THE USE OF ARTIFICIAL INTELLIGENCE IN THE PREPARATION OF ENGLISH TEACHING MATERIALS IN VOCATIONAL SCHOOLS

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ABSTRACT

Artificial intelligence (AI) can be used by teachers to create specific English teaching materials for various fields in vocational high schools. This research aimed at finding out how English teachers in vocational high schools used AI in creating teaching materials. This research was conducted in 9 vocational high schools in Payakumbuh City, both public and private, where the research subjects were English teachers. Data were collected by distributing questionnaires and conducting interviews. The data were then classified based on the categories of platform for each reading, writing, listening, and speaking skill, as well as teachers' responses to the use of AI. The research results showed that English teachers at the vocational high schools in Payakumbuh City barely used AI, they were still at the stage of using a few narrow AI platforms a translation platform or application. Teachers were not familiar with various platforms for the other four skills in English. On the other side, even though they had not used AI, but 72.2% of teachers agreed that AI is an important technology and can save their time in preparing up-to-date English teaching materials. It is hoped that this research will be able to motivate English teachers to recognize the features offered by AI to prepare English teaching materials that are authentic and field-specific in vocational schools.

Keyword: *Vocational School, ESP, Artificial Intelligence*

INTRODUCTION

Dynamic and rapid competition in all fields requires students to prepare themselves with knowledge and skills to follow the rhythm of the world of work and industry. Technological developments have provided flexibility and mobility in various fields of work, which is certainly a great opportunity for students to participate in various fields of work in the future. One of the skills that students need to prepare for global competition is foreign language skills, especially English.

High school graduates who are closest to the world of work and industry are vocational high school (abbreviated as SMK in Indonesian) graduates. According to CNBC Indonesia (2023), there are 15 vocational school majors whose graduates are most sought after by companies, such as graphic design/multimedia, software engineering, nursing, accounting, office administration, catering, fashion design, makeup and beauty, shipping, pharmacy, logistics engineering, business and marketing, hospitality, analytical chemistry, and Sharia banking and finance. In order for graduates working in these fields to meet the needs of the company, it is clear that students in vocational schools must be equipped with knowledge and skills that meet the company's standards. Especially if the company is multinational or international, foreign language skills such as English are an important requirement.

According to the information on the Merdeka Mengajar website, the study of English in secondary schools is divided into two phases: Phase E and Phase F. In Phase E, students study different types of texts so that they will later be able to discuss topics that are close to their problems and daily lives, while in Phase F, they study different types of texts for information or enjoyment. Of course, in vocational high schools, these general texts must be further specified into topics related to everyday life in their respective fields, such as the departments mentioned above. Those specifications require detailed preparation, hence it promotes the concept of English for Specific Purposes (ESP). For example, students need to be familiar with English terms related to machines, cooking procedures, office conversations, tourism descriptions, etc. according to their respective majors.

There is an interesting fact about ESP in vocational schools based on the research conducted by Mahbub (2018), where the results of his research show that 78.12% of vocational students prefer conversations related to everyday topics in general rather than topics related to their vocational field.This is because 93.75% of students claim that they do not have good English skills, so they prefer to study general everyday conversations first. On the other side, Natsir et al. (2022) mentioned that teaching English in vocational high schools should be related to or support the skills required by each major. However, in reality, teaching English in vocational schools in Indonesia is still almost the same as teaching English in general secondary schools. In fact, vocational students are required to understand English terms or conversations appropriate to their field so that they can become graduates who can compete at a higher level.

Hence, it is English teachers' responsilibity at SMK to develop directions in Merdeka Curriculum into more specific topics based on the majors at SMK, so that they can provide authentic materials according to their respective departments and using teaching media that make students understand. In the current era of digital-based teaching, artificial intelligence has made the learning preparation process much easier. Authentic materials that need to be presented in English learning can be obtained through the abundant availability of information on the Internet.

However, teachers need to be able to sort trustworthy sources and platforms according to the topics to be presented.

In fact, teachers can prepare detailed material with the help of (AI). According to Hatta et al. (2024), artificial intelligence is included in the field of computer science, which focuses on developing systems that can recognize patterns, solve problems, and make decisions that are usually made by humans. Meanwhile, according to Rachmadi (2024), pattern recognition that can be performed by artificial intelligence is more specifically described, such as natural language understanding, speech recognition, and image recognition. With such complex combinations, teachers can create material related to specific career fields and apply it to real-life models in classroom or laboratory learning.

