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PRE-SERVICE TEACHERS' EXPERIENCES WITH CHATGPT DURING A VOCATIONAL HIGH SCHOOL TEACHING PRACTICUM

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Abstract

Incorporating ChatGPT in the educational field rapidly gained attention for its potential in the teaching and learning process, particularly in English for Specific Purposes (ESP). This exploratory case study investigates pre-service teachers' experiences using ChatGPT during their teaching practicum in vocational high schools. Data were collected through a Focus Group Discussion (FGD) with 4 pre-service teachers from different vocational majors. The findings revealed that ChatGPT served as a valuable teaching assistant, helping pre-service teachers generate content-specific materials, plan student activities, and design assessments. Pre-service teachers also noted ChatGPT's usefulness in addressing challenges related to limited technical vocabulary resources and subject-specific content. However, this study identified several limitations in using ChatGPT, including inaccuracies in specialized terminology, rigid language outputs, and overly simplistic assessment tasks that required careful prompting and editing. This study highlights the need for strategic incorporation of AI tools in teacher education and suggests further research to optimize AI applications in vocational education settings.

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INTRODUCTION

Internationalization in higher education grows massively all over the world where English is treated as a global language (Kirkpatrick, 2017; Unsiah et al., 2023; Muttaqin et al., 2024). The necessity to provide English language instruction on a global scale has arisen in order to enable students and professionals to communicate effectively in both local and international contexts (Bolton & Jenks, 2022). One of them is the use of English for Specific Purposes (ESP). ESP differs from more general English that focuses on specific, purposeful uses of language (Hyland & Jiang, 2021). This phenomenon led to an increased need for English language learning for specific purposes.

English for Specific Purposes (ESP) in Vocational Education

ESP is one approach to teaching English in vocational high school. The students in vocational high school are prepared to enter the workforce in a field related to their major (Rahmadani et al., 2022). This implies that students who successfully complete vocational education are expected to be proficient in a specific field, demonstrating the requisite skills and competencies. Thereby, teaching English at a vocational high school requires a strong understanding of the subject matter, pedagogy, and tactics employed in the classroom. Consequently, there are several distinctions between teaching English in a vocational high school and teaching the same subject in a senior high school (Kamaruddin et al., 2021). In a

vocational high school setting, English teachers must align their instruction with the curriculum and subject matter that is directly pertinent to their students' chosen field of study. This is in accordance with Permendikbud No. 60 of 2014, which states that vocational high schools should focus on developing students' skills in specific fields. With such demands, teachers should have a great understanding of the subject matter and the specific requirements of the students' chosen field of study (Muliyah & Aminatun, 2020).

Defining the purpose of ESP previously implies that teachers are imparting English language instruction by integrating field knowledge with it (Tahang & Yuliana, 2021). Brennan & Naerssen (1989) posit that even those engaged in ESP teaching possess considerable experience in general English, language knowledge, and a range of professional fields. It is proven in a previous study conducted by Khoirunnisa (et al., 2018), which resulted in teachers and students finding that there are limited materials in the textbook, which becomes a challenge in finding the learning process. Therefore, to cope with the challenges, teachers suggested giving additional teaching materials from the internet. Meristo and López (2021) also identified three challenges experienced by ESP teachers, including: Professionalism challenges: the teachers face a lack of confidence to ask for advice caused by self-perception about the action interpreted as unprofessional. Limited cooperation: personal factors hinder cooperative practices among educators. And resource stability issues: lack of appropriate, field-specific coursebooks.

These challenges were solved by making a task-oriented note to strengthen their perceptions of self-efficacy and organizing a routine in the form of meetings or professional training guided by the expert. Sari (et al., 2021) found about teachers' difficulty in selecting suitable teaching materials and suggested the integration of ICT to provide numerous references about authentic samples.

ChatGPT in Education

The term Artificial Intelligence (AI) was first introduced by John McCarthy (1956) which is an intelligence system and machine that able to execute task that require human intelligence. Since the release of chatGPT in 2022, AI has rapidly gained attention globally. It is promote sustainable development through, technical and process aspects, organisational, social enhancement, environmental and economic outcomes (Kulkov et al., 2023).

