

Linguistic Ownership Displacement and Professional Voice Vulnerability in Artificial Intelligence Mediated English for Specific Purposes Ecosystems

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ARTICLE INFO

Keywords: Artificial Intelligence, English For Specific Purposes, Linguistic Ownership, Professional Voice, Critical AI Literacy

Received : 20, June

Revised : 12, July

Accepted: 22, August

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ABSTRACT

The integration of artificial intelligence in English for Specific Purposes (ESP) accelerates the production of academic and professional texts, but also raises issues of linguistic ownership and professional voice authenticity. This study aims to analyze the effect of AI use intensity on linguistic ownership displacement and its impact on professional voice vulnerability. This study used a quantitative approach with an explanatory survey design. Data were collected through questionnaires distributed to 120 ESP students and Lecturers, then analyzed using descriptive statistics, correlation tests, linear regression, and mediation analysis. The results show that high AI use increases linguistic ownership displacement, which subsequently strengthens professional voice vulnerability in terms of originality, authority, and language confidence. This study confirms the importance of critical AI literacy in ESP learning.

INTRODUCTION

The development of artificial intelligence (AI) has changed English education practices globally. In the context of English for Specific Purposes (ESP), AI is not only used to check grammar, but also to assist with academic text drafting, professional communication simulations, translation, technical vocabulary development, and automated feedback. This change makes ESP learning faster, more personalized, and based on the needs of the field of work. However, AI integration also presents new issues related to language authenticity, author control, and the position of the user's professional voice. Ramelan et al. (2025) show that AI research in education is constantly evolving, with a strong focus on adaptive learning, personalization, and data-driven curriculum design. This condition confirms that AI has become an important part of the modern learning ecosystem.

In the Indonesian context, the need for ESP is getting stronger because higher and vocational education is required to produce graduates who are able to communicate in English according to their professional fields. ESP is used in business, technology, education, tourism, healthcare, maritime, and vocational. Anugerahwati et al. (2024) emphasized that ESP learning in vocational schools still needs to be directed more contextually to suit the needs of professional communication. Asrifan et al. (2025) also showed that the integration of AI in bilingual ESP curricula can improve student engagement, adaptive learning, and technical language competence. However, the use of AI still requires pedagogical direction so as not to replace the role of humans in the process of thinking, choosing meaning, and building professional identity.

The main problem that arises in the AI-based ESP ecosystem is linguistic ownership displacement. This concept refers to a condition when language users no longer fully feel they own the generated English text or expressions because they rely too much on AI systems. Gandana et al. (2025) found that English language ownership in Indonesian students is closely related to identity, exposure to various languages, and confidence as a language user. The findings are important because AI can amplify expression skills, but it can also make users feel that their word choices, sentence styles, and argument structure are not entirely up to them. In ESP, this condition becomes more sensitive because language serves not only as a means of communication, but also as a representation of professional competence.

In addition to linguistic ownership, the use of AI is also related to professional voice vulnerability. A professional voice reflects the way a person displays their professional identity, expertise, authority, and attitude through language. In ESP learning, students are not only required to write correct English, but also be able to show a clear professional position according to their discipline or field of work. Al-Akbar (2025) reports that ChatGPT helps EFL students improve their writing fluency, grammar, vocabulary, and idea development. However, the study also noted difficulties in maintaining a personal writing style as well as assessing the accuracy of AI suggestions. This means that AI can improve the surface quality of text, but it does not necessarily maintain the authenticity of the user's voice, style, and authority as a potential professional.

Previous studies have extensively discussed the benefits of AI in English language learning. Mahapatra (2024) found that ChatGPT can serve as a formative feedback tool that helps ESL students improve their academic writing skills. Rukiati et al. (2023) explain that AI in English learning can provide personalized exercise, quick feedback, and self-paced learning support. Rusmiyanto et al. (2023) also stated that AI plays a role in developing communication skills of English language learners. These findings show that AI has strong pedagogical potential. However, most studies still place AI as a tool for skill improvement, rather than as a factor that can change users' relationship with the language they produce.

Some recent research is starting to highlight the critical side of using AI in English language learning. Pasaribu et al. (2025) found that EFL students are concerned about ethical issues of using ChatGPT, such as plagiarism, academic integrity, over-dependence, data bias, and unclear guidelines for use. Artiana and Fakhurriana (2024) also show that EFL students view ChatGPT as useful in academic writing, but still require control, evaluation, and critical awareness. At the policy level, Chan (2023) emphasizes the need for an AI education framework that includes pedagogical, governance, and operational aspects. Thus, the issue of AI in language learning is not enough to be discussed in terms of effectiveness, but also needs to be studied in terms of language ownership, user agency, and the vulnerability of professional identities.

