

# Exploring ESP Students' Perception toward the Potential of Artificial Intelligence to Promote Students' Self-Efficacy in English Writing Skill

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**Abstract:** This study aimed to explain ESP (English for Specific Purposes) students' perception toward the potential of AI to promote their self-efficacy in their English writing skill by examining its impact on students' learning experiences and perceptions. The present investigation employed a qualitative case study. The data collected by open-ended questionnaire in online form distributed to forty students in accounting major. The findings showed that the students positively perceived toward the potential of AI to promote students' self-efficacy in their English writing skill, they believed that AI play important role and impact their self-efficacy, enhance their motivation, reduce their anxiety, give easy access to the students to get feedback quickly with better recommendation of writing and provide interactive learning in achieving consistency in student' English writing skill.

**Keyword:** *ESP, Students' perception, Self-efficacy, English writing skill*

## INTRODUCTION

The integration of Artificial Intelligence (AI) has emerged as a transformative force across various domains. One of the sectors that heavily influenced by AI is education. AI powered tools hold the potential to revolutionize pedagogical approaches. Artificial Intelligence (AI) technology utilization, particularly within and outside the classroom activities, may support learning objectives such as supporting various learning phases of difficulties enhancing learners' accomplishment (Moulieswaran & Prasantha, 2023). As Artificial Intelligence (AI) continue to grow, it has the potential to replace the way teachers teach and the way students learn is becoming increasingly evident. AI is increasingly common in EFL classrooms, one of the important elements to consider when integrating the AI-powered tools is how students accept this advancement. AI provides various learning materials and approaches to English learning and teaching process, especially for ESP students. Within this context, English for Specific Purposes (ESP) stands as a crucial focal point. ESP require English proficiency tailored to specific disciplines or professional context, necessitating a targeted and efficient instructional approach.

Students' responses due to the acceptance of AI-powered tools has proven to be a key indicator in the success of the integration to their English ability (Syahnaz & Fithriani, 2023). The major problem in the classroom showed that the ESP students still lacked of awareness to write appropriately and structurally in English text, Universitas Bina Sarana Informatika and the lecturer had provide some platforms to support the students in developing their ideas in writing, such as; Material, e-learning (MyBest), website application which all of the platforms facilitate them to develop their English writing process include using AI application which support the students to brainstorm their ideas in writing English, but they still have distinctive responses due to the use of AI-learning apps that deployed as one of the instructional media that help them to solve in writing text in English. In other sides, the students also depend their mood to create their writing product, some of them may not have access to the necessary technology or may not be

proficient in using AI-Powered tools, which can hinder their ability to utilize these resources properly. They also lack of familiarity with AI systems where they are not familiar with the technology.

All of above factors found in class, high impact to the students' self-efficacy of the students, Ghufroon and Risnawita (2014) stated that self-efficacy as one of knowledge aspect about self or self-knowledge that the most influential in human daily, because self-efficacy affects individuals in determining the actions to be taken to achieve a goal including the thought of various events that will be faced. Determining definition of self-efficacy related to the awareness of ESP using AI in writing their English text. Bandura (1997) defined self-efficacy as a person's perceptions of his/her capabilities to complete a specific task with the skills that her or she possesses. From the highlight of the definition, the writer infer that the problem faced by ESP students also to find the ways how they overcome the obstacles in using AI in their writing skill.

Seeing this situation, it is necessary for ESP students to be able to take advantage to help them in to find out how AI impact their self-efficacy in their English writing and also can be one of the way to more innovative in English writing skill. By mastering English students can provide to understanding English terms that are encountered in everyday life. (Prayudha, et.al., 2023). Therefore to objective of this study is to explain ESP students perception toward the potential of AI to promote students' self-efficacy in their English writing skill.

