

Integrating Artificial Intelligence to Enhance Writing Proficiency: An Exploratory Study of EFL Students' and Instructors' Perspectives at a University Level in Lebanon

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Abstract

This paper focuses on scrutinizing the attitudes and opinions of English as Foreign Language (EFL) learners and instructors on the integration of artificial intelligence (AI) in a writing skills course at a university level in Lebanon. Specifically, it examines AI as a pedagogical tool that provides personalized learning, supplies consistency in evaluation, furnishes enhanced feedback quality by offering detailed, instant feedback on grammar, style, and structure, and helps students refine their writing more efficiently. Moreover, it furnishes instructors with adaptive activities and assessments, thus making writing more engaging and more effective. It also seeks to evaluate students' and instructors' perspectives on AI's vigorous role in learning. In this exploratory study, a mixed-method design and a convenient sampling of

participants were utilized. A total of 51 EFL students and 8 instructors at the American University of Science and Technology in Lebanon during the spring semester of 2023-2024 participated in the study. To describe and quantify their perceptions of integrating AI in a writing course, two online surveys, including closed-ended and open-ended questions, and four focus group discussions were administered. The overall qualitative and quantitative analyses of the data indicated that Lebanese EFL students and instructors have positive attitudes towards integrating AI in a writing course as a pedagogical tool and as a fundamental part of the teaching strategies in EFL higher education classes since it provides helpful resources and aids learners to write effectively and build their self-confidence. However, the findings also revealed the need to train instructors and students to use AI technologies, keeping in mind the indispensable role of the instructor in class and the need for students to unleash their creativity.

Keywords: Artificial Intelligence, English as a Foreign Language (EFL), writing skill, writing course, higher education

Introduction

Writing is a core skill that provides a gateway to literacy (Jensen, 1993), and it is regarded as a learning tool that enhances educational outcomes (Burgess & Ivanič, 2010; Wittek et al., 2015). Writing in English as a Foreign Language (EFL) is pivotal and multidimensional. Manchón (2011b) emphasized that writing serves as a tool for acquiring language skills, specifically learning lexis, understanding grammatical structures, acquiring comprehension of syntax, and engaging L2 writers in different writing processes.

Writing and thinking are interdependent at some level, and writing is a process of doing critical thinking and a product that transmits the results of critical thinking (Bean & Melzer, 2021). Research has shown that writing supports and deepens students' learning of concepts across the curriculum (Bangert-Drowns et al., 2004), and student writers can improve their learning because they must apply meta-cognitive and self-regulation activities in order to write well. Writing activities, whether sentences, paragraphs, or essays, have a strong influence on students' learning, and they can help them learn content at school and at university. Writing is action at an individual level, bringing together different social and cultural signs, symbols, and words into new senses of meaning (Wittek, 2013). A lot of educators and stakeholders have realized that the development of EFL learners' writing skills, proficiency, and fluency is a primary component of language acquisition since it promotes effective communication and successful articulation of thoughts and concepts (Al-Raimi et al., 2024).

Over the past few decades, the EFL classroom has undergone evident changes, transitioning from conventional methods to contemporary approaches, integrating various technological advancements (Al-Maashani & Mudhsh, 2023; Al-Yafaei & Mudhsh, 2023; Cancino & Panes, 2021). The rapid and groundbreaking advancements in technology and the Internet have led to the emergence of artificial intelligence (AI), a composite of technologies that enables computer systems to perform tasks that normally require human intelligence (Encyclopedia Britannica, 2021; Oxford Reference, 2021), and has had a significant impact on several aspects of human life, reshaping educational paradigms, particularly language education to match the nuanced needs of individual learners and educators (Chen et al., 2020; Cotton et al., 2023; Ali, 2020). Its integration in education is gaining ground due to its perceived potential in enhancing the learning experience (Ayoub et al., 2024) and in light of the fact that it is offering personalized instruction, immediate feedback, educational resources, automated assessments, and translation services (Mushthoza et al., 2023).

This adaptability and engagement are particularly vital in the context of writing courses. The utilization of AI tools in education has shown great promise for improving writing proficiency among English as EFL learners (Dong, 2023; Hwang & Nurtantyana, 2022; Yang, 2007; Woo et al., 2023). Thus, the integration of AI in writing is significant, as AI platforms, according to Godwin-Jones (2022) can significantly enrich the quality of learners' written essays by offering valuable support in language correction, grammar checking, and proofreading (Alharbi, 2023; Dale & Viethen, 2021). Thus, students identify and correct language errors and improve their manuscripts' overall clarity and coherence. Additionally, AI language models boost students' self-confidence when generating content and providing suggestions for better sentence structures and vocabulary choices (Marzuki et al., 2023).

However, there are apprehensions when such tools are utilized unsuitably or when over-reliance unfolds (Machicao, 2019). Thus, learners need to develop critical thinking skills to assess and evaluate the quality and reliability of the content generated by AI platforms and avoid over-reliance on its automated tools. Additionally, academic integrity and ethical considerations regarding data privacy and security must be addressed to protect scholars' intellectual property (Rodrigues, 2020; Lund & Wang, 2023; Ray, 2023). Moreover, the need for equitable technology distribution and training opportunities must be provided in order not to affect students' access to AI tools, especially in specific regional contexts (Malik et al., 2023). Thus, it is essential to balance the benefits and challenges to utilize the full potential of AI in writing education.

The purpose of this research paper is to assess students' and instructors' perceptions and attitudes towards artificial intelligence in higher

education, identify the recognized benefits and challenges accompanying AI integration in a writing course, and collect data for effective integration of AI in writing education. The researchers believe it is essential to explore these unique perceptions to present a more holistic view of AI's impact on essay writing. It is hoped that this study will provide insights to educators and curriculum developers for integrating AI into writing courses.

Statement of the Problem

Essay writing constitutes a problem for many foreign language students worldwide. Bacha (2002) claimed that many L1 Arabic writers of English encounter problems in developing their writing skills in university English composition courses. Their texts often lack lexical variety and subordination. They also rely on redundant content that does not add new information, and they exhibit difficulties in linking ideas in the text. Many teachers of English indicate that acquiring the writing skill seems to be more challenging than acquiring the other three language skills; listening, speaking, and reading (Zheng, 1999). In fact, reading is a passive and a receptive skill, whereas writing is an active and a productive one. Moreover, producing a coherent piece of writing is an extensive demand, especially in one's second language (Nunan, 1999) since it requires the mastery of not only the writing mechanics and grammatical rules of language but also the knowledge of word choice and the ability to organize and develop ideas, maintain cohesiveness and coherence, and deal with different genres and styles. As a result, a great deal of English as Foreign Language (EFL) learners at university levels in Lebanon often find writing to be a demanding task and tend to avoid it, and many EFL students in Lebanon fail to recognize how writing classes support their academic needs, leading to a lack of motivation to improve writing abilities (Bacha et al., 2012). Due to these difficulties, the use of AI tools to improve manual writing skills among learners is crucial since it creates a highly customized and individualized learning environment, allowing learners to advance at their own pace and pursue specific areas of improvement in their writing proficiency.

