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A critical examination of how AI-driven writing tools have impacted the content, style, and organization of foreign language undergraduates' writing: A survey of lecturers

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Abstract

This paper explores the impact of AI-powered writing tools on enhancing the writing structure, content, and style of foreign language undergraduates. The study included seven university lecturers (LEC1-7) in foreign languages, and gathered data through a series of semi-structured interviews. The views of the participating lecturers form the basis for the conclusions reached in this study, in comparison with the findings of previous studies, and was analysed using thematic analysis tools. The results indicated that the frequency of usage of the AI-powered writing-tools differed across the seven participating lecturers. Across all participants, Grammarly is the most commonly used tool, used by lecturers to conduct grammar and spelling checks on undergraduate assignments. This consistency in the use of Grammarly signifies the general respect and acknowledgment of the tool as a useful resource for improving the quality of undergraduates' written assignments. Besides being a remarkable aid to undergraduates in the revision, editing, and paraphrasing of their papers and improving sentence coherence, QuillBot also plays a major role among the lecturers. The presence of ChatGPT in the most popular applications suggests its effectiveness in generating ideas and enhancing the logical structure of writing. Lecturers have seen how AI-powered writing-tools promote the development of ideas. However, some concerns also surface, such as the potential for dependence on these machines, which could hinder independent thought and worsen writing skills. On the other hand, the LEC3 was a neutral platform, taking into account the upsides and downsides of these tools. Also, LEC3 depicted the possibility of undergraduate students facing the concern of being overly dependent on technology, thereby inadvertently hindering the development of their reasoning and problem-solving skills. It is thus concluded that these AI-tools have the capacity to transform the writing skills of the students.

Keywords: AI, content, organisation, style, tools, writing



Public Interest Statement

AI-powered writing-tools are able to enhance the proficiency of foreign language undergraduates in terms of enhancing their writing structure, content, and style. However, the usage of the AI-powered writing-tools differed across the participating lecturers in this Study. The main concerns appear from the fact that some people might fully depend on such Tools.

1. Introduction

The use of artificial intelligence (AI) writing-tools is on the rise in the foreign language teaching. These resources consist of writing help, grammar checkers, and computer systems that can readily compose written works like essays without requiring human assistance. They save lecturers and undergraduates time and effort because they are user-friendly and efficient. In addition, AI writing-tools have been designed with material for FL undergraduates whose language skills are limited (Tran, 2023). Students can get immediate evaluation and assistance by using these tools, which will help them write faster and better. The purpose of AI writing-tools is writing analysis and feedback on some aspects of written texts, for example, syntax, vocabulary, grammar, and content. Machine-learning systems incorporates this kind of feedback by comparing the produced text to a large database of properly and incorrectly written outcomes. On the other hand, FL undergraduates could instantly see and correct their writing errors due to the immediate, personalized comments. Furthermore, through giving the undergraduates advice about how to enhance their writing skills, this real-time feedback will make them aware of the foundation of what good writing entails.

Content and style of the writing are major elements which greatly influence the readers' while they are reading (Lee et al. 2022). The heart of any written piece is its content. It is the medium through which the author is expressing his/her ideas, messages and feelings. It is the text's content or "what." Its function might be educative, persuasive, convincing or thinking-stimulating, but high-quality content is always captivating and unique, meaningful, relevant, and instructive (Beresova, 2024). By contrast, organization is the "how" or structure of the writing. It is the building of the information together logically and systematically that provides the reader with a thread, which takes him or her through the entire work. Proper organization makes the reader understand the information better, it strengthens the argument, and it makes the story more appealing to the reader. Proper organization of writing leads to a smooth flow of what is being said, which ultimately enhances the impact and clarity of the work (Awada, et al., 2020). Hence, paying attention to only the syntax and grammatical mistakes reduces the understanding of the critical role that structure and content play in writing. Along with selecting the appropriate words, the communication success relies also on the meaning and structure of those words. In other words, it is crucial for FL lecturers to investigate which artificial intelligence writing-tools are available and in which way they handle the other significant writing components.