## LITERATURE REVIEW

### A. The potential of Artificial Intelligence in learning

AI concepts that have entered the real of education greatly facilitate users in accessing a variety of information and completing tasks. There is a strong potential of AI to greatly extend and enhance teaching and learning in higher education (Crompton, et al., 2021). As we know that technology now become one of the needs that education should follow to make the learning more effective Rich and Knight (1991) stated that AI is the study of how to make computers do things at which, at the moment, people are better. Huang & Chen (2016) described that one of potential AI is benefit for intelligent tutoring systems in higher education as follows:

- 1) Student model: AI provide information about students' knowledge, cognitive level, learning motivation and style.
- 2) Teacher model: AI provide analysis of students, strategies, and methods.
- 3) Domain model: AI provide the knowledge of representation teachers and students
- 4) Diagnosed model: AI provide evaluates mistakes and defects of the intelligent model

From all of the benefits of AI in intelligent tutoring systems, it will be greatly affected teaching and learning process in higher education. AI benefits for teacher and students in facilitating them to examine and moderate discussion forum and to provide learning needs. There are also many definitions of Artificial Intelligence. Russel and Norvig (2010) mention that artificial intelligence is the study of agents that perceive the world, formulate plans, and take actions to achieve objectives. It involves the design and construction of computer programs capable of reasoning, learning from experience, and exhibiting intelligent behavior. Sheikh et al. (2023) describe AI as systems that display intelligent behavior by analyzing their environment and taking actions – with some degree of autonomy – to achieve specific goals. Haryanto and Ali (2018) stated that the students who use AI in learning process to finish the task were enthusiastically and actively motivated. Rusmiyanto et al (2023) highlight the transformative role of AI in English language education and its potential to address the diverse needs of language learners.

So that, From the studies about AI mention above, Artificial intelligence in English language is one of the needs for the students which can effectively benefits to their communication skills, including writing and to help the students to finish their task and fulfill their needs of learning. This study focus on how ESP students perceived the potential of AI to promote their self-efficacy in their English writing. So that AI plays important role in affecting the students to use it as the media of learning writing.

## **B. Self-efficacy**

Regarding students' self-efficacy, Bandura (1997) defined self-efficacy as a person's perceptions of his/her capabilities to complete a specific task with the skills that her or she possesses. Alawiyah (2018) described that self-efficacy has an important role for the students, because it describes individuals' belief in their capabilities. It can infer that self-efficacy is one's belief that makes everyone successful to understand the situation. Bandura (1997) also stated that there are four major sources affecting one's development of their self-efficacy, they are: mastery experience, vicarious experience, social persuasion, and physiological states. Mastery experience refers to the gained experience by someone from performing the task. Vicarious experience is formed by the observation of others. Social persuasion is formed by encouragement, praise and other positive comment or feedback that function as a facilitator to enhance one's self efficacy. Physiological state includes mood, emotion, physical reactions and stress level may affected students' personal abilities in self-efficacy.

There are some studies that defines into account, Lu and Lien (2020) stated that self-efficacy plays an important role in learning, their study showed that students perceive positively in prompting students' self-efficacy in game based learning. Maryam et al (2019) found that students' self-efficacy improved students' speaking and felt confident using English. Irawati et al (2023) found that the level of self-efficacy was in the moderate category, the magnitude/level dimension is the most dominant dimension in student self efficacy. Alhaq et al (2020) implied that students have some experiences in playing digital games are provided with self-efficacy more dominant than the students without such experiences. Alimudin and Amalia (2020) showed there are some factors that students' self-efficacy influence speaking performance of the students, they are task complexity, psychological, environment, circumstances, familiar audiences, preparation, external incentives, and information of self-skill. From some previous studies it can be concluded that self-efficacy plays an important role in the progress of students' abilities in English, most studies more focus on examining self-efficacy in speaking skills and contribute to new insight about factors that influence students to be able to develop self-efficacy for student learning while this study focuses on the potential of AI to promote self-efficacy in writing skill. As we know that the advancement of AI which is now intensively used by students to finish assignment, this study will focus not only the way how the students use AI but how the potential of AI promotes students' self-efficacy in writing skill.

## **C. Studies about AI impact students' English writing**

One of the skills that should be master in English is writing. Writing becomes one of the element for the student that need much focus in how they gain the ideas, synthetizing the words, analyzing the structured of the sentences and reported in the form of text. Susantoleo (2010) define writing as a process of expressing ideas or thoughts in words should be done it leisure. So that writing need ideas to create the text. One of the media that help the students in writing is by using AI. However AI impact the formed of students' writing project. AI helps them to perform better English writing.