Recently, the use of AI in various fields has grown massively around the world. AI is driving a transformation in pedagogical approaches and curriculum design, positioning it as an important area of educational research (Chiu et al., 2023). One type of AI, generative AI such as ChatGPT, is potentially integrated in education. Previous research mentioned the function of ChatGPT, a chatbot launched by OpenAI in November 2022, has created several opportunities in creating and processing of textual materials, generating texts with various topics and purposes including its use in the pedagogical and linguistic instruction of foreign languages which is a primary need in the context of ESP teaching (Kovačević, 2023). ChatGPT has the potential to serve as an assistant in generating course materials and offering feedback for instructors (Lo, C.K., 2023). Similarly, Wulandari & Purnamaningwulan (2024) identify three key benefits of using AI in teaching practice: it enhances the efficiency of teaching preparation, supports the development of English learning materials for students, and facilitates brainstorming and ideation processes.

The existing studies mainly investigate ESP implementation by experienced teachers and the use of AI in education. Very limited previous studies focus on pre-service teachers' experiences in using ChatGPT to teach English for specific purposes. The novelty of this study lies in its exploration of the under-researched experiences of pre-service teachers using ChatGPT in English for Specific Purposes (ESP) teaching context at vocational high schools. Thereby, it addresses a gap in literature and provides deeper insights into the application of

ChatGPT in ESP instruction. Study investigating pre-service teachers' experiences can help 'future' teachers connect positively with teaching quality and quality of the inquiry (Rahmadani et al., 2022). Moreover, the results of the study suggest that ChatGPT can be recommended as a supportive teaching assistant. Therefore, based on the aforementioned, two research questions are formulated as follows:.

1. How does ChatGPT support pre-service teachers in teaching ESP in vocational settings?
2. What are pre-service teachers' challenges in using ChatGPT to teach ESP at vocational high schools?

RESEARCH METHOD

Research Design

The present study employed an exploratory case study approach as conceptualized by Yin (1994), which is particularly well-suited for addressing "what" type research questions. This methodological framework aims to generate preliminary hypotheses and propositions that can serve as a foundation for more in-depth future investigations. The central method of data collection in this research was the Focus Group Discussion (FGD), a qualitative technique that fosters open-ended dialogue among participants. The FGD process adhered to the structured steps outlined by USAID (2011), ensuring methodological rigor and consistency throughout the research. The FGD procedure commenced with the selection of a facilitation team responsible for organizing and moderating the discussions. Once the facilitators were appointed, the next step was identifying suitable participants who met the study's inclusion criteria. Following this, the research team scheduled the discussion sessions, carefully choosing the time and location to accommodate the participants' availability and comfort. In preparation for the discussion, a set of guiding questions was developed to steer the conversation in alignment with the research objectives. The actual discussions were recorded—either audio or video—to ensure accurate data capture. Finally, the collected data underwent systematic analysis. Using FGD proved advantageous due to its efficiency and productivity. It enabled the researchers to gather a rich volume of data in a short time frame without requiring extensive travel or logistics. Compared to conducting multiple individual interviews, the FGD format allowed the researchers to collect diverse viewpoints from multiple participants simultaneously, as also emphasized by Nyumba et al. (2018).

Research Participants

The participants involved in this study were four pre-service English language teachers enrolled in the 2021 cohort of an English Education program at a public university located in Malang, East Java, Indonesia. They were purposefully selected using a non-random sampling method to ensure the alignment of their profiles with the objectives of the research. The inclusion criteria required participants to meet several key conditions: they had to be actively engaged in using ChatGPT as part of their learning or teaching activities, and they had to be undertaking a Teaching Practicum at either public or private vocational high schools within the Malang region during a two-month period. Additionally, each participant was expected to teach a different vocational major to ensure diversity of context. Their willingness to voluntarily participate in the research was also a prerequisite. Ultimately, the selected participants represented a range of disciplines, including fashion design, electro engineering, nursing, and agriculture, providing varied instructional perspectives.

Instruments

Data collection from the present study was entirely from FGD, engaged directly with all four participants in one place at one time to gather in-depth information through guided interviews and followed-up questions. Utilized open-ended questions in the interview were conducted to obtain detailed narratives that provided rich insights into the challenges and

strategies from the participants. The interview guide covered 3 aspects: pre-service teachers' teaching experience, pre-service teachers' challenges and strategies adapted from Kic-Drgas & Kılıçkaya (2024). The detailed aspects of the instrument can be seen in the blueprint of the instrument in Table 1.

