EXPLORING TEACHERS' PERCEPTIONS OF AI-GENERATED ENGLISH LESSON PLANS FOR STUDENTS WITH INTELLECTUAL DISABILITIES

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ABSTRACT

This research explores teachers' perceptions of AI-generated English lesson plans specifically designed for students with intellectual disabilities. The objective is to assess the effectiveness and usability of AI tools, namely ChatGPT, in enhancing lesson planning for this unique student population. A mixed-methods approach was employed, combining qualitative interviews and quantitative surveys with 14 teachers who work with students with intellectual disabilities. The findings reveal a general satisfaction among teachers regarding the innovative ideas and time-saving benefits of AI-generated lesson plans. 10 teachers (71%) reported a satisfaction level between 81-100% while 4 teachers (29%) expressed satisfaction levels ranging from 61-80%. However, challenges were identified, including the inability of the AI to create multimedia content, discrepancies in formatting with government standards, and a lack of specificity in assessments. These insights highlight the potential of AI tools to support teachers while also underscoring the need for professional development and training to address the limitations encountered. The study concludes that while AI-generated lesson plans can enhance teaching practices, further research and support are essential to optimize their integration in special education settings.

Keywords: AI-generated lesson plans, teachers' perceptions, students with intellectual disabilities, ChatGPT, special education

INTRODUCTION

In Indonesia, English is a foreign language that is taught not only in public schools but also special schools. Based on law number 8 of 2016 on persons with disabilities, it is clearly stated that students with special needs deserve to access good education in Indonesia without any discrimination just like students without special needs do. It means that students with special needs have equal opportunities to learn any school subject including English despite their limitations.

According to Soendari (2008, as cited in Maryanti et al., 2021) students with special needs are those who have obstacles and problems caused by internal and external factors which affect their learning abilities. Teaching students with special needs requires a lot of patience and effort. Teachers need to have strategies to teach students with special needs because it is different from teaching students without special needs. Therefore, before teaching

special education students, teachers need to plan their lessons carefully to match the objectives and the students' abilities.

Lesson planning is important for teachers because it allows them to understand what they will teach and how to teach it. It serves as a map that gives teachers explicit instructions on how to avoid making learners feel lost while studying (Spratt et al., 2005, as cited in Mohd Sharif et al., 2023). Teachers need to take time in preparing their lessons when they are dealing with students who have special needs and this means that they must come up with inclusive and flexible plans which are easy for everyone to follow. Additionally, teachers must ensure that the objectives of the lesson are measurable and achievable which are delivered through fun and engaging activities since this population of students may experience difficulties in terms of focusing, mobility, or uttering words (Tancredi et al., 2024).

Planning a lesson, in this case for students with special needs, used to be time-consuming for some teachers. Years ago, before the era of AI, teachers used to look for some materials and ideas for lesson plans on the Internet or in books. They could spend hours just to create one single lesson plan since there were many things that they had to consider before making a lesson plan, such as what to teach, how to teach it, do the activities match with the objectives, students' level and abilities, and the like. Consequently, several teachers prefer shunning their course outlines and only teach what they feel like teaching (Farhang et al., 2023). On the other hand, ChatGPT has simplified everything in modern days. Within seconds, a teacher can now outline a lesson that suits his/her students' abilities and requirements just by writing one prompt.

This study focuses on teachers' perceptions towards the use of AI (ChatGPT) in making English lesson plans for students with intellectual disabilities. In this study, the intellectual disabilities are highlighted among other disabilities because students with this kind of impairment are most likely to face challenges such as cognitive problems, memory, and problem-solving skills. Therefore, the English lesson plan for teaching students with intellectual disabilities needs to be created differently since they have lower cognitive levels compared to students with other impairments. Equally important, this study also emphasises the strengths and the weaknesses of the AI-generated lesson plans as well as the challenges that teachers found during the making of the lesson plans by using ChatGPT.