According to Banafa (2024), there are 3 types of artificial intelligence, namely: narrow AI, which is useful for performing tasks faster and more accurately, such as identifying images and translating language; general AI, for analyzing complex data, making more strategic decisions, and even creating creations such as works of art; and superintelligent AI, which is capable of processing information faster and more accurately than human abilities, but is still in the theoretical stage, and is expected to be able to help humans in very complicated areas of science in the future.

In English language learning, there are several examples of AI-based platforms that can be used to support the preparation of English teaching materials in vocational schools, namely Chat GPT (Generative Pre-Training Transformer), Lingvist, Busuu, and Quillbot. Based on the research conducted by Hong (2023), Chat GPT can provide great opportunities for teachers to improve the teaching and assessment of English as a second and foreign language, especially to personalize learning.

The availability of artificial intelligence should be put to good use by English teachers, especially in vocational schools. However, the reality is that there are still teachers in vocational schools who are struggling with the use of AI. As found in Febiana's (2019) research at Bhina Tunas Bhakti Juwana Vocational School and Diponegoro Juwana Vocational School, where vocational school students were still asked to make vocabulary lists and translate texts. Meanwhile, the technology that supports learning is still basic, such as the use of projectors and sound systems. Of course, this will reduce students' motivation to learn English, especially vocational students in this era are Generation Z, who grew up with artificial intelligence.

Based on initial observations, seminars on AI have begun to be held for teachers in vocational schools, especially in West Sumatra Province. For this reason, it is necessary to investigate how English teachers in vocational schools understand AI and how they use the AI platform to prepare authentic English teaching materials so that the English context that reaches students is appropriate to their respective fields.

METHOD

This research is qualitative research with a descriptive approach. The subjects of this research were 30 Vocational High School (SMK) English teachers in Payakumbuh City, both public and private vocational schools. Documentation was done by distributing questionnaires through the English Teachers Deliberation (abbreviated as MGMP in Indonesian) WhatsApp group of Payakumbuh City. There were 18 teachers out of 30 who sent their feedback. Questionnaire 1 contained 15 statements about teachers' use of AI in English language teaching.

Teachers must indicate their attitudes toward statements such as strongly disagree, disagree, neutral, agree, and strongly agree. Questionnaire 2 included questions about teachers' knowledge of the types of platforms or applications available online for each English language skill area. This research was conducted from April to September 2024. The data collected through Questionnaire 1 were then classified based on general English skill categories such as reading, writing, listening, and speaking. Meanwhile, the data collected through questionnaire 2 showed the percentage of teachers' knowledge of the platforms available to support the preparation of English language materials in the vocational field. The results of the analysis of the data were then described and conclusions were drawn.

RESULTS AND DISCUSSIONS

Currently, the development of AI in the world of education is accelerating. Many platforms and applications have emerged that can support learning in any field. According to Joshi (2017), artificial intelligence is a way to make machines think and act intelligently. This gives teachers the opportunity to have a virtual assistant that can make their work easier, and this assistant can be accessed as easily as a voice assistant.

In the world of education, the rapid development of AI is marked by the emergence of the concept of e-learning, where the web and digital content are beginning to mushroom and change learning styles and access to learning. Learning that used to take place only in classrooms is beginning to spread to digital or virtual spaces and can be personalized according to students' needs (Endarmoko, 2024).

In English language learning, the use of AI is very important because of the need for material that is authentic and appropriate to the context of a particular topic. According to Hakim (2022), AI can be an alternative and act as a virtual mentor, voice assistant, smart content and presentation translator. When it comes to professional English, AI can help teachers get contextual details that match actual English grammar. An example of the use of AI that can summarize all these roles is that teachers can prepare teaching materials by simply saying them to platforms such as ChatGPT, Google Gemini, Lingvist, Busuu, and Quillbot, etc., and then the platform can process the information according to the teacher's instructions.