Literature Review

Artificial intelligence platforms are gaining ground in education, and they are encouraged to be used in educational institutions to help teachers and students in the teaching-learning process and to facilitate administrative tasks (European Commission, 2022). AI customizes educational content to meet the various needs and preferences of different learners, thereby promoting access to several levels and forms of education and leading to more effective learning outcomes (Alam et al., 2022).

The development of teaching writing in the present era of technological expansion cannot be isolated from the rapid advancement of digital tools. This shift is efficiently replacing traditional pen-and-paper methodologies with more creative and dynamic pedagogical experiences (Haleem et al., 2022). According to Garlinska et al. (2023), platforms such as virtual classrooms, online workshops, and cloud-based writing tools are modernizing the domain of writing instruction by providing real-time feedback, collaborative polishing, and plagiarism scrutiny, thus engaging learners in critical thinking and independent reasoning.

A plethora of burgeoning research on the impact of AI writing tools on students' writing ability is gaining ground. While numerous studies highlight positive outcomes, others indicate probable negative consequences. On the bright side, AI tools have been found to significantly improve students' handwriting writing skills by identifying common errors in grammar, punctuation, and syntax, and by offering suggestions to refine sentences for enhanced effectiveness and quality of writing products (Marzuki et al., 2023). In a study conducted by Dong (2023) on the use of AI-based pedagogy in teaching academic English writing in an EFL setting, it was found that AI improves students' writing proficiency by ensuring timely feedback, promoting active participation, and enhancing grading efficacy. This emphasizes the potential of AI in revolutionizing conventional teaching methods and revealing positive impacts for educators, learners, and educational technology stakeholders. Another study conducted by Mhlanga (2023) revealed that GPT-3, developed by OpenAI, depicts a considerable advancement in language model technology due to the fact that it generates coherent and contextually relevant sentences, stimulates creativity and critical thinking, and allows learners to experiment with different writing styles and ideas.

Despite these advantages, some studies have pointed out certain drawbacks. According to Marzuki et al. (2023), AI writing tools may unintentionally lead to over-reliance among students, and that could hamper their natural learning process and development of self-editing skills and lead to diminished critical thinking skills if students become overly dependent on them (Iskender, 2023). Additionally, despite the fact that AI acts as a virtual assistant for both teachers and students, it may also weaken the interactive relationship between them and lead to information setback in case of system failure. Besides, the content generated by AI might be imprecise or unreliable, which entails human intervention and oversight to evaluate content validity (Byles et al., 2023). Also, there are many concerns regarding AI grading since it may not furnish the same personalized and detailed feedback as a human instructor. In a study conducted by Farrokhnia et al. (2023), it was concluded that AI tools may not be as efficient in addressing higher-order writing

elements, namely argument structure and coherence. Such aspects require a profound understanding of the topic, logical thinking, and the ability to link ideas, which might be beyond the capability of AI tools. However, there is limited research on learners' and instructors' perspectives and practices in Lebanese universities regarding AI adoption. This study aims to inspect Lebanese EFL learners' and instructors' perceptions and use of AI tools for writing skill enhancement at the American University of Science and Technology. In light of these considerations, the present study brings up the following research questions:

1. What are the students' perceptions and attitudes towards utilizing AI tools for improving writing skills?
2. What are the instructors' attitudes and opinions towards utilizing AI tools in writing instruction?
3. What are the advantages and challenges associated with AI integration in a writing course?
4. What are the recommendations for effective AI integration in writing education?

Research Methodology

According to Halcomb (2018) and Creswell et al. (2011), mixed-method research allows researchers to utilize creativity in integrating quantitative and qualitative components to provide good answers to research questions. In this study, a mixed-methods research design was implemented. That is, both qualitative and quantitative data were collected and analyzed separately, but the findings were jointly interpreted. The data for this study were collected from two instructor/student online surveys, three focus group discussions for students, and one focus group for instructors.

Sample Selection

The work group for the present research was selected using a convenient sampling technique based on the students' and instructors' willingness to participate. A total of 51 EFL (English as a Foreign Language) students from various majors who enrolled in the Writing Skills course during the spring semester of the academic year 2023-2024, and 8 out of 10 instructors teaching the Writing Skills course at the American University of Science and Technology's Sidon, Zahle, and Ashrafiyeh branches participated in the study. The students' ages ranged between 18 and 44, with 33 female and 18 male students, while the instructors who participated are all females, and their ages ranged between 25 and 64. They filled out two online questionnaires consisting of closed and open-ended questions. Additionally, 15 out of the 51 students who responded to the online questionnaire willingly joined three focus groups, with 5 students in each group on May 27, 28, and 29, 2024. Also,

4 out of the 8 instructors who responded to the online questionnaire joined a focus group discussion on May 30, 2024. Each of these sessions lasted for 45 minutes via ZOOM meetings.

Instruments

Two comprehensive online questionnaires were designed to elicit the attitudes and opinions of the American University of Science and Technology (AUST) students enrolled in the Writing Skills course, as well as the instructors teaching the course, regarding the integration of AI into their curriculum. The students' questionnaire, utilized as a quantitative method in the study, included sections on demographic profiles, writing engagement, AI tool usage, perception and impact, benefits and concerns, and space for further comments and recommendations. Also, as part of the quantitative design, the instructors' questionnaire included sections on demographic information, writing instruction practices, use of AI in writing instruction, effectiveness and challenges of AI integration, impact on students' writing skills, considerations for effective AI integration, instructor's role and support needs, and additional insights.

The data from the two survey questionnaires were supported by 3 focus groups of students, each consisting of 5 members, and 1 focus group of instructors, consisting of 4 members. Focus groups were utilized as a qualitative method in this study. They are considered effective for data collection because they promote open discussions addressing the research topic (Bloomberg & Volpe, 2019). The three student focus groups, each comprising five (5) members, were invited to informal ZOOM meetings, each lasting 45 minutes. These discussions provided valuable insights into the students' experience with writing assignments in higher education, their opinions regarding the influence of AI tools on writing performance, their perceptions of the integration on the future of higher education, the type of support or resources they need to effectively utilize AI tools for writing proficiency enhancement, and their readiness for the integration into their writing courses. Statements were collected from questions posed to the fifteen members of the three focus groups and interpreted accordingly. The responses were then synthesized into outcomes. The participants included both females and males, with the majority (10/15 or 66.66 %) being females. Moreover, one focus group for instructors, including 4 members, was invited to an informal ZOOM meeting which lasted about 45 minutes. The discussion involved valuable insights into the instructors' methods of integrating writing instruction in higher education, their attitudes towards the utilization of AI-powered writing tools in teaching writing, their insights on the benefits, their perceptions of the challenges, the ethical implications that should be taken into consideration, the pedagogical impact of the integration, the influence of the

integration on students' interaction and engagement, the customization to suit individual needs, and their future expectations and recommendations. Responses were collected from questions addressed to the four members of the focus group and subsequently interpreted. The responses were then integrated into outcomes. The participants included females only (4/4 or 100%).

Data Analysis

For investigating EFL learners' and instructors' beliefs and experiences of integrating AI in a writing course, data generated from the qualitative and quantitative methods were calculated, encoded, tabulated, and jointly interpreted using descriptive statistics and statistical analysis.