METHOD

This mixed-methods research, utilizing a convergent design, was conducted in seven special schools located in Bali. According to the official website of DAPODIK KEMENDIKBUDRISTEK, there are 14 schools in Bali dedicated to students with special needs. However, only seven of these schools were selected for the study. The selection process involved random sampling to ensure the chosen schools would accurately reflect the broader population of special schools in Bali. This method was employed to avoid bias and to provide a comprehensive view of how teachers from various institutions perceive English lesson plans created by ChatGPT. By concentrating on a representative sample, the research aims to produce findings that could be applied to the larger population of special needs schools in Bali, while still maintaining the depth of qualitative research through detailed, context-rich data from a smaller number of institutions.

Each school contributed two teachers for this research making a total of 14 English teachers who took part in this study. All of these teachers have more than five years of experience in teaching students with intellectual disabilities, which makes them highly knowledgeable and well-equipped to adapt teaching strategies
to meet the diverse needs of their students. In this research, they were asked to create a lesson plan through ChatGPT and apply it in the classroom. These participants were also chosen to provide the research with views from various institutions. The demographic data collected reveals that all these

teachers have considerable experience working with students with intellectual disabilities and have taught them for over five years. This long experience guarantees that the participants know very well the special characteristics of these students and their needs making their contributions to the research quite useful. In addition to this, the variation in years of service and the different school settings they are drawn from add value to the outcomes of the study by bringing in diverse experiences in teaching children with special needs.

The data of this research were gathered through surveys and interviews. Both methods of collecting the data were combined to obtain the best perspective of teachers in making AI-generated English lesson plans for students with intellectual disabilities. The questions for the interview were focused on things such as teachers' experiences in using ChatGPT to create English lesson plans, challenges they face in creating the lesson plans, strengths and weaknesses of ChatGPT-generated English lesson, and their level of satisfaction with lesson plans produced.

RESULT AND DISCUSSION

a) Teachers' Experiences in using ChatGPT for making English Lesson Plans

The data collected from the 14 respondents reveals a significant trend in the utilization of AI-generated lesson plans, specifically ChatGPT, for English instruction aimed at students with intellectual disabilities. Out of the total respondents, 12 (approximately 86%) reported that they have never used ChatGPT for lesson planning, while only 2 (about 14%) indicated that they have engaged with this AI tool. This discrepancy suggests a prevailing hesitance or lack of familiarity among educators regarding the integration of AI technologies into their lesson-planning processes. The limited engagement with AI tools may indicate that teachers are either unaware of the potential benefits that such technologies can offer or feel uncertain about their effectiveness in meeting the unique needs of students with intellectual disabilities. Factors contributing to this reluctance may include insufficient training, concerns about the reliability of AI-generated content, and a preference for traditional lesson-planning methods that educators are more comfortable with.
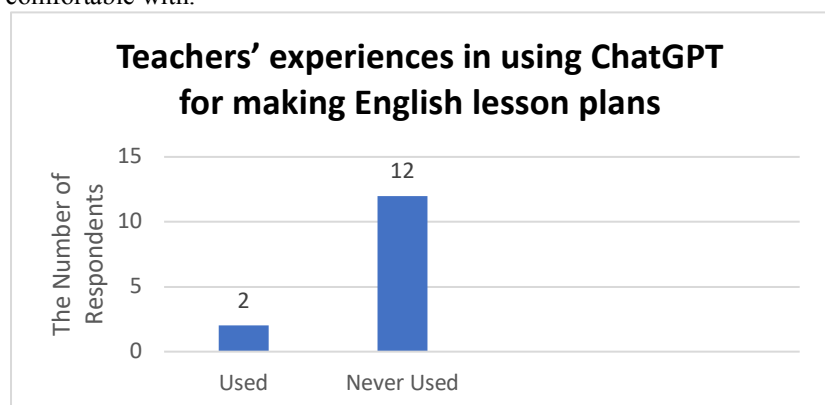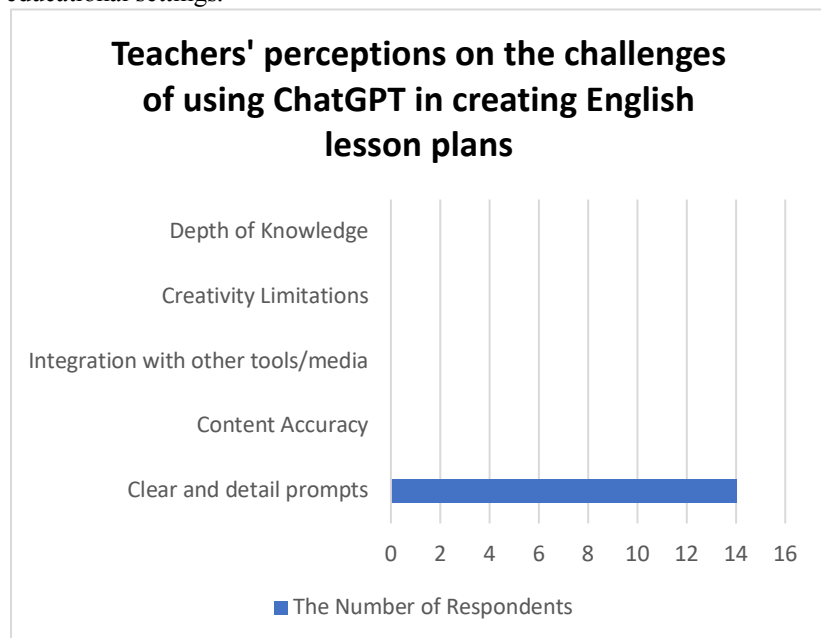