In this paper, the focus is to explore how various AI-powered writing-tools affect undergraduates' writing in terms of structure, pattern, style and content. The lecturers are considered the most suitable stakeholders in the study as they are in the position to access written essays of their students. They also understand the importance of integration of certain AI-powered tools in enhancing the students' writing in terms of structure, pattern, style and substance. The paper is significant as it moves beyond the dominant narrative of focusing on AI-tools for writing in general. The attention on structure, style, pattern and substance is aimed at looking beyond the ability to use the tools to facilitate writing in FL, but explored deeper insights on the quality of the written contents of the students, in terms of style, substance and pattern.

2. Literature Review

2.1. AI-Driven Tools and Pedagogical Concerns in Teaching Writing in FL Education

The rapid advancement of digital instruments and the improving guidelines for writing in this time of evolving technology are inseparable. Haleem et al. (2022) argue that this shift is due to a greater application of electronic gadgets in education. These tools enable students to engage in more creative and engaging learning activities beyond the scope of traditional learning methods. Electronic writing-tools, combined with online learning and seminars, are some of the ways that technology is redefining learning and reading (Gayed et al., 2022). Collaborative editing, timely suggestions, checking AIU grades, and alerting for plagiarism are some of the features of these systems. Moreover, these qualities can upgrade undergraduates' writing abilities as they help stimulate creative aspects as well as spontaneous deductive thinking (Huang and Tan, 2023).

As evidenced by Bowen and Thomas (2020) research, AI-powered platforms and applications that serve as personalised writing assistants that adapt to each student's strengths and areas for development can help undergraduates refine their writing skills. Hence, lecturers gain more power to comply with the requirements of their undergraduates and to boost their undergraduates' learning outcomes (Dale and Viethen, 2021; Wulandari et al., 2024; Ismail and Jabril, 2024; Chang et al., 2021). Different studies have documented an additional layer of technologically advanced learning creativity by examining a practical method of teaching writing through smartphones. The process of writing helps undergraduates gain self-confidence and improve their writing skills. Moreover, the digital platforms provide them opportunities for commenting and peer evaluation, thereby bringing communities together and sharing knowledge (Lee et al., 2022; Bruhn, 20). However, the digitalization of writing education, as the articles by Lee et al. (2022) indicated, is not without problems. Faculty members are fraught with problems concerning digital equality, privacy, and distraction, as presented by Marzuki et al. (2023).

2.2. The Significance of AI-Driven Writing-tools in Enhancing Undergraduate Writing Proficiency

In the area of use of AI-powered writing applications and the influence on undergraduate proficiency in writing is a rapidly expanding area of research. Some researchers consider positive results; others focus on possible negative consequences. Academic researchers observe that artificial intelligence-based writing-tools such as "Grammarly, QuillBot, Stealthwriter, Bard, Wordtune, and Jenni significantly improve undergraduates' writing abilities" (Johinke et al., 2023, p.68). These programmes employ sophisticated algorithms that detect common errors and recommend some changes to improve clarity and style. Liu et al. (2021) showed that QuillBot was a tool that improved undergraduate students' rephrasing ability that has been considered crucial skill in enhancing the writing proficiency of FL students. However, Wordtune is more focused on the improvement and optimisation of the textual tone and style compared to other tools. Lam and Moorhouse (2022) carried out research that showed the efficacy of WordTune in helping undergraduates identify their writing flaws and, thus, promote self-evaluation and learning. This software platform, however, not only corrects grammar but also the style elements of written communication. Jenni is an AI-based writing assistant who makes predictions and suggestions to allow the writer to be more productive in crafting messages, paperwork, papers, and other documents. The creation of GPT-3 by OpenAI marks a crucial turning point in the evolution of

language model technology.

