
26. I feel confident that I can plan a lesson that includes the appropriate behavior expectations so that I can deliver a successful lesson.
27. I feel confident that I can plan a lesson that includes the appropriate room arrangement so that I can teach an effective lesson.
28. I feel confident that I can plan a lesson that creates a safe, accessible, cooperative, and respectful environment.
29. I feel confident that I can plan a lesson that reinforces desired behaviors and minimizes undesired behaviors so that I am able to deliver a successful lesson.
30. I feel confident that I can plan a lesson that engages students by including their strengths and abilities as well as interests.
31. I feel confident that I can find appropriate resources, training, or help when planning a lesson.

32. When planning for instruction, I feel confident about what it means to behave in a professional manner.
33. I feel confident that I can identify issues with a lesson plan and what could be done differently to improve student performance and how professional development can contribute to this.
34. I feel confident that I can directly identify possible issues with a lesson plan and how planning for lessons contributes to student learning.
35. Sometimes when people are asked about their confidence levels prior to completing a project, they are unaware of some of the challenges they may face beforehand. In this short answer response section, please answer the following and explain briefly. On the pre-survey before completing the lesson plan, do you feel that you were more confident in your abilities than you should have been? Do you feel that using AI helped you plan better or did it complicate the planning process for you?