The data above is also supported by the result of the interview. When the second English teacher was asked if she had ever used ChatGPT to make English lesson plans for students with intellectual disabilities, she said: *"Belum pernah coba sebelumnya" (I have never used it before).* She knows what and how to use ChatGPT, but she did not realize that ChatGPT can be used to create lesson plans too.

Comparing these findings with existing literature, Hashem's recent research highlights the potential of AI tools like ChatGPT to alleviate teacher workload and prevent burnout, particularly in lesson planning and content development Hashem (2023). The study emphasizes that AI can streamline the planning process, allowing educators to focus on critical aspects of teaching, such as classroom instruction and student support. However, the current data

suggests that many teachers may not be leveraging these tools to their full potential, which aligns with broader trends observed in educational technology adoption. The reluctance to embrace AI-generated resources could hinder the development of innovative and effective instructional strategies tailored to the diverse needs of students with intellectual disabilities. Therefore, targeted professional development initiatives are essential to enhance teachers' understanding and confidence in utilizing AI technologies, ultimately fostering a more inclusive and effective learning environment.

b) Teachers' perceptions on the challenges of using ChatGPT in creating English lesson plans

In this research involving 14 respondents, all teachers identified a significant challenge in using ChatGPT for creating English lesson plans: the necessity for clear prompts. This unanimous feedback highlights the critical role that precise communication plays in leveraging AI tools effectively. Specifically, 100% of respondents indicated that the clarity of prompts directly influences the quality and relevance of the generated lesson plans. This finding suggests that teachers may feel constrained by the limitations of AI technology when the input is ambiguous or poorly defined. The implication is that while AI can offer innovative solutions for lesson planning, its effectiveness depends on the user's ability to articulate their needs clearly. This challenge may stem from a lack of familiarity with AI capabilities or an understanding of how to structure prompts effectively, which could hinder the integration of AI in educational settings.

Teachers' perceptions on the challenges of using ChatGPT in creating English lesson plans

| Challenge	Number of Respondents
Depth of Knowledge	0
Creativity Limitations	0
Integration with other tools/media	0
Content Accuracy	0
Clear and detail prompts	14

■ The Number of Respondents

The data presented above is further reinforced by the interview results. When the first English teacher was asked what challenges he faced when using ChatGPT to make English lesson plans, he said*: "Kalau tantangan mungkin diawal ya, untuk menentukan kata kata kunci saat membuat nika. Itu yang pertama kali. Tapi setelah dijalani, ternyata tahu kata kunci apa yang perlu dipakai, selanjutnya tidak jadi kesulitan lagi. Sudah bisa lebih cepat dan lancar membuatnya" (The challenge might have been at the beginning, when it came to determining the key words when creating the lesson plans. That was the first hurdle. But after going through it, I realized which key words needed to be used, and after that, it became much easier. It became faster and smoother to create it).* His answer indicates that sometimes he finds it quite hard to write the prompts (the keywords) of the lesson plans in order to meet his expectation. He needs to send the prompts several times to get the ideal lesson plans what he needs.