Table 1
FGD Blueprint of the Instrument

Dimensions	Sub Dimensions	Indicators
Pre-service teachers' teaching experiences while teaching practicum	Familiarity on using ChatGPT	Pre-service teachers share their familiarity with ChatGPT before teaching practicum
	Teaching practicum reflection	Pre-service teachers explain their teaching practicum reflection
Pre-service teachers' challenges while teaching practicum	Lesson planning and objective	Pre-service teachers explain challenges in developing lesson planning and objective
	Materials	Pre-service teachers explain challenges in preparing materials for teaching
	In-class activity	Pre-service teachers explain challenges in classroom activity
	assesment	Pre-service teachers explain challenges in developing assessment
	ChatGPT uses	Pre-service teachers challenges in using ChatGPT in teaching practicum
Pre-service teachers' strategies while teaching practicum	Lesson planning and objective	Pre-service teachers explain how they cope with the challenges in developing lesson planning and objective
	Materials	Pre-service teachers explain how they cope with the challenges in preparing materials for teaching
	In-class activity	Pre-service teachers explain how they cope with the challenges in classroom activity
	Assesment	Pre-service teachers explain how they cope with the challenges in developing assessment
	ChatGPT uses	Pre-service teachers explain how they cope with the challenges in using ChatGPT in teaching practicum

The instrument was validated by the expert before conducting the FGD. The participants had been given the guided questions before they came to the FGD to get a rough idea of what questions would be asked. The interview lasted around 90 minutes using mixed languages (Indonesian and English). The use of mixed language aims to make it easier for participants to deliver their experiences more accurately and comfortably. Below are the example questions used for the interview based on the blueprint: (1) How familiar were you with ChatGPT before you started using it in your teaching practicum at vocational high schools?, (2) In what ways does ChatGPT assist you in the preparation of teaching vocational high school classes? (3) How do you evaluate the feedback or responses generated by ChatGPT? During the FGD session, all the discussion was audio recorded and later transmitted into a dialogue text.

Data Analysis

The data collection was then analyzed through thematic analysis by connecting themes to display chronological sequence as suggested by Cresswell (2022). The theme analysed was taken from 3 dimensions of the instrument. The transcription and subsequent analysis of all interview results in this study followed Braun & Clarke's (2006) steps on thematic analysis. The procedure started by familiarizing the data transcribed, re-reading, and noting the important answers from the participants. Coding the data was necessary after familiarizing the data based on the emerging pattern related to challenges and strategies using ChatGPT in the teaching

practicum. The data coding was then grouped into themes. The data were then repeatedly going through a careful review to find significant elements to answer the research questions. Based on the steps, the summarized findings after coding is provided in Table 2.

Table 2
Summarized Findings

Aspects	Themes	Findings
Pre-service teachers' teaching experience while teaching practicum	Familiarity on using ChatGPT	- Prior experience using ChatGPT for assignments. - Basic understanding of ChatGPT capabilities
	Teaching practicum reflection	- Limited ESP teaching knowledge - Difficulty with technical vocabulary - Limited teaching resources based on major
ChatGPT support pre-service teachers in teaching ESP	Lesson Planning and Objective	- Generating lesson activities - Generating brainstorming ideas
	Materials	- Creating specific materials based on students' major - Generating technical vocabulary explanations
	In-class Activity	- Designing material needed for in-class activity
	Assesment	- Creating assesment suitable for the students' major and students level - Creating scoring rubric
		-
Challenges in using ChatGPT	Accuracy	- Mismatched technical vocabulary. - Different naming tools causing confusion
	Language quality	- Machine-like language output
	Assesment difficulty level	- Questions generated too basic

Trustworthiness and Ethical Considerations

To ensure the credibility and trustworthiness of the study, several qualitative validation strategies were conducted. Triangulation across data sources and collection methods enhanced the internal validity of the findings. Member checks were conducted at the end of the study, where the participants reviewed their data interpretations, reconfirmed their responses to avoid bias in their answers and gave feedback on the accuracy and fairness of representation. Ethical clearance was obtained from the school prior to data collection. All participants were informed of the purpose and procedures of the study and gave written consent to participate.