Based on this study, there are research gaps that need to be filled. First, previous studies have more discussed student perception, the benefits of AI, academic ethics, and the effectiveness of AI on writing skills. Second, research on ESP still more often emphasizes curriculum needs, teaching material design, and technical competency improvement, rather than the risk of shifting linguistic ownership. Third, there have not been many studies that have examined the relationship between the intensity of AI use, linguistic ownership displacement, and professional voice vulnerability in an integrated manner in the ESP ecosystem. Barrot (2023) has indeed highlighted the potential and limitations of ChatGPT in second language writing, but studies on how AI affects the sense of language ownership and vulnerability of professional voices are still limited, especially in the context of ESP in Indonesia.

This study aims to analyze the influence of the intensity of AI use on linguistic ownership displacement and its impact on professional voice vulnerability in the English for Specific Purposes ecosystem. Specifically, the study examined whether the high use of AI can increase shifts in linguistic ownership, and whether such shifts reinforce the vulnerability of users' professional voices. This research makes a theoretical contribution by expanding the study of ESP, linguistic identity, and AI-mediated language learning through more specific intervariable relationship models. Practically, this research can serve as a basis for Lecturers, curriculum developers, and educational institutions to design critical AI literacy, AI usage guidelines, and ESP learning strategies that maintain originality, linguistic agency, and students' professional voices.

LITERATURE REVIEW

Artificial Intelligence Mediated English for Specific Purposes Ecosystems

English for Specific Purposes (ESP) is an approach to learning English that is designed based on the academic, vocational, and professional needs of students. ESP focuses not only on the mastery of general grammar, but also on the ability to use English in the context of specific fields, such as business, education, technology, health, tourism, maritime, and other work environments. In the latest developments, the ESP ecosystem has undergone major changes due to the presence of artificial intelligence (AI). AI is used to help with text drafting, translation, grammar checking, automated feedback, technical vocabulary development, and professional communication simulations. Asrifan et al. (2025) show that the integration of AI in bilingual ESP can support mastery of grammar, vocabulary, reading comprehension, and technical communication. However, the study also confirms the risk of bias, translation errors, and over-reliance on automated feedback.

AI in English learning cannot be understood as just a technical tool. AI has formed a new learning ecosystem that involves students, Lecturers, curriculum, digital platforms, professional needs, and ethical rules for the use of technology. Ramelan et al. (2025) explain that the transformation of AI-based learning is increasingly leading to adaptive learning, material personalization, and data-driven curriculum design. Rukiati et al. (2023) also state that AI in English learning benefits through flexible practice, quick feedback, and self-paced learning support. However, these benefits still need to be controlled so that AI does not replace the thought process, language decision-making, and the formation of language user identities. As such, AI-mediated ESP needs to be seen as a complex pedagogical space, not just the use of technology in language classes.

ESP, Professional Communication, and Language Identity Formation

ESP has a strong relationship with professional communication because its goal is to prepare learners to be able to use English in certain work and academic situations. In the context of higher and vocational education, ESP plays a role in building career readiness, technical communication skills, and confidence in using English according to the professional field. Anugerahwati et al. (2024) found that the development of English for Business Purposes media for vocational students can help increase learning engagement and the relevance of English to work needs. These findings reinforce the view that ESP texts are not only a product of language, but also representations of students' field knowledge, professional position, and academic identity.

In an AI-mediated ESP ecosystem, language professional functions are becoming increasingly complex. Students can use AI to compile reports, business emails, proposals, presentations, academic articles, or other technical documents. The use of AI can improve accuracy and efficiency, but it can also reduce student involvement in the process of choosing diction, organizing arguments, determining language styles, and building professional positions. Sari and Sari (2025) found that ESP teachers see AI as a useful tool for learning personalization, skill development, and learning planning. However, they also highlight the risk

of dependence, reduced human interaction, limited infrastructure, and ethical issues. This suggests that AI can reinforce ESP learning if used critically, but it can weaken professional competence if used as a substitute for the learning process.

Linguistic Ownership in English Learning

Linguistic ownership refers to the extent to which users feel they own, control, and have the right to use English as part of their communicative identity. In the context of English as an International Language, English is no longer only owned by native speakers, but also by users from various cultural and professional backgrounds. Gandana et al. (2025) explained that Indonesian students' sense of ownership of the English language is related to their preference for a variety of English, learning experience, and confidence as a language user. In ESP, linguistic ownership is important because students not only need to be able to use English correctly, but also feel entitled to use the language as an academic and professional means of expression.

The problem arises when the use of AI is too dominant in the production of English texts. When students rely on AI to translate, compose, refine, or polish texts, the final result may look neater and more academic, but it doesn't fully reflect the student's language choices and thinking. This condition can be referred to as linguistic ownership displacement, which is a shift in the sense of ownership of language from users to AI systems. This shift does not mean that AI is always negative. AI can help users learn. However, if users only accept AI results without critical evaluation, then control over language, style, and meaning can be weakened. In ESP, this condition becomes important because English is used to demonstrate professional competence, not just to fulfill academic tasks.