After conducting the questionnaire data collection phase for both students and instructors, statistical analysis has been employed based on the analytical description that appears in the form of charts created instantaneously by Google Forms according to the respondents' input on each item.

Additionally, the qualitative data obtained from the focus group discussions for both students and instructors were transcribed and analyzed. The researchers attended to the participants' words and expressions, explored the experiences of each participant, and identified commonalities in the ways they made sense of the concept under study.

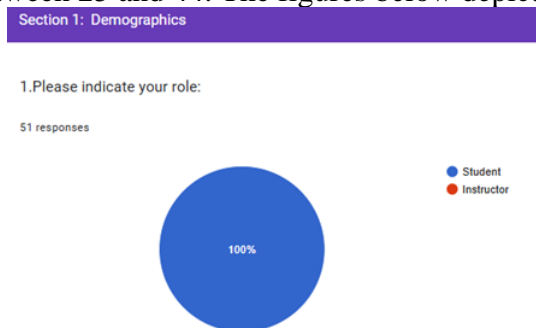
This methodology was quite appropriate since it provided an in-depth description and deeper understanding of university students' and instructors' beliefs about the integration of AI in a writing skills course. Furthermore, a conversation analytic approach was used for analysis.

Results

1. Students' Survey Analysis

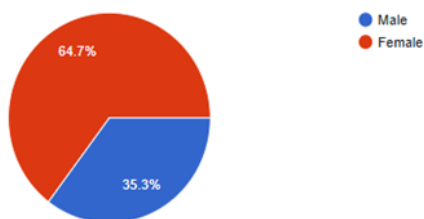
Section 1: Demographic Information

The respondents consist of 64.7 % females and 35.3 % males. The students' ages fall within the range of 18 to 44: 96.1% are between 18 and 24, and 0.9 % are between 25 and 44. The figures below depict the results.



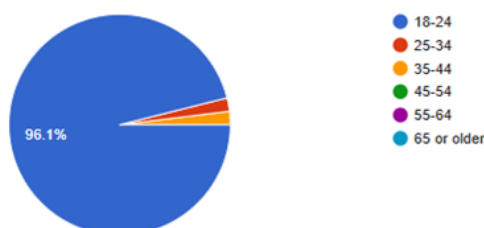
2. Gender:

51 responses



3. Age:

51 responses



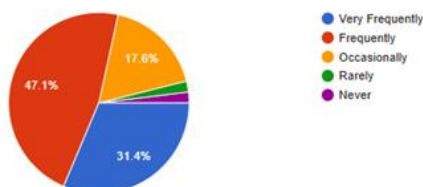
Section 2: Writing Engagement

When the students were asked to identify the frequency of their engagement in writing assignments as part of their higher education coursework, 31.4 % considered that they write very frequently, 47.1 % stated that they write frequently, and 17.6% claimed that they write occasionally. The remaining 3.9% admitted that they rarely or never write. The figure below illustrates the answers.

Section 2: Writing Engagement

4. How frequently do you engage in writing assignments as part of your higher education coursework?

51 responses



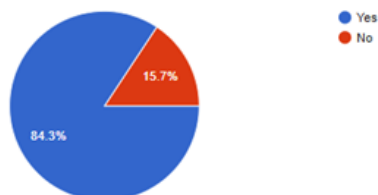
Section 3: AI Tool Usage

Subsequently, the students were asked whether they had used any AI-powered writing tools or platforms to help them in their writing assignments. 84.3% gave a positive response while 15.7% answered negatively. The figure below depicts the answers.

Section 3: AI Tool Usage

5. Have you ever used any AI-powered writing tools or platforms to help you in your writing assignments?

51 responses



Moreover, when they were asked to specify the AI writing tools or platforms they have used, they gave different answers, which varied between ChatGPT, Gemini, SnapAI, QuillBot, Copilot, and Grammarly (See Appendix A).

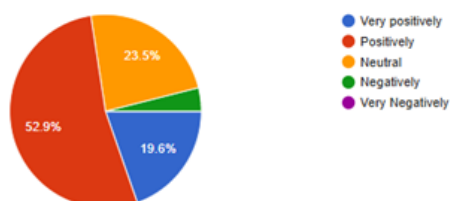
Section 4: Perception and Impact

When the respondents were asked about their views on the role of AI in improving their writing proficiency, most of their answers were affirmative; 19.6% believed that AI plays a very positive role, and 52.9% considered that it plays a positive role. 23.5% were neutral, and the remaining 4% considered that it plays a negative role. The figure below depicts the results.

Section 4: Perception and Impact

6. How do you perceive the role of AI in improving your writing proficiency?

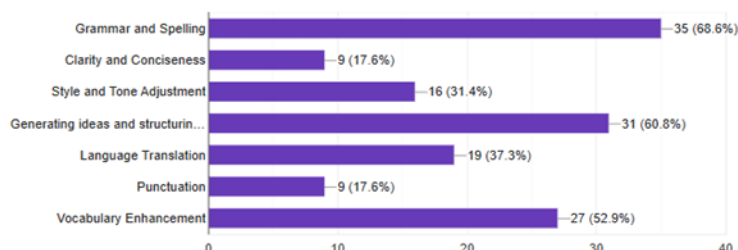
51 responses



Additionally, when they were asked about the specific aspects of writing that AI tools could improve, 68.6% believed that such tools could improve grammar and spelling, 17.6% considered that the tools add to clarity and conciseness, 31.4% admitted that such tools pertain to style and tone adjustment, 60.8% assumed that they help in generating ideas and structuring content, 37.3% stated that they could translate languages, 17.6% noted that they could help in providing correct punctuation, and 52.9% asserted that they could enhance vocabulary. The figure below illustrates the answer.

7. What specific aspects of writing do you think AI tools are most helpful for improving?

51 responses

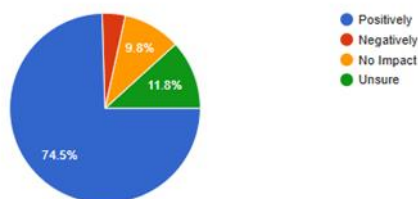


Besides, when the students were asked to supplement other aspects of writing that AI tools could improve, some believed that such tools help in idea generation, idea organization, and outlining (See appendix B).

The students were then asked about their views on how utilizing AI tools for writing assistance affects their learning experience. 74.5% declared that such utilization gives a positive impact, 9.8% believed that it provides no impact, 11.8% were unsure, and the remaining 3.9% considered that it has a negative impact. The figure below portrays the results.