Through the implementation of AI systems such as GPT-3 and its successor, GPT-4, which recommend the choice of the next word or paragraph, writers can be able to create compositions that mimic the way humans write (Liu et al., 2021). Machine learning algorithms perform this task, utilising vast datasets of training sequences to generate predictions. Moreover, researchers are currently investigating how these devices impact various aspects of writing. The results submitted by Gayed et al. (2022) offered a summary which indicated that AI-powered systems “AI KAKU,” a widely used writing assistant for foreign languages from Japan, may damage the cognitive features of foreign language learners while helping them create written foreign language content. Beyond that, the AI technologies have the power to expedite literature reviews, which entails sifting through loads of partly disorganised data (meta).

Despite the aforementioned importance of the AI-tools, some studies concluded that there were some drawbacks. Undergraduates may not only unintentionally rely too much on AI-writing-tools. However, the critical viewpoint, as Hosseini et al. (2023) mentioned, is that the adoption of such tools may lead to a significant reduction in critical thinking skills if students gain excessive dependence on them. The lecturers also show concern about the fact that the tools provide a possibility for the undergraduates to not only improve their language but also generate ideas, which may become a source of distraction from originality and creative thinking (Johinke et al., 2023).

2.3. Study Questions

In connection with the significant factors identified in the literature, the following research questions were developed:

- a) How can FL lecturers enhance their undergraduates’ writing skills, especially in areas such as structure and content? What kinds of AI-writing-tools do they utilize for this purpose?
- b) In what ways do FL lecturers think that undergraduates’ use of AI-writing-tools affects both the substance and structure of their writing?

These two research questions form the basis for the data collection and analysis. Some reasons directly motivate the need to explore these two study questions. As previous studies have focused mainly on writing proficiency, there is a need to look into how these AI-tools improve the structure, style and content of writings by the undergraduates.

3. Methodology

3.1. Study Design

The researchers used qualitative research methods to answer the questions raised in the paper. The qualitative method is one of the examples where researchers can enumerate useful indicators by depicting the key factors after completing the process with no restrictions. Researchers may conduct interviews or observe a variety of circumstances during the research process in order to emerge with themes for subsequent analysis. This strategy helps me understand public opinion and emotions towards research. These researchers drilled into several types of AI writing-tools for foreign language lecturers to assess their efficacy and the extent to which these tools will affect the quality of the content and structure of words produced by undergraduates.

3.2. Study Sampling

We utilised an expert sampling strategy in our study by including university lecturers who teach foreign languages as our stakeholders. We choose the target population first to ensure that the study participants actively use AI-powered tools for various types of writing. The main considerations at the recruitment stage were their convenient availability, ability to attend the classes, and outstanding knowledge of subject matter such as writing theses and convincing essays, as well as their ability to effectively employ the artificial intelligence software for writing in the classes. Besides detecting grammatical errors, providing paraphrases, and identifying plagiarism, AI systems can even assist undergraduate students with content creation and can give recommendations on how to make their writing easier to follow and clearer. This made sure that the lecturers' experiences included more than just theoretical knowledge; they also covered real-life uses of artificial intelligence (AI) tools in actual classroom situations. Through this approach, a total of seven (7) FL lecturers were engaged in the semi-structured interviews.

3.3. Data Collection and Instrument

Interviews were the primary means of data collection for this paper. The researchers were able to collect insightful qualitative data from FL lecturers using this method. The interviews were anchored on the experiences of the lecturers in using AI writing-tools and how they think these resources affect their undergraduates' writing proficiency, particularly in terms of organisation and substance. After creating an interview process based on FL lecturers' perceptions of the effects of artificially intelligent writing-tools on undergraduates' writing performance (in terms of both substance and organisation), we proceeded to conduct interviews with all of the participants. Their accessibility and availability were taken into account while scheduling these. Everyone involved in the research was informed of its goals, the interview procedure, and the stringent privacy policies prior to any interviews.

3.4. Data Analysis Procedure

The approach of analysis for the qualitative data was a thematic analysis wherein we developed different themes based on the recurring patterns in the data collected from the study participants. The researchers meticulously perused the collected data on numerous occasions. Establishing tentative classifications to categorise associated phrases and expressions according to the study's requirements constituted the second stage. After conducting an exhaustive examination of all the scripts, we proceeded to classify each one. We also contrasted the findings in that phase to detect any recurring themes or correlations. Through the process of grouping these indicators, we ultimately constructed a number of themes.