For example, Chat GPT (Generative Pre-Training Transformer) is an artificial intelligence system with text-based conversational interactions. This AI is able to provide answers to the entered questions. Meanwhile, Lingvist is a platform on Google Play for learning vocabulary in different languages, so far Lingvist has provided more than 50 language lessons. Then there is Busuu, which offers grammar, spelling, words, phrases, English conversation and even accent training. And one of the next examples is Quillbot, which is a platform for paraphrasing. If the teacher is forced to create his own English conversation and has the possibility that it is inauthentic, Quillbot can correct the input according to the grammar of a native speaker. In addition to making the teacher's job easier, the use of AI can present material that is authentic and contextually appropriate to the skills being taught.

For reading, there are many platforms that can be used to create instructional materials, such as Newsela, Rewordify, Epic!, Raz-Kids, CommonLit, LightSail, ReadTheory, NoRedInk, Actively Learn, and Curriculet. Based on the data collected in Questionnaire 1, teachers are aware of only a few platforms, as shown in the following chart.

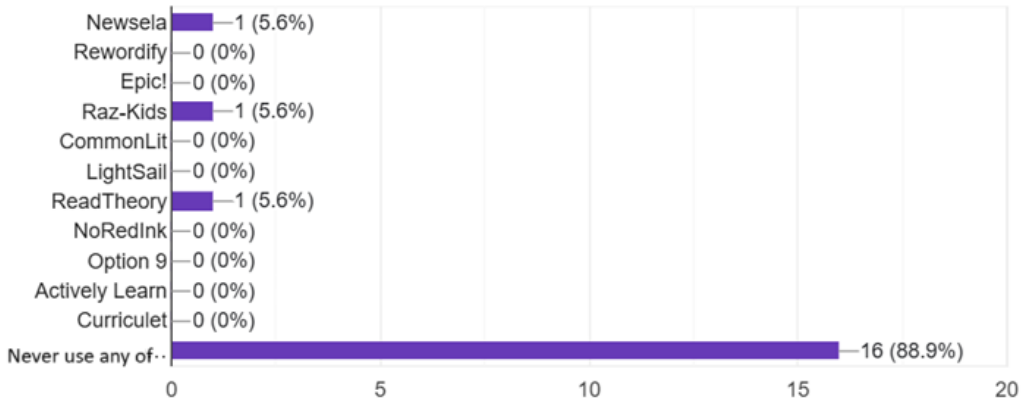


Figure 1. Platforms Used By Vocational English Teachers In Payakumbuh City For Reading Skills

Based on this chart, it appears that almost all teachers at Payakumbuh City Vocational School do not use the platforms mentioned above to prepare teaching materials or materials to teach reading skills.

To support writing skills, there are many platforms that vocational English teachers can use to prepare materials for students' writing skills, such as Grammarly, Quill, NoRedInk, Ginger Software, ProWritingAid, GrammarFlip, Sentence Checker (Scribens), Virtual Writing Tutor, Linguix, and Khan Academy Grammar. The following chart shows the types of platforms used by teachers.

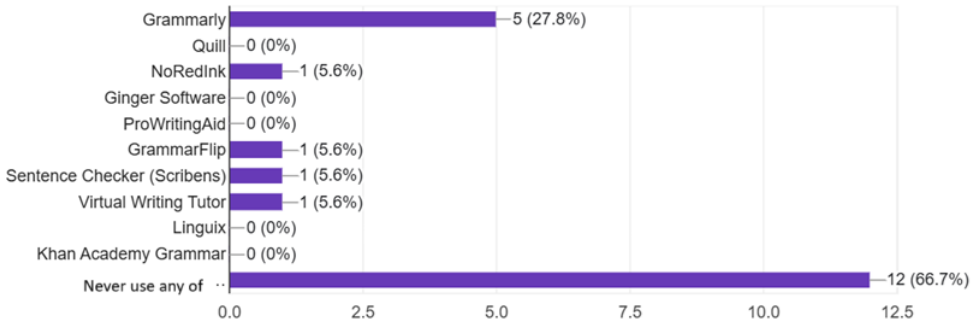


Figure 2. Platforms Used By Vocational English Teachers In Payakumbuh City For Writing Skills

Based on this chart, it can be seen that 27.8% of teachers use Grammarly as a platform for preparing writing teaching materials.

Meanwhile, vocational English teachers can use the following platforms to create listening materials: Linguistic AI from Listenwise, Ellii (formerly ESL Library), FluentU, VoiceThread, Randall's ESL Cyber Listening Lab, LyricsTraining, Ted-Ed, Yabla, EnglishCentral, EdPuzzle. The following chart shows the types of platforms used by teachers.