8. How do you think using AI tools for writing assistance impacts your learning experience?

51 responses



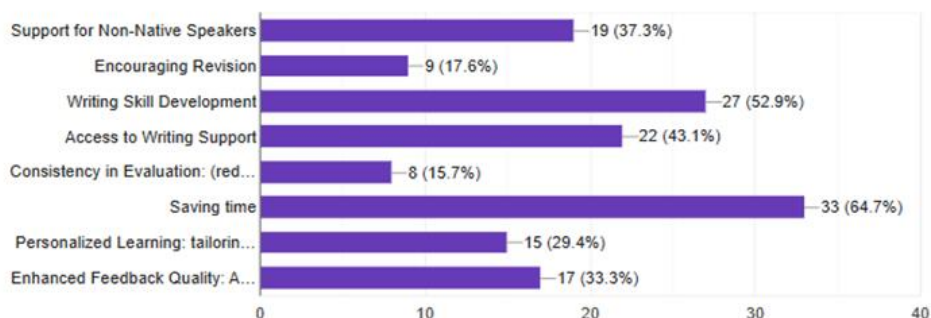
Section 5: Benefits and Concerns

When the respondents were asked about the potential benefits of incorporating AI tools into writing instruction at a university level, 37.3% considered that such tools could provide support for non-native speakers, 17.6% believed that they encourage revision, 52.9% stated that they could develop the writing skill, 43.1% admitted that they give access to writing support, 15.7% asserted that they provide consistency in evaluation since they reduce subjective bias in the evaluation process, 64.7% noted that they save time, 29.4% remarked that they provide personalized learning, such as tailoring suggestions to individual students' needs, offering customized support that addresses specific weaknesses, and enhancing their writing skills, and 33.3% declared that they furnish enhanced feedback quality since AI tools can provide detailed, instant feedback on grammar, style, and structure, helping students refine their writing more efficiently.

Section 5: Benefits and Concerns

9. In your opinion, what are the potential benefits of incorporating AI tools into writing instruction at the university level?

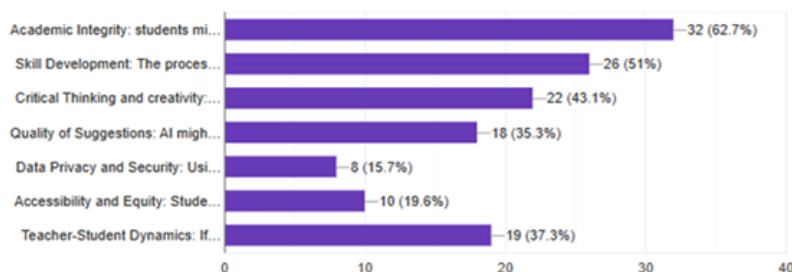
51 responses



Following that, students were asked about their concerns or apprehensions regarding the incorporation of AI to enhance writing skills in higher education. 62.7% of the respondents were worried about academic integrity; they believed they might rely too heavily on AI tools, leading to questions about the authenticity of their work. Added to that, 51% considered that this integration might affect skill development. According to them, the process of learning to write involves making mistakes and learning from them. Thus, students might not develop essential writing skills if they depend too much on these tools. Moreover, 43.1% asserted that this integration might negatively influence critical thinking and creativity. Students who count on AI to generate ideas and organize their work might not engage deeply with the material or develop their critical thinking skills. Also, creativity might be discouraged, as students might adhere to the suggestions provided by AI rather than developing their unique voice. Besides, 35.3% of the students feared that AI might not always provide high-quality feedback, especially in complex or nuanced writing tasks, and 15.7% were anxious about data privacy and students' work security since using AI tools often involves sharing written content with third-party services. Also, 19.6% were worried about accessibility and equity. They considered that learners from underprivileged backgrounds or institutions who have fewer resources might not have the same access to these technologies, potentially widening the gap in writing proficiency. Additionally, 37.3% were concerned about the student-teacher relationship and dynamics; the role of instructors and educators in teaching writing might be undermined, the mentor-student relationship might be affected, and the impact of personalized, human feedback might be reduced if AI tools become the primary source of feedback for students.

10. What concerns, if any, do you have about the integration of AI for enhancing writing proficiency in higher education?

51 responses



Section 6: Additional Insights

When the respondents were asked to provide additional benefits, some of them considered that the integration of AI tools in a writing course could enhance efficiency and productivity since such tools could streamline the writing and revision process, making it more efficient for both instructors and students. Others affirmed that this integration provides benefits on all levels, triggers divergent thinking, and offers suggestions on how to carry out the task (See Appendix C).

When the respondents were asked to provide additional concerns or comments, some of them considered that privacy and data security are major concerns, especially that the use of AI tools involves sharing personal and sensitive data. Others viewed the notion of AI replacing their instructors as a significant threat to them (Appendix D).

2. Instructors' Survey Analysis

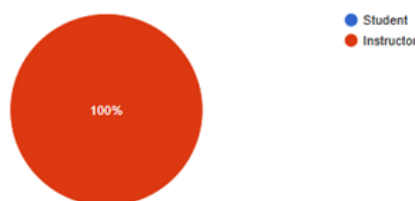
Section 1: Demographic Information

The respondents to the questionnaire are all females. The instructors' ages fall within the range of 25 to 64: 12.5% are between 25 and 34, 50% are between 35 and 44, 25% are between 45 and 54, and 12.5 % are between 55 and 64. The figures below depict the results.

Section 1: Demographics

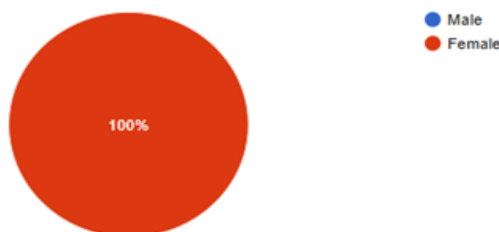
1. Please indicate your role:

8 responses



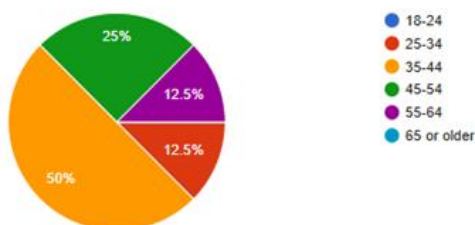
2. Gender

8 responses



3. Age

8 responses



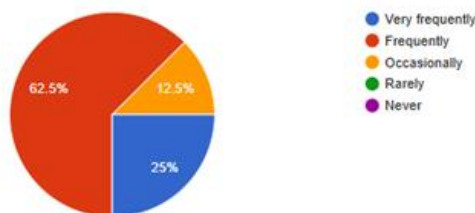
Section 2: Writing Instruction Practices

When asked about the frequency with which they give writing assignments to their students in higher education courses, 25% admitted that they give them very frequently, 62.5% claimed that they assign them frequently, and 12.5% asserted that they give writing assignments occasionally. The figure below illustrates the answers.

Section 2: Writing Instruction Practices

4. How often do you assign writing tasks to your students in the Writing Skills course?

8 responses



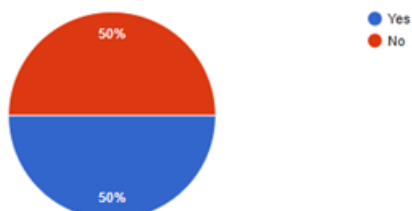
Section 3: Use of AI in Writing Instruction

The instructors were then queried whether they have ever utilized AI-powered writing tools or platforms to assist them in grading or providing feedback on students' writing assignments. 50% admitted that they did utilize AI tools to grade or provide feedback on students' assignments, while the remaining 50% responded negatively.

Section 3: Use of AI in Writing Instruction

5. Have you ever employed AI-powered writing tools or platforms to help you in grading or providing feedback on students' writing assignments?

8 responses



The respondents who gave a positive answer were asked to specify the AI writing tools or platforms they have used. They admitted that they resorted to ChatGPT, CoGrader, Turnitin, Scribendi, and other AI features in Google Docs (See appendix E).