4. Results and Discussions

Table 1: Summary of the Demographic Information

Participants	Gender	Age	Highest Academic Qualification	Years of Teaching Experience	Years of Using AI-tools for Writing
LEC1	Male	42	PhD	7	More than 2 years

LEC2	Male	49	PhD	9	Not less than a year
LEC3	Female	38	Masters	4	More than 2 years
LEC4	Male	52	Post Doctorate	11	More than two years
LEC5	Female	47	PhD	8	1 years plus
LEC6	Female	49	PhD	10	More than 2 years
LEC7	Female	55	Post doctorate	16	More than 3 years

Table 1 shows the demographic data of the seven respondents who participated in the semi-structured interviews of the study. The participants were indeed lecturers with varying dimensions concerning gender, age, highest academic qualification, years of teaching experience, and the duration of employment of AI Tools for Writing. This variety is in fact essential, for it offers the main chance to get acquainted with the effects of AI-powered writing-tools from the perspective of different demographic groups. As a gender-inclusive activity, the number of male and female participants is equally represented. This provides a detailed grasp of the way gender integrates into the use of AI-taught writing. The age of participants in this paper ranged between 38 and 55 years old, further confirming the findings from both experienced technologists and pedagogical methods. In addition, the highest educational qualification changes between the participants who possess a doctorate degree, a master’s degree, and a post-doctoral qualification. Such a wide distribution of educational levels may shape the attitude of participants towards introducing AI-tools to foreign language writing instruction. The duration of teaching experience among the participants may also vary from 4 to 16 years, and the fact that experience covers both early-career lecturers and seasoned lecturers whose experience with technology integration in the classroom may shape their perceptions. Eventually, the period of using AI-tools for writing ranged from a little over a year to more than three years in the respondents, meaning that confidence and ability to use these tools are different in various participants. Considering these demographic features is vital as they allow a general understanding of diverse perspectives.

4.1.Results

The results of the study are presented in different sub-sections, which are mainly directed at providing comprehensive response to the study questions.

4.1.1. Typology of AI-Tools for Writing Used by the Participating Lecturers

The first research question mainly focused at unveiling the versions of AI-powered writing-tools the lecturers use frequently.

Table 2: AI-Powered Tools the Participants Use, Frequency and Purpose

Participants	AI-tools	Frequency of Usage	Purpose of use
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LEC1	ChatGPT	Rarely	Generating ideas and improving writing coherence
	QuillBoat	Frequently	Proofreading and editing Enables undergraduates to organise and generate ideas in preparation for writing.
	Bard	Rarely	Enhancing creativity in writing
	Grammarly	Frequently	Grammar and spelling checking
LEC2	Quillboat	Frequently	Proofreading and editing Teaching paraphrasing abilities and enhancing sentence coherence.
	Jenni AI	Frequently	Providing writing suggestions and assistance
	WordTune	Rarely	Sentence rewriting and paraphrasing
	ChatGPT	Frequently	Generating ideas and improving writing coherence By simulating undergraduate conversations, this tool improves undergraduates' conversational writing abilities.
	Grammarly	Frequently	Grammar and spelling checking
LEC3	ChatGPT	Rarely	Generating ideas and improving writing coherence
	QuillBoat	Frequently	Proofreading and editing
	WordTune	Frequently	Sentence rewriting and paraphrasing
	Grammarly	Frequently	Grammar and spelling checking
LEC4	QuillBoat	Frequently	Proofreading and editing
	Essay Writer	Rarely	Essay composition and structure improvement
	ChatGPT	Rarely	Generating ideas and improving writing coherence
	Jenni AI	Rarely	Providing writing suggestions and assistance
	Grammarly	Frequently	Grammar and spelling checking
	Bard	Rarely	Enhancing creativity in writing
LEC5	WordTune	Frequently	Sentence rewriting and paraphrasing
	Quillboat	Frequently	Proofreading and editing
	ChatGPT	Frequently	Generating ideas and improving writing coherence
	Essay Writer	Rarely	Essay composition and structure improvement
	Jenni AI	Rarely	Providing writing suggestions and assistance
	Grammarly	Frequently	Grammar and spelling checking
LEC6	Quillboat	Frequently	Proofreading and editing
	Grammarly	Frequently	Grammar and spelling checking
	ChatGPT	Rarely	Generating ideas and improving writing coherence
	Essay Writer	Rarely	Essay composition and structure improvement
	Jenni AI	Rarely	Providing writing suggestions and assistance
LEC7	Quillboat	Frequently	Proofreading and editing