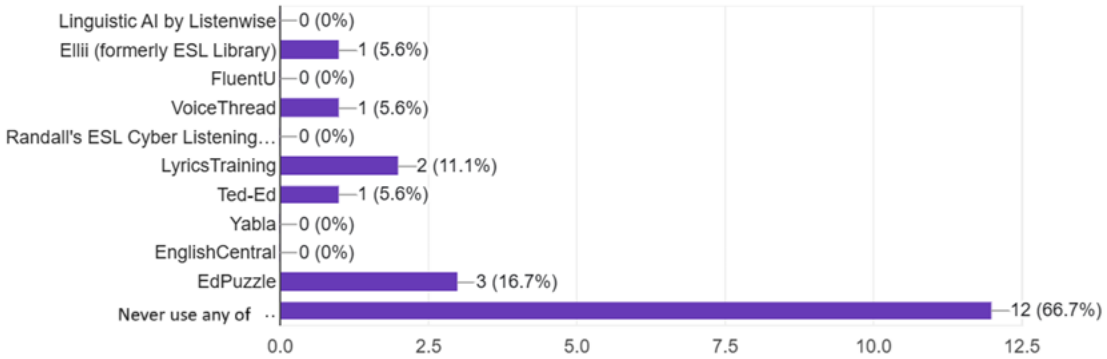


Figure 3. Platforms Used By Vocational English Teachers In Payakumbuh City For Listening Skills

As can be seen in this chart, although the last percentage point is still high, namely about 66.7% of teachers have never used any of the above platforms, the use of other platforms is more varied, namely about 5-16% of teachers have used platforms such as Ellii, Voice Threadm Lyrics Training, Ted-Ed and EdPuzzle.

Finally, regarding speaking skills, there are many platforms that English teachers in vocational schools can use to prepare teaching materials for speaking skills, for example, voice AI generators such as Murf.ai, WellSaid Labs, Replica Studios, then there are the Speechelo, NaturalReader, Voki, Google. Text-to-Speech, Amazon Polly, iSpeech, Synthesia and AI Dungeon (Voyage). The following chart shows the types of platforms used by teachers.

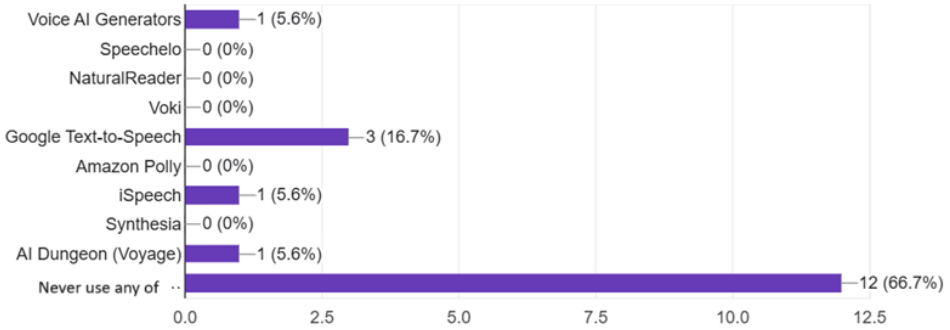


Figure 4. Platforms Used By Vocational English Teachers In Payakumbuh City For Speaking Skills

As can be seen in the chart above, teachers are not very familiar with platforms that can help them prepare speaking materials. 66.7% of teachers have never used the platforms listed above and only 16.7% of teachers have ever used one of the platforms, Google Text-to-Speech.

Based on the data findings explained earlier, it seems that the English teachers of Payakumbuh City Vocational School have not used artificial intelligence to help them prepare English teaching materials. It can be seen from the number of teachers who use the platforms mentioned in the questionnaire, especially the platforms for reading skills, almost all the teachers have never used these platforms.

The most common platform used by teachers is Grammarly, proving that teachers are still focused on checking the correct use of grammar in writing rather than the authentic use of language context in the topics being studied. Although learning English cannot prioritize just one skill, writing, the four skills of English must be well integrated.

Abdelghani (2023) in his research stated several challenges faced by teachers in teaching English, especially new teachers. He concluded that 60% of teachers need to provide clear examples to illustrate their teaching material.