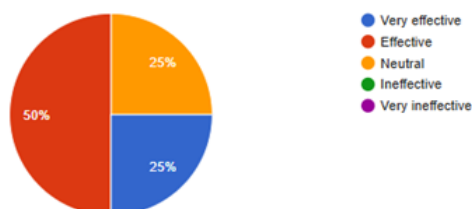
Section 4: Effectiveness and Challenges of AI Integration

When the instructors were asked to determine the effectiveness of AI tools in improving students' writing proficiency, 25% believed that such tools are very effective, 50% considered that they are effective, and 25% gave a neutral answer. The figure below depicts the answers.

Section 4: Effectiveness and Challenges of AI Integration

6. In your opinion, how much effective or successful are AI tools in improving students' writing proficiency?

8 responses



Consequently, the respondents were asked to identify the challenges they have encountered or would encounter when integrating AI tools into their writing instruction. Most of them admitted that they need training and mastery of tools, keeping in mind that some AI tools are expensive and not freely available even for instructors. The respondents also feared that students might rely heavily on AI tools, misuse them, or even become passive learners. Others were concerned about plagiarism and the reliability of information that AI tools might provide (See appendix F).

Section 5: Impact on Students' Writing Skills

The instructors were then queried about their opinions regarding the influence of AI integration on writing skills and learning outcomes. Almost all the respondents asserted the positive impact of AI, noting that it makes writing easier, more engaging, and more effective. They also believed that it boosts confidence and motivates students with weak writing skills, helping them progress at their own pace after tailoring the feedback according to their needs. Additionally, AI enhances students' writing skills when they read and analyze well-written essays and receive rapid responses, thus encouraging them to look up information and learn about writing (See appendix G).

Section 6: Considerations for Effective AI Integration

When the instructors were asked about the important considerations they have for effective integration of AI tools into writing instruction at a university level, they mentioned a variety of issues, such as comprehensive training for instructors and students, well-set syllabi, new assessment and follow-up tools, and plagiarism-detecting systems. Most importantly, leaving room for the instructor's creativity and personal touch as well as minding learners' discrepancies, should be prioritized (See appendix H).

Section 7: Instructor's Role and Support Needs

Next, the participants were questioned about their roles as instructors in the context of AI integration for writing proficiency enhancement. They mentioned several roles, such as mentors, monitors, decision-makers, time-keepers, facilitators, and moderators. Some believed that they act as guides to their students who helping them better understand how to effectively use AI tools. Also, their role is to encourage learners to critically evaluate AI's feedback and question its suggestions when necessary. Others believed that they are tool-users who manage to engage their students in exclusive writing activities that profoundly arouse their interest and competence in writing (See appendix I).

After that, they were asked about the support or resources they think instructors need to effectively integrate AI tools into their writing instruction. Since internet connection and blackboards are provided at AUST, the respondents considered that the main requirement is good training to help them understand the potential and range of each AI tool related to the field of education. Thus, when the instructors are well-trained and have funded, simple, and easy access to the material, their productivity and quality of teaching are enhanced. Thus, seminars, tutorials, workshops, new syllabi, and convenient assessment tools are a must (See appendix J).

Section 8: Additional Insights

The respondents were finally asked to provide additional insights, suggestions, or comments regarding the integration of AI for writing proficiency enhancement in higher education. Some demanded the integration of AI as a new way to help students learn effectively and to unleash their creativity. Others requested hybrid models that combine conventional teaching methods with AI tools. The rest of the instructors asked for workshops and training sessions for instructors and students, as well as a policy that could change the mindset of those who believe that AI leads to having passive learners. Most importantly, it was requested that AI-assisted writing tools never eliminate the role of the instructor; on the contrary, they should empower educators, keeping in mind that balancing the use of AI with the instructor's instruction and guidance is necessary for maintaining meaningful interactions and promoting deeper understanding (See appendix K).

3. Students' Focus Group Discussion Analysis

For the qualitative data collection, willingly, 15 out of the 51 students who responded to the online questionnaire joined the 3 online semi-structured focus group discussions, which took place via ZOOM meetings on May 27, 28, and 29, 2024.

The results from the data analysis of the students' focus groups yielded a number of outcomes. This section highlighted the five outcomes that were referenced. These five main outcomes included the students' experience with writing assignments in higher education, their opinions regarding the influence of AI tools on writing performance, their perceptions of the integration on the future of higher education, the type of support or resources they need to effectively utilize AI tools for writing proficiency enhancement, and their readiness for the integration into their writing courses. All the students' responses were audio-recorded and transcribed, and a sample of what was stated, whether they shared consensus or disagreed, was reported.

Outcome 1. To describe the students' experience with writing assignments in higher education

Question 1: Can you describe your experience with writing assignments in higher education?

- It is really an interesting experience that teaches me how to organize my ideas.
- It is beneficial for my writing skills.
- I enjoy it because I like writing.
- It is a challenging experience, yet an exciting one.

- It is an interesting experience. I enjoy writing, especially with good instructors.
- Sometimes, writing is difficult to me , especially if the topic is new, but at other times it is easy.

Outcome 2. To find out the influence of AI tools on writing proficiency

Question 2: How do you think AI tools can influence the writing process and the quality of your writing?

- AI can help me write my ideas, but I am afraid that it might make me passive in thinking deep.
- AI helps me widen my horizon and improve my writing product.
- AI tools can give me so many ideas and a lot of information in addition to writing with good structure and correct grammar.
- I think AI tools are helpful, but they might be distracting at the same time.
- They help me use rich vocabulary in order to get a good grade.
- AI could be helpful in writing, but I think total dependence on it could downgrade our abilities in writing.
- They can enrich our essays with vocabulary and ideas.

Outcome 3. To determine the students' perceptions of the integration on the future of higher education

Question 3: How do you perceive the role of AI on the future of higher education, particularly in relation to writing instruction?

- AI is important for the future generation, and it can be a good companion to university students if used correctly, wisely, and moderately.
- It would trigger us to think deeply in order to know what to include and how to write.
- It will improve students' grades, add to their information, save time, and make learning easier.
- AI will be used in higher education; it is already present in our studies and projects.
- It will play an essential role in the future, but students and instructors must be aware of the negative sides of total dependence on AI tools.
- AI is very helpful, and it will make education and writing easier.
- I am worried that students might not exert efforts to learn properly since everything they need can be provided by AI.
- It will take an important place in education and have a vital impact on writing, but it might have negative consequences as well.

Outcome 4. To identify the type of support or resources needed to effectively utilize AI tools for writing proficiency enhancement

Question 4: What support or resources do you think students need to effectively utilize AI tools for writing proficiency enhancement?