AI-Assisted Writing and Language Ownership Shift

Research on AI-assisted writing shows that AI can help improve the quality of student writing. Mahapatra (2024) found that ChatGPT can serve as a formative feedback tool that helps ESL students improve their academic writing skills. Al-Akbar (2025) also found that EFL students view ChatGPT as a useful tool for improving writing fluency, grammar, vocabulary, idea development, clarity, and coherence. The findings show that AI has real benefits in supporting English writing learning.

However, the benefits of AI in writing need to be looked at critically. Barrot (2023) emphasized that ChatGPT has potential in learning to write second languages, but also has limitations related to accuracy, clarity, academic integrity, and pedagogical implications. In the context of ESP, this risk is Heightened because student-generated texts often contain technical terms, professional registers, and specific communication purposes. If students receive the AI output without checking for the accuracy of the meaning, then the text can look linguistically correct, but not professionally accurate. At this point, AI is no longer just helping, but is starting to take over the linguistic decision-making process of students.

The shift in language ownership is also influenced by academic experience and learning maturity levels. Pratiwi and Rakhmasari (2025) found that first-year students and final year students use Google Translate and ChatGPT differently according to their academic needs and learning experience. Less experienced college students are more likely to use AI to generate language, while more experienced college students are more likely to use AI to improve or evaluate writing. This shows that linguistic ownership displacement does not occur only due to the use of AI, but because of patterns of use of AI that are uncritical, excessive, and replace the role of users.

Professional Voice Vulnerability in AI-Based ESP

Professional voice is a way for a person to display their expertise, identity, authority, and professional attitude through language. In ESP, professional voice is very important because students need to sound credible according to their field. Business students must be able to convey ideas persuasively. Maritime students must be able to communicate procedurally and accurately. Technology students must be able to explain concepts clearly. Education students must be able to compose a reflective and pedagogical language. Therefore, the success of ESP is not measured by grammatical accuracy, but also by the ability of students to present a professional voice in text and communication.

Professional voice vulnerability arises when a user's professional voice becomes vulnerable, weakened, or less visible due to being overly influenced by AI. The resulting text can look fluent and academic, but the writer's thinking style, argumentative position, beliefs, and professional characteristics are not obvious. Al-Akbar (2025) shows that students feel helped by ChatGPT, but still face challenges in maintaining their personal writing style and assessing the accuracy of AI suggestions. This shows that AI can improve the quality of the surface of writing, but it does not necessarily maintain the authenticity of the author's voice. In ESP, the loss of a professional voice can have an impact on students' low self-confidence when it comes to communicating without the help of AI.

Professional voice vulnerability is also related to language confidence. When college students rely too often on AI to produce texts that are perceived to be better, they can begin to doubt their own language abilities. They feel that personal writing is less academic, less professional, or less feasible than AI-generated text. As a result, students can lose the courage to convey ideas in their own language. In the context of English language education, this condition needs to be considered because the purpose of learning is not only to produce correct texts, but also to form language users who are independent, confident, and able to articulate their professional identity.

Ethics, Academic Integrity, and Critical AI Literacy

The use of AI in English learning also raises ethical issues and academic integrity. Pasaribu et al. (2025) found that EFL students are concerned about the issues of plagiarism, academic integrity, excessive dependence, data bias, and unclear guidelines for the use of ChatGPT. This issue is directly related to linguistic ownership displacement because the line between technological

assistance and work ownership is becoming increasingly blurred. If students use AI to generate entire texts, then their language and ideas are weakened. Conversely, if AI is used to provide input, improve drafts, or aid reflection, then language ownership can still be maintained.

Chan (2023) offers an AI education policy framework that includes pedagogical, governance, and operational dimensions. This framework is relevant for ESP because the use of AI requires clear learning objectives, ethical rules, data protection, proper assessment design, and training for Lecturerss and students. In this study, critical AI literacy is seen as a practical necessity that can help students understand the functions of AI, evaluate AI output, and maintain their professional voice. Critical AI literacy does not mean rejecting AI, but using AI consciously, selectively, and responsibly.

The Role of Lecturerss and Pedagogical Control in AI-Mediated ESP

Lecturerss have an important role in preventing the use of AI that replaces the learning process. Sari and Sari (2025) show that ESP teachers are aware of the potential of AI, but also face obstacles in the form of lack of training, infrastructure limitations, and ethical uncertainty. Therefore, the integration of AI in ESP requires clear pedagogical controls. Lecturerss need to design assignments that require students to show the thought process, not just the final result. For example, students may be asked to collect initial drafts, draft writings, AI prompts, revisions, and reflections on the use of AI. In this way, Lecturerss can assess whether AI is used as a tool or as a substitute for authorship.

Wahyunengsih (2025) found that knowledge and application of AI-based learning platforms by English teachers in the context of STEM are still at the intermediate level. These findings show that the success of AI-mediated ESP depends not only on students' access to technology, but also on Lecturerss' readiness to direct, evaluate, and limit the use of AI. Without proper direction, students can use AI only to complete assignments, not to improve professional language and voice competencies. Thus, the role of Lecturerss remains important to maintain student linguistic agency in an increasingly digitized learning ecosystem.