	Grammarly	Frequently	Grammar and spelling checking
	ChatGPT	Frequently	Generating ideas and improving writing coherence
	Bard	Rarely	Enhancing creativity in writing
	Essay Writer	Rarely	Essay composition and structure improvement
	Jenni AI	Frequently	Providing writing suggestions and assistance

The table provides a holistic outlook of the AI-tools used by the LECs, their frequency of usage, and the goals of incorporating them into teaching writing. Across all participants, Grammarly is the most commonly used tool, used by lecturers to conduct grammar and spelling checks on undergraduate assignments. This consistency in the use of Grammarly signifies the general respect and acknowledgment of the tool as a useful resource for improving the quality of undergraduates’ written assignments. Besides being a remarkable aid to undergraduates in the revision, editing, and paraphrasing of their papers and improving sentence coherence, QuillBot also plays a major role among the lecturers. In addition, ChatGPT’s inclusion in popular tools highlights its importance in generating ideas and improving writing logic, along with its simulation of undergraduate conversations, which help undergraduates develop the skills of conversational writing.

Apart from it, tools like Jenni AI and Essay Writers that are used occasionally play an important role in providing writing suggestions and assistance and improving essay composition and structure. This suggests that the lecturer is knowledgeable enough to use a variety of AI-tools to address the particular problems that are unique to writing instruction. However, many lecturers, for example, simply neglect Bard or Wordtune or think that these tools are not suitable for writing classes. The research revealed that lecturers used AI instruments to improve writing skills, and there was a detailed approach that covered different aspects of writing, which are grammar, cohesion, creativity, and structure, to ensure that students with different foreign language backgrounds and preferences were catered for.

Additionally, the AI tool’s viability in instructing writing depends on the regularity of use in relation to the different aspects of writing that it covers. For instance, Grammarly and QuillBot, which are used to check grammar, rewrite sentences, and paraphrase, are most popular, while the less known are Essay Writer and WordTune, which are for tasks such as writing an essay and rewording sentences. This consequently implies the strategic choices of the lecturers in their utilisation of multiple tools based on their efficiency in collaborating with the objectives, which fosters writing skill development in undergraduates.

4.1.2. Participants Views on the Impacts of the Tools

It is specifically important to resubmit that another objective of this paper was to explore specific ways the AI-powered writing-tools help the undergraduates to enhance their writing proficiency, mainly in the areas of content, substance and style. Across the collected data, theme of using AI-tools to develop idea and brainstorm and theme of ensuring accuracy, consistency and factual flow of written texts, were primarily highlighted from the interview scripts.

4.1.2.1. Development of Ideas and Brainstorming

The seven interviewed lecturers (LEC1-7) shared varied perspectives when asked about the impacts of AI-tools for enhancing the writing skills of the university undergraduates in the foreign language. Some

of the lecturers clearly support the use of these tools to enhance the writing skills of the students, when some of them shared their fear over the possible dependency and reliance on these tools, which may deny them the privilege to critically think critically and solve intellectually driven problems in writing. For instance, LEC7 clearly shared her views on how these tools have helped students in enhancing their writing skills. The lecturer stated thus:

“These AI-tools for writing have impacted my students extensively, mainly in the development of creative capacity in imbedding style and substance in their writing. Based on my observation, my students have used these tools to overcome writers’ block and enhance their writing creativity.”