- I believe we need technical resources and access to reliable AI tools such as Grammarly, Quillbot, or more specialized platforms designed for educational purposes. Schools and universities can provide subscriptions or licenses.
- I believe students need a reliable and stable internet connection which is inevitable for accessing online AI tools and resources. Thankfully, it is available at our university, but I do not think that all universities are providing this service.
- To me, instructional guidance is the most important. Workshops and training sessions must be conducted to familiarize us with the potentials and constraints of AI tools. Also, tutorials can be given on how to integrate AI tools into the writing process.
- AI tools must be integrated into the curriculum to provide us with systematic opportunities to use them; for example, we can be given assignments specifically designed to be completed with the help of AI tools. I think instructors also need this.
- To avoid plagiarism, students must be taught about the ethical use of AI tools, highlighting the necessity of originality and the probable repercussions of over-reliance on AI for academic integrity.
- I think we need supportive frameworks. We need a collaborative environment where we can discuss our experiences with AI, seek advice from instructors and peers, receive constructive feedback on our use of AI tools, and get progress tracking in order to see our improvement over time and identify areas that need further development.
- I believe we need writing centers that integrate AI tools into their services, offering a mix of human and AI-assisted support for writing assignments. We also need guides and technicians that complement the learning provided by AI.

Outcome 5. To discover students' readiness for the AI integration into their writing courses

Question 5: How much ready or comfortable are you with the idea of AI being integrated into your writing instruction in higher education?

- It is a good idea, and I am ready to delve deeper into this world.
- I am excited to learn about it and know how to use it wisely.

- I am not fully comfortable; AI is needed in my higher education, but it can make mistakes. So, I need guidance and training. Wise selection is important, too.
- I do not want us all to have the same writing and the same ideas; that's why, I do not want total reliance on AI; it should only be an assistant; we need to show our ideas and creativity in writing.
- We need instructional guidance. I believe AI is very much needed by learners of a foreign language, especially those who are low-achievers. It is very helpful to them, but they should not totally depend on it; on the contrary, it should be a motive for them to improve and develop.
- Integrating AI in writing instruction pertains to my confidence and motivation.
- I find no problem in integrating AI in my writing course; on the contrary, it provides me with more ideas and good structure of my essays. I feel comfortable as a result.
- I do not want this integration to undermine students' writing skills and make them totally reliant on AI.
- AI tools cannot be fully trusted; that's why we should resort to authentic resources in research and refer to our knowledge. AI should only act as a support or assistant.
- I am comfortable because AI should push me to become professional and competent in writing. I will resort to it when I need ideas and technical terms, or when I need to check the grammar and the structure of my sentences. AI should encourage me to improve my language and work on myself to become a better composition writer.

Thus, it was concluded that most of the students are well aware of the benefit AI could bring to their learning in a writing course, stressing the importance of creativity and integrity in writing, with AI acting as an assistant to both students and instructors.

4. Instructors' Focus Group Discussion Analysis

In addition to the students' focus groups, and also for qualitative data collection, 4 out of 8 instructors who responded to the online questionnaire joined the online semi-structured focus group discussion which took place via ZOOM meeting on May 30, 2024.

The results from the data analysis of the instructors' focus group yielded a number of outcomes. This section highlighted the nine outcomes that were referenced. These nine main outcomes included the instructors' ways of integrating writing instruction in higher education courses, their attitudes towards the utilization of AI-powered writing tools in teaching writing, their insights on the benefits, their perceptions of the challenges, the ethical

implications that should be taken into consideration, the pedagogical impact of the integration, the influence of the integration on students' interaction and engagement, the customization to suit individual needs, and their future expectations and recommendations. All the instructors' responses were audio-recorded and transcribed.

Outcome 1. To demonstrate the method of integrating writing instruction into higher education coursework

Question 1: How do you incorporate writing instruction into your higher education courses?

The four instructors admitted the importance of resorting to technology while teaching writing. One of them stated that she refers to online samples and asks students to respond to questions set on the sample when teaching the parts of essays. Another claimed that she provides detailed rubrics that help students remember what to include in their essays. The third respondent asserted the importance of peer review, and the fourth showed the pivotal role of providing writing instruction especially in research and citations. One of the instructors stated:

In EFL higher education courses, we incorporate writing instruction by asking students to respond to various writing tasks, such as short answers to a variety of objectives, essays, and research papers. These tasks are employed either asynchronously or synchronously and are done after providing students with input, enough data, and structure for writing. We provide students with rubrics to guide their writing and ensure clarity in evaluation. Students can share their writings by mail or on paper.

Outcome 2. To assess the instructors' experience with AI in a writing course

Question 2.1: Have you ever utilized AI-powered writing tools or platforms in teaching writing?

(3/4 or 75%) of the participants stated that they do not often utilize AI-powered writing tools while teaching the writing course despite the fact that they know its advantages; on the contrary, they stick to the conventional method, and they resort to the online samples they provide their students with. Only one instructor admitted that she resorts to ChatGPT to help her provide writing activities to her students. The respondent stated:

I, sometimes, ask ChatGPT to write activities for me. I find them interesting and inspiring, and I make my own modifications.

Question 2.2: If yes, please describe your attitudes towards the integration of AI in a writing course. Are you generally positive, negative, or neutral? Why?

(3/4 or 75%) have a positive attitude towards the integration of AI in a writing course although they do not use it yet, and they asserted the multi benefits this integration might bring. Only one of the respondents (or 25%) gave a neutral answer. One of the respondents said:

At least, students with poor writing skills are encouraged to write, and they have like an assistant next to them. They will receive quick comments on what they write, and they will be well-guided.

Outcome 3. To determine the benefits of incorporating AI tools into writing instruction

Question 3: From your perspective, what are the main benefits of incorporating AI tools into writing instruction for university students?

(3/4 or 75%) were totally supportive for the integration due to the many benefits it brings. One of them believed that it provides instant feedback, digital literacy, motivation, accessibility, and individualized learning. Another believed that AI tools assist students in creating content, such as essays, presentations, or research papers. The third respondent believed that AI tools provide students with resources, enhance their writing skills, and develop their performance. The fourth respondent, though hesitant, admitted the many benefits, but she prefers to be provided with more time to see its influence on students' learning. One of the participants stated:

Integrating AI tools in writing instruction for university students caters a variety of learning requirements. The tools improve the quality of the educational process by providing resources. The tools which I have not employed yet may equip my students with ideas, expand their horizon, and encourage me to keep the students involved and motivated to participate in the writing activities which they used to report as challenging or even boring. Integrating technology and AI tools would improve the students' writing skills and develop their performance. They may scaffold the students and trigger their ideas to yield better results. Reading before writing and getting involved in interactive activities would surely yield better results.

Outcome 4. To determine the challenges met when integrating AI tools into writing instruction

Question 4: What challenges have you encountered or might you encounter when integrating AI tools into your writing instruction?

The four instructors admitted the importance of taking the challenges associated with the integration into consideration. One of them was concerned about students' dependence on technology and the associated privacy issues. Another concurred and expressed her fear that students might lose their creativity because of their complete reliance on artificial intelligence. The third participant believed that she was still hesitant about the integration because she lacks the expertise in using AI tools. The fourth participant was afraid that students might not take learning seriously when writing is integrated with AI. The participant said:

I anticipate challenges related to students' readiness to use AI for educational purposes. Many students currently perceive AI more as a tool for fun rather than as a serious resource for learning and improving their writing skills.

Outcome 5. To determine the ethical implications when integrating AI in writing

Question 5: In your opinion, what ethical implications should be considered when using AI for writing assistance in higher education?