RESEARCH FINDINGS AND DISCUSSION

Research Findings

RQ1. ChatGPT Support in ESP Teaching

The first research question explores how ChatGPT supports pre-service teachers (PSTs) in teaching English for Specific Purposes (ESP) in vocational school settings. Data were collected through a Focus Group Discussion (FGD), during which participants (PST 1 to PST 4) shared their teaching experiences, challenges, and strategies related to ESP instruction. finding in this study is addressed to answer the first research question on how ChatGPT supports pre-service teachers in teaching ESP in vocational settings.

Pre-service Teachers' Teaching Experience During Teaching Practices

Before pre-service use of ChatGPT as a teaching assistant, they already demonstrated varied reliance on the tools. PSTs used ChatGPT for their assignment in lesson planning class and also created modifying language and correcting grammar.

The pre-service teachers (PSTs) also share their reflections on their teaching practice. During the pre-teaching phase, all participants faced several challenges. These included limited knowledge about teaching English in vocational high schools, a lack of English-language resources relevant to students' majors, and difficulties understanding technical vocabulary. In the whilst-teaching phase, the PSTs highlighted the importance of adjusting their language use to match students' comprehension and CEFR levels. They observed that students' responses varied depending on their grasp of basic English. The following is a response from PST 4, who teaches in the Nursing and Caregiving major, regarding her observations of students' behavior during classroom activities.

"It depends on the material. When I teach one material, sometimes they are quite enthusiastic and quite active. But, in other materials, they do not pay attention."

Furthermore, this response was deepened through questions about PSTs' challenges during teaching practices through 4 main aspects: lesson objectives, materials, in class activities, and assessment. Here are their responses.

Lesson Planning and Objectives

In relation to developing lesson objectives, all PSTs' had no significant challenges as the objectives were already decided by the schools. As for developing lesson planning, PST 3 from Fashion Design major mentioned there is an issue in determining which activities correspond to the steps involved in using a genre-based approach (GBA) as highlighted below:

"Actually, I'm using it more to search for recommendations or suggestions for what kind of activity in each step. For example, in the Building Knowledge part, I prompted suggestions for brainstorming activity to introduce narrative text for my students in ChatGPT or to provide a group project activity."

Material and Resources

This study found PST 1, PST 2, PST, 3 struggled when preparing materials, which was caused by limited knowledge, especially about technical vocabulary within the majors. Additionally, PSTs' also struggled because of the limited content-related textbook or internet resources. PST 1 from Agriculture major mentioned specifically about the difficulties in understanding special tools that were often used for practice by the students as follows:

"The primary reason is undoubtedly our lack of familiarity with the major field. Secondly, the lack of resources at Google, particularly in my specific major that I'm teaching, which is Agribusiness in the context of both crops and horticulture. The area often mentioned their techniques, various plant species, and the associated tools, and the resources of these things are hard to find. I even did research on relevant journals and still found the material is not suitable to major in teaching."

Therefore, to cope with these challenges, PSTs' use ChatGPT to create materials with specific prompts according to the students' major and class.

In-class activity

PSTs had various challenges in creating and setting teaching activities. PST 1 and PST 3 especially mentioned their struggle facing students' lack engagement. However, the integration of ChatGPT in the classroom cannot be conducted directly, as it is a matter of schools' regulation. Therefore, to gain students' attention and engagement, when arranging activities in the lesson plan, PSTs use ChatGPT to help prepare the detailed materials needed, such as providing activity rules and several texts/prompts for the activity. ChatGPT was proven helpful in selecting appropriate activities, as PST 1 highlighted below:.

"*My students are mostly the kinesthetic type, so I added a prompt to ChatGPT about what activities are suitable for this kind of learning style."*

Another finding related to in-class activity, PST 2 from Electro Engineering major, utilised ChatGPT to help the preparation of materials for some kinds of game activity in class as follows:

"For example, I want to use a bingo game in the classroom. The game board is typically provided on paper. I made a prompt at ChatGPT to provide a list of words that could be used in a bingo game related to hobbies because I taught about hobbies at that time."

Assesment

Finally, the last aspect showed all PSTs struggled in designing assessment and scoring rubrics for students because of the limited content-related exercises in textbooks and internet resources. Therefore, they used ChatGPT to develop assessments. PST 1 mentioned the detailed experiences as follows:

"So, for example, if I want to make a fill-in-the-blank exercise, it also requires a full text. I used ChatGPT to generate the text for filling in the blank, then create the text along with the questions. For example, in a text about a lawn mower tractor, what questions are related to the text? Then I also have a complete dialogue question. I usually generate it in ChatGPT using the prompt ' Make a dialogue about...' After that, I adjust it again."