Comparatively, existing literature supports these findings. For instance, Karina (2024) discusses how pre-service English teachers experience challenges in integrating AI into their pedagogical practices, particularly emphasizing the need for intentional and clear communication when utilizing technology. This aligns with the current study's results, which reveal that educators must develop their skills in prompt formulation to maximize AI's pedagogical potential. The literature suggests that as teachers become more adept at using AI tools, their confidence and efficacy in lesson planning will likely improve, echoing the need for comprehensive training programs that focus on both technological integration and pedagogical strategies. This connection highlights the ongoing evolution of teacher preparation in the digital age, where understanding AI's capabilities is essential for effective teaching.

c) Teachers' perceptions regarding the strengths of English lesson plans generated by ChatGPT

The findings from our research involving 14 respondents reveal varied perceptions regarding the use of ChatGPT in creating English lesson plans for students with intellectual disabilities. Specifically, 6 respondents (43%) expressed that the ideas generated by ChatGPT are "good and out of the box," indicating a positive reception towards the creativity and innovation that AI can bring to lesson planning. Additionally, 3 respondents (21%) noted that ChatGPT contributes to inclusivity in lesson plans, highlighting its potential to cater to diverse learning needs. Furthermore, 5 respondents (36%) appreciated the speed at which ChatGPT can generate lesson plans, suggesting that it can significantly reduce the time teachers spend on planning. These insights are summarized in the table below, which illustrates the distribution of perceptions among the respondents.
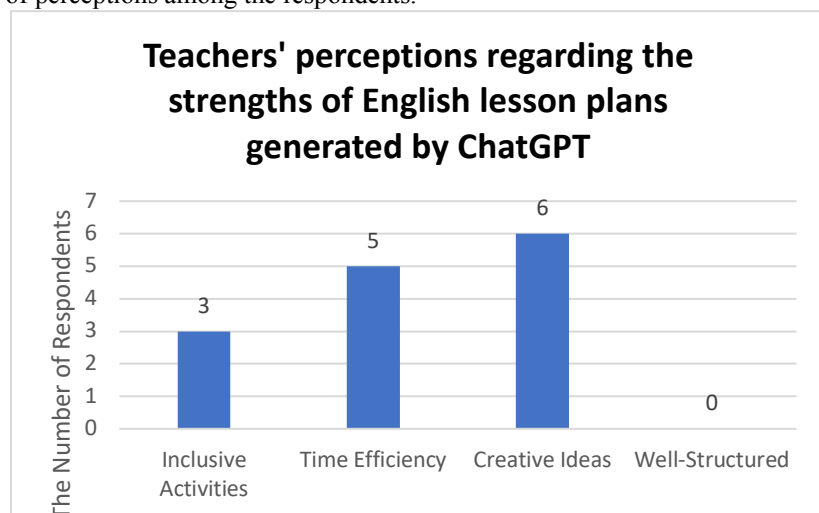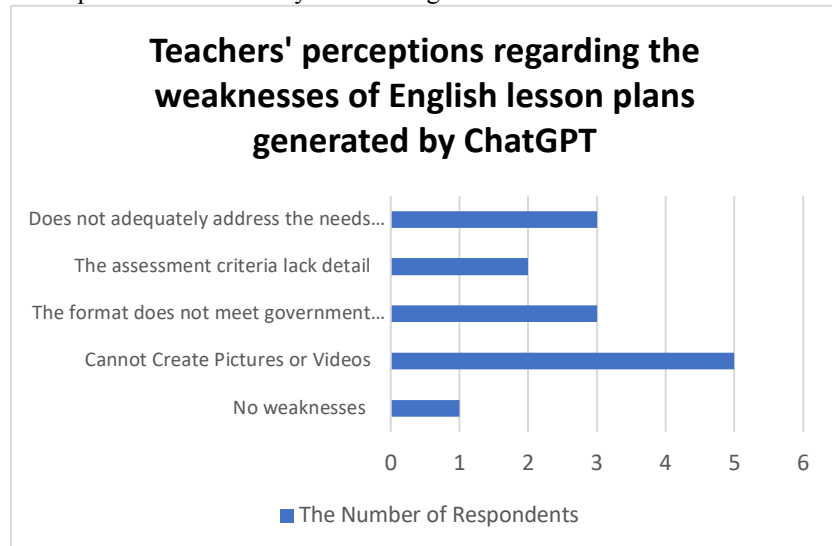