(4/4 or 100%) of the respondents believed that some ethical implications must be taken into account when using AI for writing assistance in higher education. One of them believed that bias and inequity should not be allowed to impact the fairness and validity of AI driven writing assistance. Another respondent believed that learners and instructors should avoid plagiarism and never be totally dependent on AI tools. The third respondent confirmed and added that creativity and human interaction are always highly valued. The fourth respondent supported the colleagues' insights and appreciated data privacy. She said:

I believe the ethical implications include the following: data privacy, the potential for bias in AI algorithms, ensuring that students do not become overly dependent on AI, and maintaining the originality of students' work.

Outcome 6. To determine the pedagogical impact of integrating AI in writing courses

Question 6: In your opinion, how could AI positively impact the teaching and learning of writing?

The four participants asserted the positive role that AI could leave on teaching writing. They all showed the advantages students and instructors

could get from such integration. They all believed that students would be able to get extra resources to learn from, and they would extremely benefit from direct feedback. This helps them write more clearly and efficiently. Instructors, too, save time while checking students' essays especially when AI tools work as assistants to the instructors. One of the participants stated:

It helps students write more clearly and concisely in their academic work. It also improves their writing quality and efficiency. This process triggers learning, provides direct feedback, and helps in constructing knowledge and reflecting on one's learning.

Outcome 7. To find out whether the integration of AI could lead to students' interaction and engagement

Question 7: Do you think the integration of AI in writing will lead the students to interact more in the course?

The four participants totally agreed that AI integration in a writing course motivates students to interact more in the course. One of them stated:

Most importantly, it creates engagement and motivation and customizes feedback responding to each student's needs.

Outcome 8. To customize the integration of AI in a writing course to suit the individual needs of students

Question 8: How can the integration of AI in a writing course be customized to suit the individual needs of students?

Almost all the participants (4/4 or 100%) support the customization of AI in teaching writing. They believe that lectures with voice-overs, grammar-checker, samples, videos, games, and collaboration with experts from diverse background could facilitate understanding and provide a conducive learning environment. One participant said:

There are many ways to customize the integration of AI in a writing course; for example, using sounds and voices when we need to teach the parts of the essay; using samples when needed to show how to write the topic sentence, for instance; resorting to feedback according to each student's needs.

Outcome 9. To find out about instructors' future expectations and recommendations

Question 9.1: What improvements or changes would you like to see in the integration of AI in a writing course?

The four instructors hoped to have students who like writing and have more self-confidence when they write. One of them admitted that some of her students have great ideas, but they do not know how to express themselves in

English, or they do not even dare to write because of the mistakes they make. She hoped that this integration could provide students with confidence and make them like writing. Another instructor asserted the importance of regularly assigning and checking writing tasks, but this takes much time and effort; thus, she hoped that AI could assist her in her mission taking the nuances of each student into consideration. The third participant wished to have more students interested in writing essays, and she was excited to adopt AI tools in her classes for such a purpose. The fourth instructor wished that AI could help students produce writing pieces with rich vocabulary, fewer grammatical mistakes, and more organization of ideas. One of the participants said:

I hope that AI-powered writing tools or platforms could assist in grading or providing feedback on students' writing assignments. This makes our work less hectic, and students would have the chance to receive immediate feedback on their work.

Question 9.2: Do you have any specific recommendations for educators or institutions to enhance the integration of AI in writing courses?

(3/4 or 75%) recommended the integration of AI in a writing course as well as in other courses due to the many benefits it could bring. They require university support through technological tools that facilitate learning. They encourage universities to assign training sessions for instructors to show them how to use AI tools and consequently adopt them in teaching. However, one of the instructors recommended that instructors keep taking their roles since AI tools should be considered as assistants that can never replace the instructors' presence and feedback. Educators should always have their personal touch especially in providing remarks or comments due to learners' discrepancies. One of the instructors stated:

Every student is unique and has a different learning style from the others. AI systems may be unable to capture students' differences, which could result in inaccurate or unfair grading and feedback. Therefore, using AI platforms or systems supervised by instructors is inevitable to ensure that students receive a fair and accurate work assessment.

Thus, it was concluded that almost all the instructors are well aware of the benefits AI could bring to learning in a writing course, keeping in mind that AI should be used to strengthen learning itself while instead dealing with students' discrepancies, learning styles, and nuances, that can never be detected by AI, are part of the instructors' mission.

Discussion and Findings

After collecting the data from the students' and instructors' questionnaires, statistical analysis was employed based on the analytical description that appears in the form of charts on Google forms, depending on the respondents' input on each item. The purpose was to identify the students' perceptions and attitudes towards utilizing AI tools for improving their writing skills, determine the instructors' attitudes and opinions towards the utilization of AI tools to improve students' writing skills, identify the perceived advantages and challenges associated with AI integration in a writing course, and gather recommendations for effective AI integration in writing education. Additionally, the qualitative data obtained from the four focus group discussions were transcribed and analyzed in order to obtain an in-depth description and understanding of university students' and instructors' beliefs about the integration of AI in writing courses.

At first, the data gathered and analyzed quantitatively from the students' questionnaire showed that most students (74.5%) support utilizing AI tools for writing assistance since it affects their learning experience positively. This integration plays a major role in enhancing writing proficiency since AI platforms offer valuable support in language correction, structuring content, reducing bias in the evaluation process, offering support to non-native speakers, and providing personalized learning. This corresponds with Alam et al. (2022) who believe that this integration leads to more effective learning outcomes.

As for the instructors, 50% believe that AI tools are effective or successful in improving students' writing proficiency, and 25% believe that it is very effective. This integration improves students' writing quality and leads to efficiency. It also triggers learning and provides direct feedback and reflection on one's learning. This is consistent with Haleem et al. (2022) who believe that AI tools offer more creative and dynamic pedagogical experiences.

Both the students and the instructors had their concerns regarding this integration. Students had several worries, such as academic integrity (62.7%), teacher-student dynamics (37.3%), data privacy (15.7%). Moreover, most of the instructors were concerned about the challenges this integration might bring, such as over-relying on or misusing the platforms. Also, they were worried about plagiarism and the reliability of information that AI tools might provide. This aligns with Marzuki et al. (2023) who believe that over-reliance on AI tools could hinder students' natural learning process and development of self-editing skills.

Regarding the students' and instructors' answers in the focus groups, it was concluded that almost all the students and instructors realize the many benefits AI could offer in the learning and teaching of writing if used correctly,

wisely, and moderately. However, they believe that some challenges must be taken into consideration for the sake of a purposeful integration and for creating an environment conducive to learning through the facilities AI provides. Thus, it is essential to balance the benefits and the challenges to utilize the full potential of AI in writing instruction.

The majority of the participants had positive views towards this integration; however, they had several recommendations. To students, this integration should help them learn effectively and trigger their creativity, keeping in mind the important role of the instructor to preserve meaningful interactions and promote deeper understanding. As for instructors, university support through technological tools that facilitate learning is required. Instructors should always keep taking their roles since AI tools should be considered as assistants that can never substitute the instructors' presence and feedback. This aligns with Palmieri (2023) who asserts that human supervision remains crucial for maintaining depth and accuracy that philology requires.

