

University Students and AI: A New Era in Reading and Writing Skills



Ali Chaouche Lemia Faiza ¹

¹ ENS Oran (Algeria), Lamiafaiza@yahoo.co.uk

Summary:

The study investigates the use of artificial intelligence tools by university students and their impact on academic reading and writing skills. This research explores how second-year university students use AI tools and how these technologies influence their academic reading and writing abilities. Previous studies on AI in higher education focus mainly on general attitudes, ethics and performance, a scant attention has been given to the impacts of AI on reading and writing skills at the university level. A structured questionnaire was administered to 50 second-year university students to examine the frequency of AI service use, students' perceptions of the effectiveness of different platforms, and the challenges they encounter when integrating these tools into their studies. The results reveal that while many students view AI technologies as helpful for clarifying complex materials and enhancing understanding, concerns about their accuracy, reliability, and potential for over-dependence remain. The study also notes differences in students' comfort levels with using AI during exams and the obstacles they face when such intelligent systems are unavailable. Additionally, this research offers valuable insight into the role of AI in academic achievement and emphasises the importance of tailored support to enhance learning in an increasingly technology-driven educational environment.

Keywords: AI tools, reading, writing, higher education and learning

INTRODUCTION

As artificial intelligence (AI) technologies become increasingly integrated into academic settings, understanding their impact on student learning is essential. The objective of this study is to examine second-year university students' use of AI tools and to analyse their perceived impact on academic reading and writing skills, including frequency of use, perceived effectiveness, associated challenges, and attitudes toward their use in

academic contexts. The transition into the second year of university often presents heightened academic challenges, making it crucial to evaluate how AI can assist students in managing complex texts, improving comprehension, and facilitating better writing practices. By gathering students' insights, this study aims to illuminate both the benefits and challenges associated with AI tools, determining whether their use represents a progression or regression in academic performance. AI tools are transforming the ways in which students engage with reading and writing. These technologies not only support their learning but also empower them to take charge of their academic skills. By choosing to explore AI in this context, the aim is to enhance our teaching strategies, ensuring that every student can benefit from personalised learning experiences that promote confidence and creativity in their literacy journey.

Following the objective of the study, this research is guided by a research question and hypothesis designed to further examine students' use of AI tools and their impact on academic reading and writing. The research question aims to identify patterns of usage, perceived effectiveness, and challenges associated with AI integration in academic contexts, while the hypothesis proposes measurable relationships and trends to be tested empirically.

Research question

How do AI tools affect university students' academic reading and writing skills?

Hypothesis

AI tools improve students' reading comprehension and writing proficiency but raise some challenges.

2. Literature Review

Many researchers consider Artificial Intelligence (AI) as the development of computer systems that can imitate human intelligence by performing tasks that typically require cognitive abilities. These abilities include learning from data, reasoning to make decisions, solving complex problems, perceiving and interpreting information from the environment, understanding as well as processing human language. AI enables machines to analyse vast amounts of data, recognise patterns, and adapt to new situations, making it a crucial technology in various fields, such as healthcare, finance, education, and automation. As AI continues to evolve, it plays an increasingly significant role in enhancing efficiency. In this concern, Russell & Norvig, (2021, p.1) define AI as follows: "Artificial Intelligence (AI) refers to the simulation of human intelligence in machines, enabling them to perform tasks that typically require cognitive functions such as learning, reasoning, problem-solving, perception, and language understanding."

John McCarthy (1955) in Manning (2020, p.1) is one of the pioneers of AI, defines it as "the science and engineering of making intelligent machines, especially intelligent computer programs." This definition underscores both the theoretical and practical aspects of AI, focusing on the creation of machines that can exhibit

intelligent behaviour. Haugeland (1985, p.2) explores the philosophical foundations of artificial intelligence, discussing the potential for machines to possess minds in a literal sense. He said: "The exciting new effort to make computers think machines with minds, in the full and literal sense." Artificial intelligence (AI) is revolutionizing teaching by providing personalized learning, automating administrative tasks, and offering intelligent tutoring systems to enhance student engagement. Artificial intelligence is changing teaching by supporting learning through interactions between teachers and students. Amidon (1967, p.6) characterised teaching as "an interactive process, primarily involving classroom talk, which takes place between teacher and pupil and occurs during certain definable activities." For him, Teaching is an engaging and interactive process that revolves primarily around verbal communication between the teacher and the student. This exchange occurs within a structured learning environment and is embedded in well-defined educational activities. Through these interactions, knowledge is shared, ideas are discussed, and understanding is fostered, allowing students to actively participate in the learning process while teachers provide guidance and support.

Artificial intelligence is transforming the way we approach reading by enhancing comprehension, personalising learning experiences, and providing advanced text analysis tools. Reading is the act of interpreting and understanding written texts by decoding symbols and grasping their meaning within a specific context. Grabe and Stoller (2011, p.3)"Reading is the process of constructing meaning from written texts. It involves decoding symbols and comprehending their meaning within a given context." (AI) is reshaping writing by assisting with grammar correction, generating ideas, and enhancing clarity, making the writing process more efficient and accessible. Writing is the act of producing text to express ideas, thoughts, or information in a structured and coherent way. It involves a process of planning, composing, revising, and editing to ensure clarity and effectiveness. Harmer (2004, p.4) defines it as follows: "Writing is the process of using symbols (letters, words, and punctuation) to communicate thoughts and ideas in a readable form. It involves planning, drafting, revising, and editing to convey meaning effectively."

In recent years, the rapid development of artificial intelligence has significantly influenced academic practices in higher education. In particular, AI-powered tools are increasingly being used to support students in developing their writing and literacy skills. As noted by researchers, Das Deep and Yixin (2025, p. 247): "Artificial intelligence (AI) tools have transformed academic writing and literacy development in higher education. Students can now receive instant feedback on grammar, coherence, style and argumentation using AI-powered writing assistants like Grammarly, and ChatGPT..."