On the other hand, based on the data from Questionnaire 2, English teachers at Payakumbuh City Vocational School showed a positive response to the idea of using artificial intelligence, especially in terms of the importance of AI today and saving time in preparing teaching materials, although they are not yet familiar with the variety of AI platforms. which is useful in compiling teaching materials for English language skills. Muliyah and Aminatun (2020) said that based on the results of their research, teachers actually know that teaching English in vocational high schools should be related to English for Specific Purposes (ESP), but what teachers believe cannot always be implemented in the classroom because of several factors such as class overcrowding, time constraints, inappropriateness of assigned textbooks, heavy workload, and students' needs. Therefore, it can be concluded that teachers have a positive attitude towards AI, as shown in the following graph.

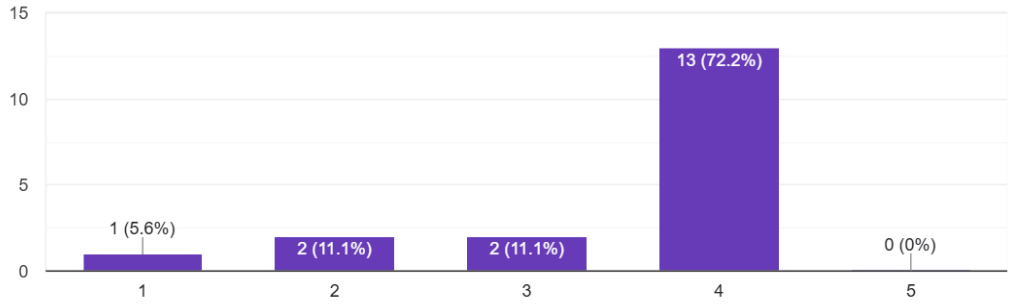


Figure 5. AI As An Important Tool In English Learning Today

Note: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, And 5 = Strongly Agree

In the chart above, 72.2% of teachers agree that AI is an important technology in English language learning today. Teachers also responded positively to the time efficiency of using AI, as shown in the following chart.

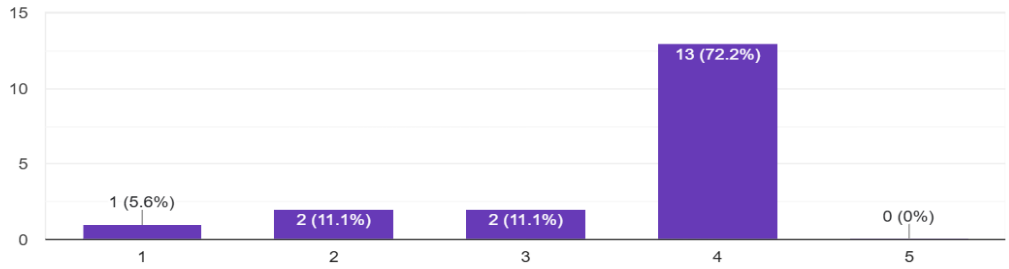


Chart 6. AI Saves Time In Planning English Lessons

Note: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, And 5 = Strongly Agree

Based on the chart above, 72.2% of teachers agree that AI is a technology that can save them time in preparing English teaching materials.

However, teachers are neutral about the use of AI to assess student performance in various English language skills. This can be seen in the chart below.

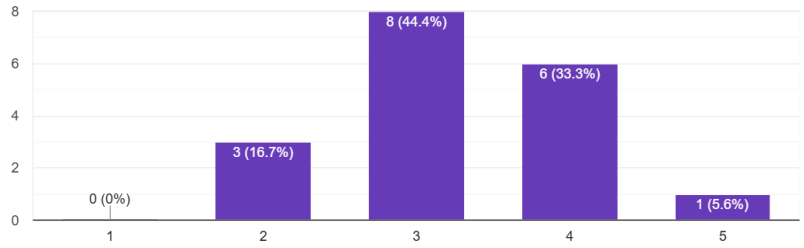


Figure 7: Use Of AI To Assess Student Performance In Various English Language Skills

Note: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, And 5 = Strongly Agree

As many as 44.4% of English teachers in Payakumbuh City are neutral about the use of AI to assess students' performance in the four main English skills, namely reading, writing, listening, and speaking. Meanwhile, 33.3% strongly agreed that AI technology would be very helpful in assessing student performance.

Teachers' attitudes about other benefits of AI in preparing or creating English language teaching materials are shown in the following table.