The data above is further validated by the findings from the interviews. When the eighth English teacher was asked about her opinion regarding the strengths of English lesson plans made by ChatGPT, she said: "*Kelebihannya itu ya itu tadi ada games games itu kan. Kalau kita di ChatGPT kan sebenarnya kayak sebelumnya itu gak kepikiran mau games ini. Tapi setelah pakai ChatGPT oh ada nih saran saran beberapa games gitu yang menarik yang memang belum saya kepikiran kemarin kalau gak pakai ChatGPT. Jadi itu kelebihannya. Banyak banyak ide baru yang muncul seperti itu*" (*The advantage is that there are games, as I mentioned earlier. Before using ChatGPT, I had not really thought about including games. But after using ChatGPT, it suggested several interesting game ideas that I had not considered before. That is the advantage. A lot of new ideas like that have come up*). This answer suggests that the ideas generated by ChatGPT for the lesson plans are sometimes creative and "out of the box" that can help teachers

to vary the activities in the classroom.

These findings align with existing literature that underscores the positive impact of AI-assisted tools in educational settings, particularly for students with neurodevelopmental disorders. For instance, Barua et al. (2022) highlight that AI tools can effectively address learning challenges and improve social interaction for students with various neurodevelopmental disorders. The study emphasizes that AI-assisted tools are generally acceptable to educators and can facilitate personalized learning experiences. This correlation suggests that the teachers in our study may be influenced by the growing body of research supporting the integration of AI in education, recognizing its potential to enhance lesson planning and meet the unique needs of students with intellectual disabilities. As AI continues to evolve, ongoing professional development for educators will be essential to maximize the benefits of these technologies in creating inclusive and effective learning environments.

d) Teachers' perceptions regarding the weaknesses of English lesson plans generated by ChatGPT

The results of this study, which included 14 respondents, show that the English lesson plans produced by ChatGPT for students with intellectual disabilities had several flaws. Specifically, 5 respondents (36%) indicated that ChatGPT cannot create good pictures or videos related to the lesson plan, which is crucial for engaging students with diverse learning needs. Additionally, 3 teachers (21%) noted that the format of the lesson plan does not align with the government-mandated structure, potentially complicating its implementation in formal educational settings. Furthermore, 2 respondents (14%) expressed concerns that the assessment criteria provided in the lesson plans lack detail, which could hinder effective evaluation of student progress. Another 3 teachers (21%) mentioned that the lesson plans do not adequately cater to students with severe intellectual disabilities, suggesting a gap in the AI's ability to tailor content to varying levels of cognitive ability. Only 1 teacher (7%) stated that they did not perceive any weaknesses, believing the lesson plan to be satisfactory. These insights are summarized in the table below.

Teachers' perceptions regarding the weaknesses of English lesson plans generated by ChatGPT

Category	The Number of Respondents
Does not adequately address the needs…	3
The assessment criteria lack detail	2
The format does not meet government…	3
Cannot Create Pictures or Videos	5
No weaknesses	1

The data above is additionally confirmed by insights gathered from the interviews. When the seventh English teacher was asked about the weaknesses of the English lesson plans created by ChatGPT, she said: "*Untuk kekurangannya lagi mungkin, kemarin saya coba cari, saya minta cari media gambarnya. Karena dia juga menyebutkan media gambarnya. Nah itu saya minta coba carikan media gambar flashcard hewannya itu. Kemudian hasilnya itu malah kayak bertumpuk gitu ini kemarin saya coba download. Jadi kayak, seharusnya ini gambar elephant jadinya bertumpuk. Terus tulisannya, ngih seperti itu. Kalau secara untuk cari gambar belum. Saya coba sekali lagi untuk*