Additionally, LEC1 highlighted a less generalised view on AI writing-tools. He also agreed with LEC7’s suggestion that this could lead to the development of undergraduates’ creative thinking mindset. However, the potential impersonality and standardisation of the ideas emerging from these technologies captured her attention. In her view, while such technologies can be advantageous in specific situations, they might not stimulate deep or thought-provoking thinking over a subject in the long term. The lecturer stated thus:

“My own perceptions of AI writing-tools reflect the different ways they influence undergraduates’ critical thinking. On one hand, they could provide a support system when a student has challenges coming up with ideas. In any event, the notions generated by the device may appear too general or simply lacking in individualization.”

From a different point of view, LEC3 and LEC5 raise an alternative point of view in which the use of AI writing-tools causes the decline of students’ capabilities to invent new ideas. The suggestion was that students might tend to rely excessively on the comments provided by the programme, limiting their disposition to be creative as a result. LEC5 provided the following:

“Some researchers have noted that AI writing-tools might be the main cause of the lack of creativity among undergraduates. This may be a result of the tool prompting people to depend on the suggestions provided, which in the long run stops them from thinking creatively. Most of the time, it can be beneficial for undergraduate students to face problems with generating ideas and solving problems because these are the abilities that can be well learned only through deliberate practice.”

Next, LEC2 and LEC6 emphasised several positive traits of AI writing-tools, effectively reducing the burden of students’ thoughts through generating ideas. The lecturers highlighted the fact that these tools can propose links, words, or phrases that reshape an original idea, giving undergraduates the opportunity to express their views in multiple different ways. In addition, he states that AI writing-tools can demonstrate the very process of developing and substantiating a phenomenon or argument, a trait that he found essential in academic writing. LEC3 stated thus:

“AI writing-tools have shown the right influence on undergraduates’ capacity to develop an idea even further. Many of these tools are likely to provide an alternative, more effective way to express a certain message in words or phrases that are to the point. Furthermore, digital resources will show the development and substantiation of the concept with evidence or arguments, which is very important in academic writing.”

Overall, the above presented assessment suggests a variety of opinions on the role of AI writing-tools in the creative development and original ideas of undergraduates, emphasizing both the benefits as well as the risks associated. Some lecturers considered these technologies as invaluable tools for overcoming creative problems and stimulating the imagination, while others warned about excessive reliance and the possibility of inhibiting the exercise of analytical thinking and the conjure of fresh ideas. The core message was that AI technologies had to be implemented in a comprehensive way, which enables both the new ways of thinking and autonomous thinking.

4.1.2.2. Impacts on Writing Structure

In terms of structure, the researchers identified several notable sub-themes; one of them is “Consistency and Intellectual Progression,” which investigates the impact of AI writing-tools on undergraduates’ ability to create coherent and logically reasoned claims. Furthermore, the concentration is on whether or not the use of transitional keywords and ideas leads undergraduates to master the use of transitional language features to link ideas better in their writings, hence improving the flow of their sentences.

The views from the seven lecturers allowed for a systematic explanation of how AI writing-tools enhance undergraduates’ writing skills. Each lecturer provided an invaluable angle on one particular point of these tools and their effect on the process of writing. Initially, the lecturer discussed how AI writing-tools assist in the development of a concise and logical progression of message flow. In class, LEC3 saw these tools as useful for improving language, removing repetitions, and increasing consistency. Consequently, the students’ self-efficacy in writing was later boosted.

The views of LEC3 are summarised in the following statement:

“The main purpose of these tools is to assist in structuring the piece by providing some wording suggestions, removing repetitions, and improving the overall system of thinking. When are more likely to be confident in their writing when they know that there is a tool in place to help them.”

Moreover, LEC2 and LEC7 contributed an unbiased review analysing both the positive and negative sides of these tools. LEC7 presented AI as the dominant element responsible for structuring ideas, arguments, and closing logical gaps. Whereas LEC2 also showed some uncertainties concerning a very strong dependency on these tools, the lecturer stated thus:

“These tools are greatly useful for undergraduates in forming their views, setting up their arguments, and finding out the logical flaws. Nevertheless, it is not uncommon that a person gets

addicted to such instruments, which makes them forget about the development of skills required to write well. These skills include problem-solving and critical thinking.”