Study Synthesis and Conceptual Direction of Research

Based on the literature review, there are three main patterns in previous research. First, AI has been proven to have pedagogical potential in English language learning, especially to support writing, feedback, vocabulary development, and personalized learning (Al-Akbar, 2025; Mahapatra, 2024; Rukiati et al., 2023). Second, AI in ESP can help technical communication and curriculum innovation, but it also has risks in the form of dependencies, context errors, low human interaction, and ethical issues (Asrifan et al., 2025; Sari & Sari, 2025). Third, studies on language ownership, professional voices, and user identities in AI-mediated ESP are still limited, especially in the Indonesian context (Gandana et al., 2025; Pasaribu et al., 2025).

Thus, linguistic ownership displacement and professional voice vulnerability can be positioned as two important constructs in the AI-based ESP

ecosystem. Linguistic ownership displacement describes a condition when students lose some control and sense of ownership over the English they produce due to the excessive use of AI. Professional voice vulnerability describes the conditions when students' professional identity, authority, thinking style, and confidence become vulnerable due to the dominance of AI-generated language. This study relates the intensity of AI use, linguistic ownership displacement, and professional voice vulnerability in one quantitative conceptual model. This model is expected to expand the study of ESP, AI-mediated language learning, and the development of critical AI literacy in English language education.

Research Hypothesis

Based on the theoretical foundation and previous research studies, this study uses four main hypotheses. The hypothesis was developed to test the relationship between the intensity of AI use, linguistic ownership displacement, and professional voice vulnerability in the AI-mediated ESP ecosystem.

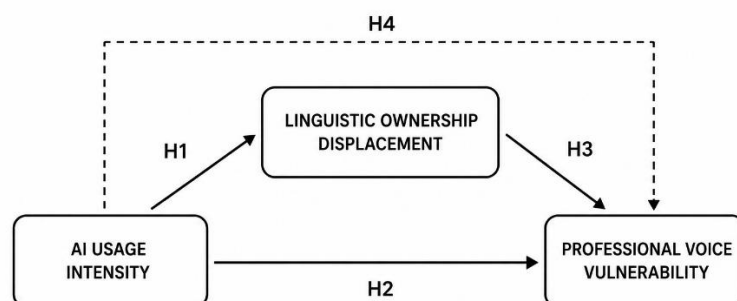
H1: The intensity of the use of AI has a positive effect on linguistic ownership displacement in learning English for Specific Purposes.

H2: The intensity of the use of AI has a positive effect on professional voice vulnerability in learning English for Specific Purposes.

H3: Linguistic ownership displacement has a positive effect on professional voice vulnerability in learning English for Specific Purposes.

H4: Linguistic ownership displacement mediates the effect of the intensity of AI use on professional voice vulnerability in learning English for Specific Purposes.

Figure 1. Research Framework



METHODOLOGY

Types of Research

This study uses a quantitative approach with an explanatory survey design. This approach was used to test the influence of the intensity of AI use on linguistic ownership displacement and professional voice vulnerability in English for Specific Purposes (ESP) learning. This design is appropriate because the research focuses on the relationships between variables measured through numerical data (Al-Akbar, 2025; Sari & Sari, 2025).

Population and Sample

The research population is students and Lecturers involved in ESP learning. The sample totals 120 respondents who were selected using purposive

sampling techniques. The respondents' criteria were that they had used AI, such as ChatGPT, Google Translate, Grammarly, or similar applications in learning, writing, translation, or drafting ESP texts.

Research Instruments

The research instrument was in the form of a closed questionnaire with a Likert scale of 1 to 5. The questionnaire included three variables, namely the intensity of AI use, linguistic ownership displacement, and professional voice vulnerability. Instrument items were developed from the study of AI in English language learning, language possession, and AI-based academic writing (Asrifan et al., 2025; Gandana et al., 2025; Mahapatra, 2024). Validity is tested through content validity and item-total correlation, while reliability is tested using Cronbach's Alpha with a minimum value of 0.70.

Data Collection Procedure

The research was carried out through several stages, namely the preparation of indicators, the validation of instruments by experts, questionnaire trials, revisions of instruments, the distribution of questionnaires to 120 respondents, the examination of data completeness, coding, and tabulation of data. The data used were respondents' answers to statements related to the use of AI in ESP text learning and production.

Data Analysis Techniques

Data were analyzed using descriptive and inferential statistics. Descriptive statistics are used to describe the characteristics of respondents and the tendencies of each variable. The hypothesis test was carried out using linear regression, while the mediation effect was tested using the PROCESS Macro Model 4. The analysis was conducted with the help of IBM SPSS Statistics and Microsoft Excel. This technique is used to determine the direct and indirect relationship between the intensity of AI use, linguistic ownership displacement, and professional voice vulnerability.