Conclusions

It is concluded that integrating AI into a writing course is a milestone in education, particularly for the many gains it yields, despite the challenges associated with this integration. Ultimately, the obtained results are compatible with previous researches that have affirmed the beneficial impact of innovative and pedagogical technologies, which constitute a great support for improving the quality of education (Jamoliddinovich, 2022). Artificial Intelligence, as discussed in this paper, can achieve the desired learning objectives in a writing course and allow students to improve their writing skill. So these findings imply that EFL instructors can utilize AI writing tools to enhance Lebanese EFL students overall writing skills.

To enhance educational quality, institutions of higher education are encouraged to adopt AI platforms in their curricula, focusing on the training and development of both students' and teachers' digital competence. Most importantly, instructors of writing courses are recommended to integrate AI tools into their lectures due to the numerous benefits they offer. The author hopes that the integration of artificial intelligence in a writing course, as discussed in the article, will encourage instructors to implement AI not only in their writing courses but also in other courses, in a way that promotes learning and comprehension. Thus, further research can be implemented to investigate the utilization of AI technologies in improving other English language skills, mainly the two receptive skills, listening and reading, and most importantly, learning English language skills in general.

Limitations

While this study provides valuable insights on the integration of AI into a writing course, it is limited to a specific population and geographic context. Future research could explore similar dynamics in other universities to examine whether the findings are generalizable. Thus, to better understand how the integration of artificial intelligence into writing courses could be beneficial, it would be necessary to recruit more respondents (students and instructors) from different universities to analyse their opinions and attitudes in more detail.

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Appendix A

If yes, please specify the AI writing tools or platforms you have used:

42 responses

Chatgpt
Chatgpt
ChatGPT
ChatGPT
Chat gpt
I use Google sometimes for a research or facts in my essays
chatgpt 3.5
Chatgdp
Chatgpt
Snapai or chatgpt
How to make outline and the way that i use the perfect the 4 types of verbs
chatgpt
Google / Sometimes GPT
chatgpt
Chat GPT , Gemini AI
Ai and chatgpt
Chat gpt and google schooler
Google

Because facility in more and more points
chat gbt
Quillbot
Chat gpt quillbot
I have experience with various AI writing tools and platforms like GPT-3, OpenAI, and TensorFlow. These tools are widely used for generating text, assisting in writing tasks, and even creating content for different purposes.
Chat-GPT
Chat gpt to get ideas for topic of discussion
chat on AI
chatGPT/google
Chat gpt or co pilot
Microsoft copilot
Chat gpt
N/A
Chatgpt
Gemini
AI helps me structure my ideas properly which further helps me deliver my intended message.
Grammarly, chat gpt

Appendix B

If there is any other aspect, please mention it here:

9 responses

No
idea generation and outlining
organization
Saves time and energy
.
AI helps me organize my ideas
N/A

Appendix C

Section 6: Additional Insights

11. If there are other benefits, please mention them here:

8 responses

Triggers divergent thinking

Efficiency and Productivity: AI can help streamline the writing and revision process, making it more efficient for both students and instructors.

AI is very beneficial on all levels

No thanks

.

giving me ideas on how to do the work

N/A

No

Appendix D

12. If there are any other concerns or comments, please mention them here:

6 responses

No

privacy and data security: The use of AI tools often involves sharing personal and sensitive data, raising concerns about privacy and data security.

I want my instructor to be the main focus

N/A

Appendix E

If yes, please specify the AI writing tools or platforms you have used:

4 responses

Chatgpt for writing activities

cograder and chatgpt

Turnitin: It helps in checking for plagiarism and provides tools for grading the writing.
Scribendi : helps give detailed feedback and provides writing assistance.

Google documents and AI

Appendix F

7. What challenges, if any, have you faced or would you face when integrating AI tools into your writing instruction?

8 responses

Limited topics / student isn't fully involved/ mastery of tools

Students poor attention span

Chatgpt often provides sentences and essays with errors in mechanism.

technical expertise and reliability of work

They might not always provide accurate feedback as they can misinterpret nuanced or creative language. Some AI tools are expensive; not all are available for free even for instructors

Students may misuse them and become passive

Students are tempted to commit plagiarism. Yes,

i need training/

Appendix G

Section 5: Impact on Students' Writing Skills

8. Do you think the integration of AI influences students' writing skills and learning outcomes? If yes, please explain how.

8 responses

Yes. Students are fully absorbed nowadays by AI so why not invest in that to benefit their writing skills

Yes, especially when they use their own AI tools to avoid doing the work themselves

AI enhances students' writing skills when they read and analyse well-written essays. Also, because of AI's rapid responses and ease of interactions, students are motivate to look up information and learn about writing. Nonetheless, AI is intoxicating when students cut and paste their assignments, knowing that plagiarism cannot be detected.

of course. makes it more effective

Yes, AI can tailor the feedback to individual students' needs, thus helping them progress at their own pace.

Enhances elaboration skills and boosts confidence for better performance

Yes, it can encourage students who have weak writing skills.

yes of course. It makes writing easier and more interesting

Appendix H

Section 6: Considerations for Effective AI Integration

9. What considerations do you think are important for effectively integrating AI tools into writing instruction at the university level?

8 responses

Well-trained instructor / specific syllabus/ new assessment and follow-up tools
Better detection systems that do not allow for any sort of AI created content to be successfully submitted by students as their own
AI assists instructors in their teaching methods and in fetching quality material for writing courses.
leaving room for instructors' creativity and personal touch/ minding the discrepancies of learners
Provide comprehensive training for instructors
Set a policy and track plagiarisim
Avoiding plagiarism Monitor
instructors and students receive training/

Appendix I

Section 7: Instructor's Role and Support Needs

10. How do you perceive your role as an instructor in the context of AI integration for writing proficiency enhancement?

8 responses

Guide / decision maker / time keeper Monitor..
User of a tool
AI yields productive material that I was able to integrate in my writing class. Through AI, I managed to engage students in exclusive writing activities that profoundly exceeded their interest and competence in writing.
monitor/ mentor
I guide students to better understand how to effectively use the AI tools. Also, I encourage them to critically evaluate AI's feedback and even question the AI suggestions when necessary
Suggest AI tools ; get trained and guide students how to use and when to use.
Monitor
facilitator/ moderator

Appendix J

11. What support or resources do you think instructors need to effectively integrate AI tools into their writing instruction?

8 responses

Training and suitable syllabus and assessment tools

Training to understand the potential and range of each AI tool related to the education field

Instructors should be further enlightened on the use of AI, as it is a great tool to enhance their productivity. When an instructor has simple and easy access to material, they reserve their energy for quality teaching in the classroom.

choosing the suitable resource

Funding

Tutorials, workshops, seminars

An application to detect plagiarism

Internet connection is already provided at aust. I think only training is needed

Appendix K

Section 8: Additional Insights

12. Please provide any additional insights, suggestions, or comments regarding the integration of AI for writing proficiency enhancement in a writing course in higher education.

8 responses

There must be a way for students to learn effectively and unleash their creativity

Machine learning where AI builds content based on errors and mistakes collected from ESL SPEAKERS.

Planning workshops on the use of AI

it is promising

Hybrid models by combining traditional teaching methods with AI tools

Agree on a policy and specific tools to change the mindset that AI leads to having passive students.

Training sessions on AI for the instructors and students should be provided.

It should never cancel the role of the teacher