Indeed, LEC4 demonstrated that these strategies were powerful tools in the process of arranging arguments, removing logical flaws, and conveying the message. The fact that students could immediately amend and learn from their errors contributed a lot to their understanding of the right writing practices, which consequently resulted in their gradual mastery of the skills required for writing. LEC4 stated thus:

“The major role of AI writing-tools is producing arguments, finding their logical inconsistencies, and maintaining communication efficiency. The real-time feedback e-learning platforms give to students assists them in overcoming and profiting from their initial mistakes, which makes them learn how to write properly.”

LEC6 focused on AI technologies as personal writing aids for the same subject. The lecturer stressed their usefulness in furnishing grammatical options, enhancing vocabulary usage, and ensuring the logical coherence of arguments. The LEC6 believes that AI writing-tools have made a significant difference in making the writing skills of undergraduates stronger, especially by improving logical coherence and smoothness in written compositions. The lecturer stated thus:

“AI writing-tools were beneficial in helping undergraduates enhance their writing skills, especially through smooth and cohesive argument development. These technologies successfully became personalised writing lecturers, providing grammatical suggestions, improving choice of words, and ensuring a logical flow of arguments.”

The unanimous agreement of the seven lecturers on the effect of AI writing-tools on the transition phrases developed by the undergraduates while writing is certain and is evident in their statements. All lecturers emphasise that these AI-tools undoubtedly enhance writing quality. LEC1 may have a positive impression on undergraduates’ writing and how AI writing-tools contribute towards the incorporation of transitional ideas and terms. The lecturer portrayed these tools as educational, comparing them to an engaging lesson that elucidated the use of transitional devices in text.

The following is a section of the interview summary:

“I have found that students have become more adept at using transition words and phrases after AI writing-tools have been integrated into our programme. They now have a better understanding of how transitional parts help to improve the cohesion and structure of the text.”

In addition, LEC5 and LEC7 recognised that AI writing-tools assisted in using transitional aspects better. The authors made mention of more concise sentences and better linkages within the paragraphs. LEC7 differed from LEC1 by looking at both sides of the issue, i.e., the possible demerits of the technologies of AI. They warned that students might lose their own writing styles and inventiveness due

to excessive dependence. The following is a transcript of the interview.

“In fact, the incorporation of AI writing applications has led to a marked enhancement in undergraduates’ use of transition words and phrases. The sentences in their writing are more coherent, characterised by more lucid connections between the concepts, making their understanding of cohesiveness in writing higher. Nevertheless, it is essential to note that some students may become overly dependent on these resources, which in turn could hinder the development of their own creativity and original writing strategies. The use of all technologies must be approached in a balanced manner and in a continuous direction.”

LEC2 and LEC6 further highlighted the possibility of the consequences AI writing-tools might have on undergraduate writing. The people involved in a dialogue on the application of technologies gave real-time triggers, making the transition from undergraduates’ thinking into the learning process natural. This gave rise to a greater degree of orderliness and clarity. AI writing-tools, according to LEC5, serve only to facilitate active and timely learning.

4.2. Discussion of Findings

The main purpose of this paper is to inquire about the different types of AI writing-tools and their influence on the quality of undergraduate writing, with a focus on content and structure as experienced by FL lecturers. This study’s preliminary findings emphasise the wide range of AI devices FL professionals use, including but not limited to “Quilbot, Jenni AI, Chat-GPT, WordTune, Bard, Grammarly, and Essay Writer”. Through the use of a variety of AI methods by the FL lecturers, it is evident that they are inclined to employ AI technologies to strengthen students’ writing capabilities, suggesting a pattern of integrating technology into education. Liu et al. (2021) underline the need for multiple AI technology integrations in order to advance the teaching and learning experience. The research, however, indicated that access to combined AI technologies might provide students with an inclusive learning environment to improve their writing skills as English as a Foreign Language (EFL) undergraduates. Ouyang and his co-authors investigated the effects of AI on education, and their results coincide with our own study. Lecturers are turning to a wider range of AI-enabled technologies to foster better learning outcomes. Through this method, positive results have been achieved among students in their academic performance, particularly in writing.