Other than creating questions, PSTs also use ChatGPT to create a scoring rubric. Three PSTs specifically mentioned they used ChatGPT to make a scoring rubric, from the criteria until the scoring for each criteria.

RQ2. Challenges while using ChatGPT in ESP Teaching

The following findings answered the second research question about PSTs' challenges in teaching ESP in vocational settings. Results are divided into four categories. Although the findings mentioned many benefits of using ChatGT to assist pre-service teachers prepare their teaching materials, the process of making the materials actually did not go smoothly. After all, ChatGPT is a machine tool that was developed by humans, which means an error could occur.

Some issues emerged during the material development process which indicated that the final results cannot be fully adopted without any revision. The first one is about technical vocabulary on ChatGPT which sometimes does not match with what students learn in their major. Another PST also found that there was a difference in the naming of tools, which made the students confused about what tools are mentioned by the pre-service teacher because of the different names. For example, PST 3 mentioned below:

"Actually, there are several types of multimeters. There is the one with a rotary dial, like a bullet. But then, this multimeter is different from what the multimeter they know. The multimeter they mentioned is the one with no button. This makes students confused when I teach them in the class."

The second is coming from the result of the prompting. Sometimes the results provided by ChatGPT do not match with what is needed. The language sometimes feels too rigid and monotonous. Therefore, preservice teachers still need to remake more specific prompts and still need to be edited after as PST.

"I think what ChatGPT served already good, but sometimes if I didn't mention a specific prompt, the result was lack of variety. Even after I prompted more specific criteria, the language provided sounds too awkward and very machine like. So it still must be checked and revised."

Lastly, pre-service teachers mentioned questions provided by ChatGPT for assessment are sometimes too basic and very easy to answer. PSTs need to add more prompts/change prompts to be more specific in accordance with students' proficiency level. But then, the questions also still need to be edited after even generating the assessment with a specific prompt. PST 4 shared her experience in using ChatGPT to design assessments.

'What I experienced is when I asked ChatGPT to make a reading comprehension question. After meeting with my supervisor, she said that the difficulty is that questions need to be improved. So after that, I surely need to sort the questions that ChatGPT has provided and edit it to level up the difficulty or even the language level."

This study explored the experiences and challenges of PSTs using ChatGPT in teaching English for Specific Purposes (ESP) at vocational schools. PSTs proved that ChatGPT is a valuable tool for enhancing teaching practices by creating tailored materials, generating activity ideas, and designing assessments. However, there are also limitations in using ChatGPT, such as inaccuracies in technical vocabulary, irrelevant outputs requiring refinement, and overly basic assessment questions that need adjustments to align with students' proficiency levels and vocational contexts.

Discussion

In relation to PSTs's teaching practice experiences in using ChatGPT, it is revealed that ChatGPT is considered a valuable tool for designing lesson plans and formulating learning objectives. This finding shared the same idea with the previous study conducted by Berg and Plessis (2023) highlighting that ChatGPT, as a generative language model, can provide targeted materials and support mechanisms, such as lesson plans, for both pre-service and in-service teachers. In addition, ChatGPT proves beneficial in generating activity prompts aligned with the principles of the Genre-Based Approach GBA to tailor tasks to specific instructional goals.

PSTs find struggles in developing teaching materials and searching for resources. It is in line with Iswati & Triastuti (2021) stating that ESP teachers found challenges in developing teaching materials and searching for resources because of their lack of knowledge on students' fields of study. This is also supported by a study in China indicating that English teachers attribute difficulties primarily to teaching materials (Mao & Zhou, 2024). To cope with these challenges, based on the results of the study PSTs used ChatGPT as a tool to help them prepare the materials. This finding supports the previous studies saying that AI can help teachers create material by providing multiple explanations and examples; and can also enhance teaching materials in terms of the distribution practice (Mollick & Mollick, 2023).

Regarding in-class activities, the finding showed the PSTs kept struggling in engaging students in the class. This phenomenon may be due to factors such as in-class activities, presentation style, and teacher behavior (Bradbury, 2023). ChatGPT played the role as it supports PSTs in planning and organizing student-centered tasks. Most participants relied on ChatGPT to develop exercises, such as fill-in-the-blank questions, dialogues, and scoring rubrics. This aligns with findings by Zawacki-Richter et al. (2019), who mentioned AI applications in education include adaptive systems, evaluations and assessments, and intelligent tutoring systems.