Table 1. Teachers' Attitudes Toward The Benefits Of Using AI

No	Benefits of Using AI	1	2	3	4	5
1	Helps teachers create more effective grammar exercises	0	16.7	22.2	55.6	5.6
2	Makes it easier to design listening exercises	5.6	11.1	22.2	50	11.1
3	Helps provide reading material appropriate to the student's level.	0	16.7	27.8	50	5.6
4	Helps create interactive English conversation exercises	0	16.7	33.3	44.4	5.6
5	Can help students quickly correct their mistakes	0	16.7	27.8	50	5.6
6	Can increase the effectiveness of learning English writing for students	0	16.7	16.7	61.1	5.6
7	Helps increase teachers' confidence in teaching English	0	16.7	22.2	55.6	5.6
8	Helps identify students' weaknesses and customize learning materials	0	16.7	33.3	50	0
9	Can motivate students to learn English	0	11.1	22.2	61.1	5.6
10	Personalizes learning materials based on individual needs	0	5.6	33.3	55.6	5.6

Note: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, And 5 = Strongly Agree

Based on the table above, it can be seen that Payakumbuh City Vocational School teachers agreed with the benefits of using AI to increase the effectiveness of writing skills and student motivation in learning English with a total of 61.1% each. Meanwhile, regarding speaking skills,

only 44.4% of the teachers indicated that they agreed with the benefits of using AI to help create interactive conversation exercises in English.

Even though teachers are not very familiar with the variety of AI platforms that can be used to create English language learning materials, teachers expressed agreement on almost all points in the questionnaire regarding the benefits of AI. Especially the point about the benefits of AI on time efficiency, ease of work for teachers, and motivation for students.

Teachers' limited knowledge of the benefits of AI in assisting teachers in preparing teaching materials also limits teachers' attitudes towards the further benefits of AI in teaching, namely in assessing students' performance. It is evident that the teachers expressed a neutral attitude on this point. In other words, teachers cannot yet determine whether they agree or disagree with the use of AI in assessing student performance because they have never used it.

Based on the results of the interviews, there were only a few platforms that teachers have ever used on a scale of never to rarely, such as common platforms/applications that are often used like Kahoot, Canva, ChatGPT, Grammarly, Google Classroom, and Google Form. What teachers use most often is the Google Translate application.

CONCLUSIONS

English teachers at Payakumbuh City Vocational School are still in the stage of using narrow AI, namely AI that is identification like an application or translation platform. Teachers are not familiar with several platforms such as Epic!, Quillbot, FluentU, and NaturalReader. Few teachers are familiar with AI platforms and they are commonly used platforms such as Grammarly, Grammarflip, Edpuzzle, and iSpeech. Therefore, teachers do not use these platforms to prepare English teaching materials in vocational high schools.

It can be concluded that, on average, 66.7% of teachers are not familiar with AI platforms for preparing writing, listening, and speaking materials. Meanwhile, the highest percentage is the use of AI platform for preparing reading materials, 88.9% of teachers are not familiar with the platform for preparing reading teaching materials. Then, to state the teachers' point of view regarding the use of AI in the process of preparing teaching materials, 72.2% of teachers agreed that AI is an important technology and can save their time in learning English today. Meanwhile, 44.4% of English teachers in Payakumbuh City are neutral about the use of AI to assess students' performance in the four main English skills, namely reading, writing, listening, and speaking. This neutral attitude shows that teachers cannot yet determine whether they can use AI to assess student performance. Interview results show that limited tools and students' attitudes toward technology reduce their motivation to use AI.

It is hoped that this research will be able to motivate teachers to recognize the functions offered by AI to make it easier for teachers to prepare English teaching materials that are authentic and specific to the field in vocational schools. It is also expected that education managers in their respective institutions will be able to provide teachers with the necessary facilities, both hardware and software, so that teachers can use the AI platform.

Vocational schools highly need English materials that are relevant to their fields. So that vocational school graduates can be truly globally qualified and competitive. It is expected that the government will be able to establish guidelines for combining the use of technology and English for Specific Purposes materials in vocational schools, so that teachers can implement materials

according to their respective vocational fields. Based on the findings in this research, teachers are not familiar with platforms that are useful for preparing English teaching materials for vocational schools, so further research can discuss the impact of teachers compiling authentic teaching materials without AI, what is the quality of teaching materials without AI, how to develop a curriculum guide for teaching English in vocational schools.

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