Therefore there are also studies about how AI impact students' writing skill. Sumakul et al (2021) found that the students had positive perceptions towards the use of the AI app. The students enjoyed to learn

using AI because it help the students in writing. Alammar and Amin (2023) revealed that EFL students' perceptions towards the use of AI are favorable; they viewed that AI as useful tool significantly impact their academic writing process. Inayah and Sulistyaningrum (2021) found that students have difficulties in paraphrasing their writing, they revealed that the most commonly used by the students to overcome the difficulties by using online paraphrasing tool by using AI, students positively perceived that AI help them to overcome their difficulties and effectively as a way to write in a better way.

Crompton and Song (2021) described that AI automated essay can be as scoring systems, like provide in-depth feedback to examine and revise the paper before grading and this can be empower tools for students to offer prompts revision and how to get detail revision from AI. Although previous research has examined how students' perceptions toward the use of AI in their writing skill, no study has yet examined how ESP students perceived the potential of AI to promote students' self-efficacy in their English writing skills. Therefore, this study represents a further attempt to explain the perception of ESP students of the potential of AI to promote students' self-efficacy their English writing skill.

## **METHOD**

The design of this research is qualitative case study which the data provided to explain students' perception. Cresswell (2012) stated that a case study conducted in natural setting. Miles and Huberman (1994) stated that the data obtained from participants is primarily in the form of words, which are collected and analyzed from interviews, documents, and artifacts. By using qualitative case study the problems that have been found in the class can be explored with a deep understanding because the qualitative approach provide detail information that can be analyze the data to make a final report. The research details are provided in this study to explain ESP students' perception towards the potential of AI to promote their self-efficacy in their English writing skill. It consisted of forty students of the first semester of ESP student in accounting majors of UBSI (*Universitas Bina Sarana Informatika*) using the purposive sampling technique.

The data collection method in this research was open-ended questionnaires. It enables the students to give free-form insights, opinion and answer on the lists of structured question. It is used to gather students' responses about students' perception toward the potential of AI to promote their self-efficacy in their English writing skills. All data were taken by using google-form.

## **FINDING AND DISCUSSION**

The finding and discussion presented the data from the analysis of the open-ended questionnaire responses. It prompts to explain ESP students' perception toward the potential of AI to promote students' self-efficacy in their English writing skill.

### **Students' Positive Perception of the potential of AI to Promote Their Self-Efficacy in English Writing skill**

In collecting the information about students' perceptions, the writer employed open-ended questionnaire. The writer creates some questions related to the students' perceptions to promote their self-efficacy in English writing skill. The data of the questionnaire revealed that all of the students have positive perception toward the potential of AI to promote their self-efficacy in their English writing skills.

First, the students were asked about their understanding of AI. Here were the exemplary responses:

*AI is a tool which design to make my work easily to do.* (Student #4, questionnaire, 050923)

*AI very helpful and easy to use, it is a technology advance that solve problems for human easily* (Student# 20, questionnaire, 050923).

*AI is computer program that design to responding questions and make the user easily to use* (Student# 28, questionnaire, 050923).

*AI is one of the tools that make it easier to get various information.* (Student#2, questionnaire, 050923).

*AI is sophisticated computer program that can present a variety of answers.* (Student#19, questionnaire, 050923).

From the answers, the students perceive AI as a tool that help them to do their task easily. As a technology advancement AI had varied applications that used based on its need. AI also gives the students various points of ideas to do their task. So that the students perceive positively in the use of AI.

Secondly, to know students' self efficacy, the students were asked about their understanding of self-efficacy. Here were the exemplary responses:

*I think self-efficacy is individuals' belief to organize task and achieve goal.* (Student#17, questionnaire, 050923).

*Self-efficacy needs someone condition to do the task.* (Student#12, questionnaire, 050923).

*Self-efficacy is individual's belief to produce something.* (Student#31, questionnaire, 050923).