mengulangi prompt. Coba carikan lagi gambar yang sesuai gitu. Ternyata tetap keluarnya seperti ini. Jadi mungkin kekuranngannya masih itu" (As for the drawback, yesterday I tried asking it to find images or pictures. Because it (ChatGPT) also mentioned images. So, I asked it to find flashcard images of animals. However, the result was a bit messy when I tried downloading it. For example, the image of an elephant ended up being stacked on top of each other, and the text was like that as well. In terms of finding images, it didn't work as expected. I tried again by rephrasing the prompt, asking for more suitable images, but the result was still the same. So, I guess that's still a limitation). Both ChatGPT premium and free version can generate pictures, but this answer reveals that ChatGPT cannot make pictures especially flashcards for teaching yet.

The implications of this data suggest that while ChatGPT offers innovative solutions for lesson planning, it also has notable limitations that educators must consider. The inability to generate relevant multimedia content may stem from the AI's focus on text-based outputs, which can restrict its effectiveness in creating engaging and interactive learning experiences for students with intellectual disabilities. Additionally, the mismatch between the AI-generated lesson plans and government formats indicates a need for further refinement of AI tools to ensure compliance with educational standards. The lack of detailed assessment criteria and the inability to cater to students with severe disabilities highlight the importance of human oversight in the lesson planning process, as educators possess the contextual knowledge necessary to adapt content to meet diverse learner needs.

In comparison to existing literature, these findings resonate with Yıldırım et al. (2022), who emphasize the importance of teachers' content and pedagogical knowledge in effective lesson planning. Their research indicates that teachers often face challenges when integrating technology into their lesson plans, particularly when the tools do not align with established educational frameworks or fail to address the specific needs of students. The concerns raised by respondents in our study about the limitations of ChatGPT in generating comprehensive and contextually appropriate lesson plans reflect a broader trend in educational technology research, which advocates for the integration of AI tools that are adaptable and aligned with pedagogical best practices. As educators increasingly incorporate AI into their teaching, ongoing professional development and training will be essential to equip them with the skills necessary to effectively leverage these technologies while ensuring that they meet the diverse needs of their students.

e) Teachers' satisfaction level of ChatGPT-Generated English Lesson Plans

The findings from this research, based on data gathered from 14 respondents, reveal a high level of satisfaction among teachers regarding the English lesson plans generated by ChatGPT for students with intellectual disabilities. Specifically, 10 teachers (71%) reported a satisfaction level between 81-100%, indicating a strong endorsement of the AI's capabilities in lesson planning. Meanwhile, 4 teachers (29%) expressed satisfaction levels ranging from 61-80%. This data suggests that the majority of educators find the AI-generated lesson plans to be effective and aligned with their teaching needs, likely due to the innovative ideas and structured content provided by ChatGPT. The high satisfaction levels may stem from the AI's ability to streamline the planning process, allowing teachers to focus more on instructional delivery and student engagement, rather than spending excessive time on administrative tasks. This aligns with existing literature, such as Hashem's (2023) research, which emphasizes the role of AI tools in reducing teacher workload and preventing burnout, particularly in the context of lesson planning.

Teachers' satisfaction level of ChatGPT-Generated English Lesson Plans
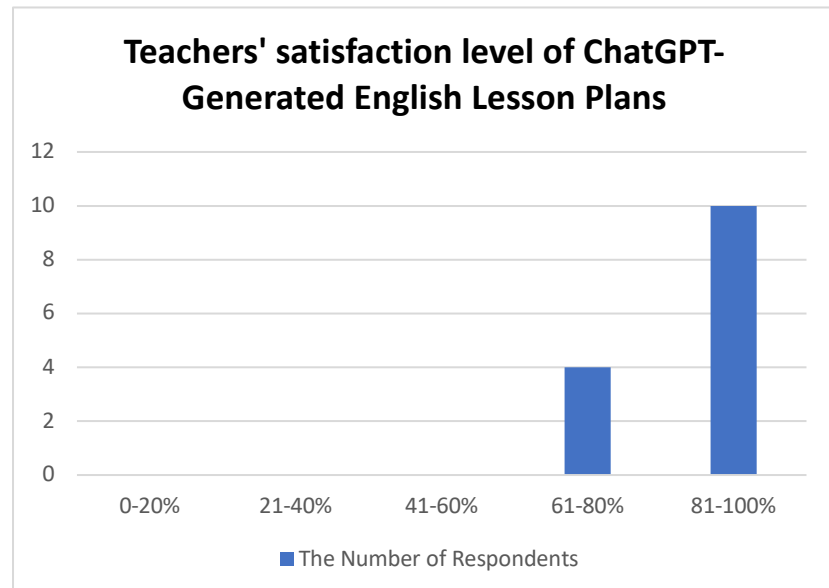
The data above is further supported by insights obtained from the interview results. When the tenth English teacher was asked if the English lesson plans for students with intellectual disabilities had met his expectations, he said: *"Menurut saya dengan adanya ChatGPT, modul yang saya ingin buat itu sudah sesuai sih"(In my opinion, with the help of ChatGPT, the module I want to create is already aligned with what I had in mind)*. His answer indicates that he is satisfied with the English lesson plans generated by ChatGPT.