Another use of ChatGPT is to support PSTs in developing assessments, specifically in question-making (filling in the blank, reading questions as well as the full text), and designing a scoring rubric. A previous study aligned with these findings by Kic-Drgas and Kılıçkaya (2024) mentioned AI is capable of generating a test for an English language course. This advantage comes with three benefits, which are customization, practicality, and efficiency. Despite the heavy use of ChatGPT, questions generated by ChatGPT were sometimes too basic or easy, requiring further refinement to align with students' proficiency levels. This necessitates

PSTs' attention and expertise for quality control. Therefore, there is also a need for teacher education programs to incorporate strategies to evaluate AI-generated teaching materials critically. So that, future teahers can balance AI assistance with their pedagogical judgment. Findings on pre-service teachers' experiences of using ChatGPT in teaching practicum also indicate that AI use in education is very helpful to reduce teachers workload. As Neubauer (2022) already mentioned that AI can reduce the cognitive process of the users and improve their direct task perfomance. However, the excessive use of AI can also lead to over-reliance on the tools which might limit teachers' own creativity of teaching preparation. This indicate that teachers need to develop sufficient digital literacy to use and teach AI effectively as AI become more prequivalent (Ng, D. Et al., 2023). In addition, teacher education program could also encourage PSTs to use AI-generated materials as a starting point rather than a definitive solution, promoting innovation and adaptability in lesson execution. Embedding AI literacy into the training would help foster responsible, ethical, and strategic use of such technologies, preparing PSTs for the realities of modern classrooms.

Despite being useful for education and educational research, the application of ChatGPT should be done extra carefully (Sallam, 2023). Some issues were inaccuracies in technical vocabulary, as seen in the Electro Engineering major, where the terminology provided by ChatGPT did not match the tools students were familiar with. Additionally, the language generated by ChatGPT was sometimes rigid and monotonous, prompting participants to rephrase or modify outputs to ensure they met classroom needs. These findings emphasize the importance of combining AI-generated content with teachers' professional advice, generating more specific prompts, and also editing skills to ensure its appropriateness for ESP contexts, which is aligned with Dilzhan's (2024) findings, which mentioned ChatGPT results should undergo accurate prompt formulation and output checking.

Given these realities, there is a clear need for policymakers to provide structured guidance on the AI integration in education. Currently, Indonesian regulations concerning AI use remain broad and underdeveloped. In response to this gap, the Ministry of Communication and Information Technology (MCI) issued Circular no. 9 of 2023 on Artificial Intelligence Ethics. This circular offers a foundational overview of AI, underlying ethical principles, values, and general guidelines for the use of AI in consulting, analysis, and programming by companies and electronic system providers (Chambers and Partners, 2024). In the education field, institutional initiatives are beginning to emerge as the Ministry of Communications and Digital Affairs notably inaugurated Indonesia's first campus-based Artificial Intelligence (AI) Centre (DetikJatim, 2025). This significant milestone designs the AI Centre to provide broad access to AI resources for academic communities, including pre-service PSTs in particular. They can maximize ChatGPT as one of AI tools to support the learning process regarding lesson planning, material development, and classroom instruction especially in the context of English for Specific Purposes (ESP) in vocational school.

CONCLUSION

The rapid growth of AI, particularly ChatGPT, has introduced new possibilities in the educational field. This study highlights ChatGPT's potential as an assistive tool for pre-service teachers in vocational high schools, especially in material creation and classroom activity planning. While ChatGPT can enhance teaching practices, its successful integration into education depends on teachers' ability to critically evaluate and adapt its outputs. With proper training and thoughtful application, ChatGPT can serve as a powerful assistant, complimenting teachers' expertise and improving the overall teaching-learning process in vocational education. This finding also call for further research to conducting more in-depth research based on the aspect with a larger number of participants and a wider range.

This study recommends that policymakers develop clearer and more specific regulations regarding the use of AI in education, such as defining the boundaries and setting standards for

the acceptable use of AI-generated content withing academic settings. Curriculum designers are also encouraged to integrate AI into curriculum development processes. Finally, with the existence of AI in educational context it is important that future teachers not merely learn how to use AI tools effectively but also develop critical skills to evaluate and adapt AI outputs to suit their instructional goals and classroom realities.

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