RESEARCH RESULT

Respondent Characteristics

This study involved 120 respondents consisting of students and Lecturersss involved in learning English for Specific Purposes (ESP). Respondents were selected because they had experience using AI in learning, writing, translating, or drafting ESP texts. Based on academic status, respondents consisted of 96 students or 80.0% and 24 Lecturersss or 20.0%. Based on the experience of using AI, most respondents have used AI for 6 to 12 months as many as 47 respondents or 39.2%.

Table 1. Respondent Characteristics

Features	Category	Frequency	Percentage
Respondent Stratus	Students	96	80,0%
	Lecturers	24	20,0%
Experience using AI	< 6 months	32	26,6%

Most used AI applications	6 to 12 months	47	39,2%
	> 12 months	41	34,2%
	ChatGPT	58	48,3%
	Google Translate	31	25,8%
	Grammarly	19	15,9%
	DeepL and more	12	10,0%

Description of the Use of AI in ESP Learning

The survey results show that AI has been actively used in ESP learning. The highest use is found in the preparation of academic or professional text drafts, improvement of sentence structure, translation of technical terms, development of writing ideas, and grammar checks. These findings show that AI is not only used as a language aid, but also part of the text production process in ESP learning.

Table 2. Forms of AI Use in ESP Learning

Forms of AI Use	High Frequency	Percentage
Drafting academic/professional texts	72	60,0%
Improve sentence structure	67	55,8%
Translating technical terms	64	53,3%
Develop writing ideas	59	49,2%
Checking grammar	56	46,7%

Descriptive Statistical Results of Research Variables

The results of descriptive statistics show that the intensity of AI use is in the high category with an average value of 4.12. The *linguistic ownership displacement* variable obtained an average score of 3.78, while *professional voice vulnerability* obtained an average score of 3.69. These three values show a high tendency in each research variable.

Table 3. Descriptive Statistics of Research Variables

Variable	N	Mean	SD	Category
Intensity of AI Use	120	4,12	0,61	High
Linguistic Ownership Displacement	120	3,78	0,66	High
Professional Voice Vulnerability	120	3,69	0,70	High

Findings of Dominant Indicators

In the *linguistic ownership displacement* variable, the highest indicator was the statement that AI-assisted text often felt more dominant than personal language style. In the *professional voice vulnerability* variable, the indicator with the highest score was the statement that respondents felt less confident when they had to write ESP texts without the help of AI.

Table 4. Dominant Indicators in Research Variables

Variable	Dominant Indicators	Mean
Linguistic Ownership Displacement	AI-assisted text feels more dominant than personal language style	3,91
Professional Voice Vulnerability	Lack of confidence when writing ESP texts without AI help	3,84

Intensity of AI Use	Frequently uses AI to compile and refine ESP text	4,18
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Instrument Validity and Reliability Test Results

The validity test shows that all items on the three variables have an item-total correlation value above 0.30. Thus, all items are declared valid. Reliability tests using Cronbach's Alpha showed that each variable had a value above 0.70, so the instrument was declared reliable.

Table 5. Instrument Validity and Reliability Test Results

Variable	Number of Items	Rentang Item-Total Correlation	Cronbach's Alpha	Remarks
Intensity of AI Use	6	0.462 to 0.731	0,842	Reliable
Linguistic Ownership Displacement	7	0.438 to 0.768	0,871	Reliable
Professional Voice Vulnerability	7	0.451 to 0.792	0,884	Reliable

Results of Correlation Between Variables

The results of the Pearson correlation test showed that all variables had a positive and significant relationship. The intensity of AI use had a positive relationship with *linguistic ownership displacement* with a value of $r = 0.612$ and $p < 0.001$. The intensity of AI use also had a positive relationship with *professional voice vulnerability* with a value of $r = 0.548$ and $p < 0.001$. In addition, *linguistic ownership displacement* has a positive relationship with *professional voice vulnerability* with a value of $r = 0.671$ and $p < 0.001$.

Table 6. Results of Intervariable Correlation Test

Variable Relationships	r	Sig.	Remarks
Intensity of AI Use → Linguistic Ownership Displacement	0,612	0,000	Positive and significant
Intensity of AI Use → Professional Voice Vulnerability	0,548	0,000	Positive and significant
Linguistic Ownership Displacement → Professional Voice Vulnerability	0,671	0,000	Positive and significant

Linear Regression Test Results

The results of linear regression showed that the intensity of AI use had a positive and significant effect on *linguistic ownership displacement*. A β value of 0.612 with a significance of 0.000 indicates that an increase in the intensity of AI use is followed by an increase in Linguistic ownership displacement. An R^2 value of 0.375 indicates that 37.5% of *linguistic ownership displacement variations* can be explained by the intensity of AI use.

Table 7. Regression of the Intensity of AI Use on Linguistic Ownership Displacement

Model	Independent Variables	Dependent Variable	b	t	Sig.	R ²
1	Intensity of AI Use	Linguistic Ownership Displacement	0,612	8,419	0,000	0,375

The results of the next regression showed that the intensity of AI use had a positive and significant effect on *professional voice vulnerability*. A β value of 0.548 with a significance of 0.000 indicates that the high use of AI is related to the increased vulnerability of professional voices. An R² value of 0.300 indicates that 30.0% variation in *professional voice vulnerability* can be explained by the intensity of AI use.