Compared to existing literature, the satisfaction levels reported by teachers in this study resonate with findings that highlight the positive impact of AI on educators' experiences. Hashem (2023) notes that AI tools like ChatGPT can significantly enhance personalized planning and content development, which are essential for effective teaching, especially in special education settings. The ability of ChatGPT to generate tailored lesson plans may contribute to teachers' satisfaction by providing them with creative and relevant resources that cater to the diverse needs of their students. However, the fact that 4 teachers reported satisfaction levels between 61-80% indicates that there are still areas for improvement, such as the need for more detailed assessment criteria or better alignment with specific educational standards. This suggests that while AI-generated content is generally well-received, ongoing refinement and adaptation are necessary to ensure that it fully meets the unique challenges faced by educators in special education. As AI continues to evolve, it will be essential for professional development programs to equip teachers with the skills needed to effectively leverage these technologies in their lesson planning processes.

CONCLUSION

The research titled "Exploring Teachers' Perceptions of AI-Generated English Lesson Plans for Students with Intellectual Disabilities" reveals that teachers generally have positive experiences using ChatGPT to create lesson plans. All 14 respondents expressed overall satisfaction with the AI-generated content, appreciating its ability to provide innovative ideas and structured formats that align with their instructional goals. Teachers noted that the efficiency of ChatGPT in generating tailored lesson plans allows them to save time and focus more on engaging with their students. However, they also encountered challenges, such as the AI's inability to create relevant visual aids and multimedia resources, which are crucial for enhancing engagement among students with diverse learning needs. Additionally, some teachers pointed out that the lesson plans did not fully adhere to government-mandated formats and lacked detailed assessment criteria, indicating a need for further refinement.

Despite these challenges, the strengths of the AI-generated lesson plans

were evident in the creative and diverse content that ChatGPT provided. Teachers recognized the potential of AI tools to enhance lesson planning by offering structured and relevant ideas that cater to the unique needs of students with intellectual disabilities. However, the weaknesses identified, such as the lack of alignment with specific educational standards and the need for more detailed assessment criteria, suggest that while AI can significantly support lesson planning, it must be complemented by the expertise and insights of educators. Overall, the findings highlight the importance of ongoing professional development for teachers to effectively leverage AI technologies while ensuring that the generated content meets the unique challenges of teaching students with intellectual disabilities.

It is anticipated that future studies will expand upon this research by examining how teachers perceive AI-generated English lesson plans for students with a broader spectrum of impairments, extending beyond intellectual disabilities. While the present study has focused specifically on educators working with students who have intellectual disabilities, there is a pressing need to explore how AI-generated lesson plans can be perceived as effective, adaptable, and inclusive for students with physical impairments, sensory impairments, and various learning disabilities, including those with multiple disabilities. By broadening the scope of this research, future studies can provide valuable insights into the ways in which AI technologies can address the diverse and complex learning requirements of all students. Understanding how teachers from different special education fields view these emerging tools will be crucial in determining their effectiveness across various contexts. Moreover, investigating teachers' experiences with AI-generated lesson plans tailored for different types of impairments may uncover specific challenges or benefits associated with their implementation.

ACKNOWLEDGEMENTS

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