The final outcome of the study included an assessment of the influence of AI writing-tools on the content and structure of foreign language writing. The fact that AI writing-tools proved their worth in the very different field of content creation, which conceptually represents ideas, just pays for them. Wong and Mak (2019) state that the linguistic and cultural backgrounds of students influence their second language (L2) writing. AI-powered writing-tools offer the benefit of quick feedback and suggestions on how to rearrange paragraphs and sentences so that undergraduates can learn to improve their text’s structure (Chang et al., 2021). There were seven lecturers who contributed to this paper (LEC1, LEC2, LEC3, LEC4, LEC5, LEC6, and LEC7). All of them think that AI writing-tools improve the writing skills of undergraduates and make it easier to establish connections between thoughts and arguments.

The study by Miranty and Widiati (2021) that concluded that AI-tools could substantially increase the structure of L2 writing is consistent with the results. Consequently, the risks should be acknowledged.

Then the discussion shifted to the standpoints of lecturers on the impact of AI writing-tools on the structural dimensions of writing. The positive effect of these tools on the readability of undergraduate writing as well as the instruction of students on how to organize their ideas and reasoning was acknowledged by all seven lectures (LEC1, LEC2, LEC3, LEC4, LEC5, LEC6, and LEC7). The respondents arrived at a unanimous agreement about the instrument's performance in providing more logical language, pinpointing concept inconsistencies, and dealing with the structuring of ideas. However, LEC3 presented an unbiased analysis, showing the positive outcomes and negative aspects of such measures. LEC3 articulated doubts that the students may unwittingly rely too much on these technologies, thus compromising the development of their logical and problem-solving skills.

5. Conclusions

In this paper, we looked into the way AI-driven writing-tools can improve foreign language learners' language proficiency and accuracy in writing structure, content, and style. The research was carried out with seven university lecturers in foreign languages, and they were surveyed through a series of semi-structured interviews. The opinions of the experts who participate in the research are the basis for the conclusions of the study reported by comparing the results with those of previous studies. The findings showed that the habits of the use of AI-driven writing-tools varied among the seven participating lecturers. Spread across the participating lecturers, Grammarly is the most preferred tool that is used to conduct grammar and spell checks on undergraduate assignments. This congruence in the use of Grammarly shows the overall satisfaction and recognition of the tool as a helpful resource to enhance the quality of undergraduates' written assignments. Furthermore, besides easing the task of undergraduates in the editing, revising, and paraphrasing of their papers and having neat sentence cohesion, QuillBot plays a significant role among the lecturers. Besides, ChatGPT being a part of popular tools points to its use in idea generation and argument structure, as well as simulating freshman conversation, which is very beneficial in coaching undergraduates on how to speak in a very conversational manner.

The lecturers further dissent on the structural, content, and style dimensions of students writing, considering the AI-enabled chatbots. The lecturers appreciated the fact that AI-equipped devices can be used as a helpful mechanism for generating ideas. Additionally, some problems were highlighted, including the possibility of becoming overly dependent on such technology that may impede critical and creative thinking, yielding less opportunity to appraise the writing quality independently. The seven lecturers admitted that those technological tools have a constructive effect on the readability of an undergraduate paper and help organise an essay, keeping it focused in a sequential and logical order. The participants all shared the opinion that these tools proved effective in offering alternative expressions, identifying gaps in logic, and building essay structure. Despite this, LEC3 presented an impartial perspective by highlighting the benefits and concerns of these monitoring systems. However, LEC3 highlighted the possibility of students relying too much on these apps, which could inadvertently cause a decrease in the students' thinking and problem-solving skills. It is thus concluded that these AI-tools have the capacity to transform the writing skills of the students.

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The authors declare no conflict of interest.

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Authorship and Level of Contribution

All authors have participated substantially in the manuscript's conceptualization, drafting, revision, and final approval.

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