Table 8. Regression of the Intensity of AI Use on Professional Voice Vulnerability

Model	Independent Variables	Dependent Variable	b	t	Sig.	R ²
2	Intensity of AI Use	Professional Voice Vulnerability	0,548	7,134	0,000	0,300

The regression results also show that *linguistic ownership displacement* has a positive and significant effect on *professional voice vulnerability*. A β value of 0.671 with a significance of 0.000 indicates that shifts in linguistic possession are an important factor explaining the vulnerability of professional voices. An R² value of 0.450 indicates that 45.0% of variations in *professional voice vulnerability* can be explained by *linguistic ownership displacement*.

Tabel 9. Regresi Linguistic Ownership Displacement terhadap Professional Voice Vulnerability

Model	Independent Variables	Dependent Variable	b	t	Sig.	R ²
3	Linguistic Ownership Displacement	Professional Voice Vulnerability	0,671	9,824	0,000	0,450

Mediation Test Results

Mediation tests using PROCESS Macro Model 4 showed that *linguistic ownership displacement* mediated the relationship between the intensity of AI use and *professional voice vulnerability*. The direct effect of the intensity of AI use on *professional voice vulnerability* remained significant after the mediator was incorporated into the model. The indirect influence through *linguistic ownership displacement* is also significant because the 95% bootstrapping confidence interval is in the range of 0.191 to 0.487 and does not go beyond zero.

Table 10. Mediation Test Results

Influence Path	Coefficient	Sig.	95% BootstrappingCI	Remarks
AI Use → Linguistic Ownership Displacement	0,612	0,000	-	Significant
Linguistic Ownership Displacement → Professional Voice Vulnerability	0,536	0,000	-	Significant
AI Use → Professional Voice Vulnerability	0,220	0,011	-	Significant
Indirect Effect	0,328	-	0.191 to 0.487	Significant

Summary of Hypothesis Testing Results

Based on the results of regression and mediation tests, all hypotheses in this study were declared accepted. These results show that a research model that links the intensity of AI use, *linguistic ownership displacement*, and *professional voice vulnerability* is supported by empirical data.

Table 11. Hypothesis Testing Summary

Hypothesis	Hypothesis Statement	Results
H1	The intensity of AI use has a positive effect on linguistic ownership displacement	Accepted
H2	The intensity of the use of AI has a positive effect on professional voice vulnerability	Accepted
H3	Linguistic ownership displacement berpengaruh positif terhadap professional voice vulnerability	Accepted
H4	Linguistic ownership displacement mediates the effect of the intensity of AI use on professional voice vulnerability	Accepted

Key Research Findings

The study's main findings show that AI has been used extensively in ESP learning, particularly for drafting texts, translating technical terms, improving sentence structure, and developing writing ideas. The high use of AI has been shown to be associated with increasing *linguistic ownership displacement*. This can be seen from the tendency of respondents who feel that AI-assisted texts are more dominant than their personal language styles.

The next finding shows that *professional voice vulnerability* is also in the high category. This vulnerability mainly appears in aspects of confidence, originality, language authority, and professional style. Respondents tend to feel less confident when it comes to drafting ESP texts without the help of AI. These results show that AI not only affects the technical quality of writing, but also relates to respondents' perception of their professional abilities and identity as English language users.

Overall, the results show that *linguistic ownership displacement* is an important mechanism that explains the relationship between the intensity of AI use and *professional voice vulnerability*. In other words, the higher the use of AI, the more likely it is that there will be a shift in language ownership. The shift then increases the vulnerability of respondents' professional voices in ESP learning.

Concise Differences with Previous Research

The results of this study are in line with previous research that showed that AI can help with English language learning, especially in writing, grammar, vocabulary, and idea development. However, this study provides more specific findings. While previous research has highlighted more of the benefits of AI as a learning tool, this study suggests that the high use of AI is also related to the risk of shifting linguistic ownership and the vulnerability of professional voices. The main difference lies in the focus of results. Previous research has tended to place AI as a language performance supporter, while the results of this study suggest that AI can also affect the sense of ownership, language control, and professional confidence of ESP users.

DISCUSSION

The results of the study show that the use of AI in English for Specific Purposes (ESP) learning is already at a high level. AI is most widely used for drafting academic or professional texts, improving sentence structure, translating technical terms, developing writing ideas, and checking grammar. These findings confirm that AI no longer serves as an additional tool, but has entered the language production stage. In the context of ESP, this condition is important because the texts created by students not only contain a language structure, but also contain academic identity, field authority, and professional readiness. These findings are in line with Asrifan et al. (2025) who stated that AI can support mastery of technical vocabulary, grammar, and professional communication in ESP. However, the results of this study show that the high intensity of AI use also brings new consequences that have not been discussed much in previous research.