*Self-efficacy is a person's self-confidence to complete a task well.* (Student#40, questionnaire, 050923).

*Self-efficacy is one the important factors to encourage students to learn well.* (Student#32, questionnaire, 050923).

From the answers, the students perceive that self-efficacy relate to individuals' belief about their ability to organize, finish the task and achieve a goal, produce something to achieve certain skills. So that the students know that self-efficacy related to their individual's performance to do their task and relate to their condition in learning.

After knowing how students define AI and self-efficacy. Third question were asked about how students perceive the potential of AI to promote their self-efficacy in English writing skills. Here were the exemplary responses:

*I think AI had many potentials to do my work easier, when finishing the assignment especially in English writing, I feel more comfortable to write the result. AI provides many references for me to write ideas and makes me more organized in writing.* (Student#8, questionnaire, 050923).

*AI affects how my mood in writing, because I get a lot of information through the studies that AI presents, so when I do English writing, I feel happy to create my homework done. It also increased my enthusiasm and my confidence in writing English.* (Student#29, questionnaire, 050923).

*AI certainly affects how my confident in completing English writing assignment. It is presented various sources and information so that I do have a lot of ideas.* (Student#1, questionnaire, 050923).

*AI increased my confidence in completing tasks, I was skeptical at first but AI provides a lot of information and recommendation feedback so that I can have many ideas.* (Student#12, questionnaire, 050923).

*Using AI in completing English writing assignments was my first experience. I was very enthusiastic when the lecturer asked me to use AI as a tool to find reference to write, after using it, I was confident with my result.* (Student#11, questionnaire, 050923).

From all the students' answer above, almost all students perceived positively towards the potential of AI to promote their self-efficacy in their English writing skills. They assumed that AI play important role in the way how they make their decision-making, especially when deciding to write in English. They also feel more confidence in doing the assignment because AI provide many sources and information that the students can adapt and transform into their own ideas. ESP students believe that AI is one of the factor that influence their self-efficacy, cause the easily access make the students overcome their weakness. They have new experiences in enhancing the use of AI technology into their learning process. So that the writer can conclude that self-efficacy as the factors in determining behavior of the students to succeed their capability in performing a particular task, in this case in English writing.

Therefore the writer revealed following points regarding the findings of students' perception towards the potential of AI to promote their self-efficacy in their English writing, they were :

1. Enhance students' motivation and reduce students' anxiety

The students stated that their motivation increased to develop their ideas, organize their writing, and reduce their anxiety. With the focus on their mood and emotions affect goals of learning, AI allows students to foster their sense of achievement and motivation in convention their writing. AI success to promote students' self-efficacy, the students more confident to believe in their result and it also impact on their willingness to finish their English writing and tailored to seek their needs.

2. Easy access for students to gain feedback

AI can provide quick feedback of writing style, identify errors in writing and directly provide specific recommendation. AI helps students learn from their errors and develop a deeper understanding of the writing. It reinforces students' positive behavior and build their self-confidence.

3. Provide interactive learning

In the field show, the potential of AI promotes students' self-efficacy, AI driven to engage students through interactive writing exercise. The interactive approach between the way how ESP students used AI and their learning style helped students to focus on area where they need to improve, capable to take the risks in writing and foster their positive attitudes in achieving writing-related goals.

## CONCLUSION

In conclusion, the exploration of ESP students' perceptions toward the potential of AI to promote their self-efficacy in their English writing skill revealed positive perception for educational enhancement. They believed that AI play important role and impact their self-confidence and proficiency in their English writing skills. The students also perceived that AI enhance their motivation, reduce their anxiety, give easy access to the students to get feedback quickly with better recommendation of writing and provide interactive learning which help the students focus on fostering their positive attitudes in achieving consistency in their writing skills and empowering them to excel in their English writing endeavors.

Hence, because of the methodological limitations in this study, A need for further research may including several recommendations. First, the number of participants sample can be wider to explore long-term effect toward the use of AI to promote students' self-efficacy in their English writing. Second, consider investigating into diverse perspective such as cultural background, language proficiency, and consider the design and analysis method for gathering the data.

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