The first findings show that the intensity of AI use has a positive effect on linguistic ownership displacement. This means that the higher the use of AI in ESP text learning and production, the more likely users are to feel that the generated language is not entirely derived from them. Theoretically, these findings are related to the concept of linguistic ownership, which is the sense of belonging, controlling, and using English as part of the identity of language users. Gandana et al. (2025) explain that English language ownership is related to self-confidence, learning experience, and self-legitimacy as an English user. This research expands on the concept by showing that language ownership can shift when AI is too dominant in the text drafting process.

The main novelty of this research lies in the introduction of the concept of linguistic ownership displacement as a pedagogical impact of AI-mediated ESP. Most previous studies have discussed AI as a tool to improve writing skills, improve grammar, or support independent learning (Al-Akbar, 2025; Mahapatra, 2024; Rukiati et al., 2023). This research offers a new perspective that

the success of AI is not enough measured from neater or more accurate text. The success of using AI must also be seen from whether the user still has control over the choice of words, the structure of the argument, the style of expression, and the professional meaning that they want to convey. Thus, this study shifts the focus of AI studies from just language performance to language ownership.

The second finding shows that the intensity of AI use has a positive effect on professional voice vulnerability. This means that the high use of AI can increase the vulnerability of the professional voice of ESP users. Professional voice in this study is understood as the ability of users to display professional identity, authority, expertise, and beliefs through English. When students use AI too often to shape text, they can produce writing that looks academic, but lacks a reflection of their own thinking style and professional position. Al-Akbar (2025) shows that ChatGPT helps EFL students in fluent writing, grammar, vocabulary, and idea development. However, the research also shows that there are challenges in maintaining personal style. The findings of this study make it clear that these challenges are not only a matter of writing style, but also concern the vulnerability of professional identity.

The third finding shows that linguistic ownership displacement has a positive effect on professional voice vulnerability. This relationship is the most important finding because it explains that the vulnerability of professional voices does not arise simply because AI is used, but because users begin to lose a sense of ownership of the language they produce. When AI text feels more dominant than personal language styles, users tend to feel less confident when it comes to writing without AI help. In ESP, this situation is risky because students are not only required to understand English, but also must be able to present themselves as prospective professionals in their fields. Barrot (2023) explains that ChatGPT has potential in learning to write second languages, but it also has limitations in pedagogical aspects, accuracy, and academic integrity. This research deepens this argument by showing that the limitations of AI also touch on aspects of language ownership and professional authority.

The fourth finding shows that linguistic ownership displacement mediates the influence of the intensity of AI use on professional voice vulnerability. These results are the main theoretical contribution of the research. This mediation model explains that the use of AI does not directly undermine the voice of professionals in simple terms. The process occurs through a shift in linguistic ownership. In other words, the high intensity of using AI increases the likelihood that users will feel that their text is being shaped more by AI. These feelings then undermine originality, authority, personal style, and professional confidence. This is the main novelty of this article, which is to build a conceptual and empirical model: AI use intensity → linguistic ownership displacement → professional voice vulnerability.

This novelty distinguishes this study from previous studies. Mahapatra's research (2024) emphasizes the benefits of ChatGPT as a formative feedback tool to improve academic writing. Research by Rukiati et al. (2023) explains the benefits of AI in providing flexible training and quick feedback. Research by Asrifan et al. (2025) shows that AI can help bilingual learning ESP. Meanwhile,

this study shows a more critical side, namely that intensive use of AI can change the user's relationship with the language they produce. Thus, the contribution of this research does not deny the benefits of AI, but adds a new dimension that AI needs to be evaluated from the aspects of agency, language ownership, and professional voice.

Practically, the results of this study show that AI in ESP learning must be used in a directed manner. AI can help students understand technical terms, improve sentence structure, and develop ideas. However, Lecturers need to ensure that students remain the main decision-makers in the writing process. If AI is used from the idea stage to the finalization of the text without critical reflection, students run the risk of becoming passive users. This is in line with Sari and Sari (2025) who affirm that ESP teachers see AI as a useful tool, but are also concerned about dependence, reduced human interaction, and ethical issues. Therefore, AI-based ESP learning needs to integrate reflection activities, self-revision, and explanation of linguistic reasons for text changes.

The factor that strengthens the findings of this study is the dominant form of AI use in productive activities. AI is not only used to check grammar, but also to draft drafts, develop ideas, and shape academic or professional texts. This type of use has a greater impact on language ownership because AI helps build content, structure, and delivery style. If AI is only used as a final correction tool, the risk of shifting language ownership may be less. However, when AI is used from the beginning of the writing process, users can lose space to build arguments, choose diction, and display their professional voice. This explains why all hypotheses in this study are accepted.

The findings of this study also show that there is an urgent need for critical AI literacy in ESP. Critical AI literacy is not only the ability to use AI applications, but the ability to understand the limits of AI, evaluate AI outcomes, differentiate aid and takeover, and maintain the identity of the user's language. Pasaribu et al. (2025) showed that EFL students have concerns about plagiarism, academic integrity, over-dependence, data bias, and unclear guidelines for the use of ChatGPT. In the context of this study, critical AI literacy is needed to prevent students from passively accepting AI outcomes. Students need to be trained to ask: does this text still reflect my ideas, my style, and my professional position?

In terms of learning policy, the results of this study support the importance of institutional guidelines for the use of AI in ESP. Chan (2023) stated that the integration of AI in education needs to include pedagogical, governance, and operational dimensions. In the context of ESP, the pedagogical dimension can be realized through process-based tasks, such as the collection of initial drafts, revision notes, AI prompts, and reflections on the use of AI. The governance dimension can be realized through rules that differentiate the use of AI for ideas, correction, translation, paraphrasing, or full-text production. The operational dimension can be realized through the training of Lecturers and students. Without such a framework, AI risks being used unwisely and reinforcing user dependency.

This research has several limitations. First, the research uses a quantitative survey design, so that the data obtained is based on respondents' perceptions.

This study has not directly observed the writing process of students when using AI. Second, the research sample totaled 120 respondents and was selected using purposive sampling techniques, so the generalization of results needs to be done carefully. Third, this study has not distinguished the types of use of AI in more detail, for example AI for language correction, translation, idea development, paraphrasing, or the preparation of full texts. Fourth, this study has not tested critical AI literacy as a moderator variable that may be able to weaken the impact of AI use on the vulnerability of professional voices.

Based on these limitations, follow-up research needs to use a mixed method design so that quantitative results can be deepened through interviews, observations, and analysis of text documents. Subsequent research can also compare students with different levels of English proficiency. This comparison is important to know whether students with higher language competencies have stronger linguistic control when using AI. In addition, further research can test the role of critical AI literacy, academic integrity awareness, and Lecturers mediation as moderator variables. Future research can also develop an AI-based ESP learning model that emphasizes the principle of "AI as support, not substitute".

Overall, this research makes a new contribution to the development of English education studies, especially ESP and AI-mediated language learning. The theoretical contribution of this research lies in the development of the concept of linguistic ownership displacement as a mechanism that explains the relationship between the intensity of AI use and professional voice vulnerability. Its practical contribution lies in the emphasis that AI-based ESP learning must take care of three main things, namely language ownership, linguistic agency, and the professional voice of the user. Thus, this study expands the discussion of AI in English education from the issue of technological effectiveness to the issue of identity, authority, and sustainability of professional competence.

CONCLUSIONS AND RECOMMENDATIONS

This study concludes that the intensity of AI use in English for Specific Purposes (ESP) learning has a positive effect on linguistic ownership displacement and professional voice vulnerability. AI supports students and lecturers in drafting texts, improving sentence structure, translating technical terms, and developing writing ideas. However, excessive dependence on AI can shift linguistic ownership because users may feel that AI-assisted texts are more dominant than their personal language style. This shift increases professional voice vulnerability, especially in originality, authority, language style, and confidence in using English. These findings confirm that AI in ESP does not only influence the technical quality of writing, but also affects users' relationship with language, academic identity, and professional voice.

Based on these findings, ESP learning should integrate critical AI literacy so that students can use AI as a supporting tool, not as a substitute for thinking, authorship, and linguistic ownership. Lecturers are advised to design process-based assignments, such as initial drafts, revision notes, AI prompts, AI-use reflection, and explanations for accepting or rejecting AI suggestions.

Educational institutions also need to develop ethical guidelines that clearly distinguish the use of AI for correction, translation, idea development, paraphrasing, and full-text production. Future studies are recommended to use mixed methods through interviews, observation, and text analysis to explain the process of linguistic ownership displacement more deeply.

ADVANCED RESEARCH

This study is limited to a quantitative survey involving 120 ESP students and lecturers, so the findings mainly describe respondents' perceptions of AI use, linguistic ownership displacement, and professional voice vulnerability. Further research should involve larger and more diverse samples from different ESP fields, such as business, technology, health, tourism, maritime, and education. Future studies may also compare students with different levels of English proficiency to identify whether linguistic competence influences users' ability to control AI-assisted texts.

Further research is also recommended to examine critical AI literacy, academic integrity awareness, and lecturer mediation as moderating variables. These variables may reduce the negative impact of AI use on linguistic ownership and professional voice. In addition, future researchers can conduct experimental or longitudinal studies to observe how students' writing, confidence, and professional voice develop before and after using AI in ESP learning. This direction will strengthen the theoretical and practical understanding of AI-mediated ESP ecosystems.

ACKNOWLEDGMENT

The authors would like to express their sincere gratitude to the students and lecturers who participated in this study. Appreciation is also extended to the institutions and academic colleagues who provided support, feedback, and assistance during the research process. Their contribution helped the authors complete this study on linguistic ownership displacement and professional voice vulnerability in AI-mediated English for Specific Purposes ecosystems.

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