In the context of modern education, artificial intelligence has begun to play a significant role in supporting student learning. One area where AI has shown particular promise is in reading instruction, where personalised feedback and

adaptive tools can enhance comprehension. C. Silor, A. and C. Silor, F.S. (2025, p. 63) indicate that: "AI-based reading tools can effectively support comprehension development, especially for struggling readers, by offering adaptive, personalized instruction and interactive engagement with texts."

3. The Method

The study seeks to answer the following research question: How do AI tools affect university students' academic reading and writing skills?" The hypothesis formulated is that AI tools improve students' reading comprehension and writing proficiency but raise some challenges. The method of gathering information in this paper relies on a direct guided questionnaire given to a group of second year ENS students. This procedure involves asking informants about their attitudes towards the use of artificial intelligence in their educational landscape.

4. The questionnaire

The questionnaire is a research instrument consisting of a series of questions designed to gather information from respondents about their opinions, behaviours, or characteristics, while ensuring uniformity and reliability in responses. According to Brace (2018, p.5) "A questionnaire is a structured set of questions used for collecting information from individuals, designed to ensure consistency and reliability in responses." This questionnaire of ten questions appears to be designed to assess students' experiences and perceptions regarding the use of AI tools in academic reading and writing. It aims to gather comprehensive data on students' interactions with AI tools, highlighting both benefits and challenges in academic contexts.

Before the final administration of the questionnaire, a pilot study was conducted to assess the clarity, comprehensibility, and relevance of the items. The questionnaire was tested with a small group of participants who shared similar characteristics with the target population. This piloting phase helped identify ambiguous wording, potential misunderstandings, and the time required to complete the questionnaire. Based on the feedback received, no revisions were made. The content was clear and the informants answered the questionnaire in ten minutes.

5. The informants

The present study was carried in the city of Oran, Algeria. The questionnaires were handed to fifty students of different sexes, having almost the same age (19-20), coming from different regions of the west of Algeria and belonging to the same university. ENSO (Ecole Normale Supérieure d'Oran). The following table (1) presents the distribution of AI tools usage across age and gender.

6- The Main Findings

Table 1 Respondents' Age and Gender

Age	Male	Female	Percentage
19-20	16%	84%	100%

As shown in table 1, the age of the informants varies between 19 and 20, the male represents 16% whereas the female respondents indicate 84%.

The first part of the questionnaire is about the use of AI by students

1- How often do you use AI tools (grammar checkers, text summarises, text paraphrase) to assist with your academic reading?

Table 2 Frequency of AI Tool Usage in Academic Reading Assistance

Always	Sometimes	Often	Rarely	Never
12%	40%	28%	16%	4%

In the research regarding the use of AI tools to assist with academic reading, the responses indicated a growing reliance on these technologies among students. Twelve percent of participants reported using AI tools such as grammar checkers, text summarizers, and paraphrasers "always," while a significant 40% used them "sometimes." Additionally, 28% of respondents indicated that they use these tools "often." In contrast, 16% reported using them "rarely," and a mere 4% claimed they "never" utilize such resources.

2- Which AI tools or platforms do you find most helpful for improving your academic reading or writing skills?

Table 3 Most helpful AI Tools for Academic Reading and Writing

Chatgpt	Grammarly	Quillbot	Turnitin
80%	28%	8%	0%

When asked about the most helpful AI tools or platforms for enhancing academic reading and writing skills, ChatGPT emerged as the clear favourite, with a substantial 80% of respondents identifying it as their top choice. Grammarly followed, with 28% of students finding it beneficial, while only 8% reported using Quillbot. Interestingly, Turnitin received no votes, indicating that students may not view it as a tool for improving reading or writing skills in the same way as the other options.

3- In what ways has AI improved your understanding of complex reading material or academic texts?

Table 4 Impact of AI on Understanding Complex Academic Texts

Simplifies complex language	64%
Summarises large texts into key points	20%
Provides explanations or clarifications	68%
Translates foreign language content	20%
Paraphrase a passage	36%
Has not improved understanding	04%

The impact of AI on students' understanding of complex reading material is notable, with a majority reporting significant benefit. Sixty-four percent of the respondents indicated that AI simplifies complex language, making challenging texts more accessible. Additionally, 68% noted that these tools provide valuable explanations or clarifications, enhancing their comprehension of intricate topics. Summarisation was also a useful feature for 20% of students, who appreciated the ability to distil large texts into key points. Meanwhile, 36% found paraphrasing beneficial, and another 20% used AI for translating foreign language content. Remarkably, only 4% of the participants felt that AI had not improved their understanding, suggesting a broad consensus on the effectiveness of these tools in academic reading.

4- Do you believe that using AI tools has improved your reading comprehension and ability to analyse academic texts?

Table 5 Impact of AI Tools on Reading Comprehension and Analysis

Improved	No noticeable change	worsened
76%	24%	0%

A significant majority of students believe that using AI tools has positively impacted their reading comprehension and analytical skills. In our recent survey, 76% of respondents reported an improvement in their abilities, highlighting the effectiveness of these technologies in enhancing academic performance. Conversely, 24% noted no noticeable change, suggesting that while many students benefit from AI assistance, some may not experience the same level of impact. Encouragingly, none of the participants indicated that their reading comprehension

or analysis had worsened, reinforcing the notion that AI tools serve as a valuable resource in academic settings.

5- What challenges do you face when using AI tools for academic writing or reading?

Table 6 Challenges of Using AI Tools in Academic Writing and Reading

Cost (not free)	24%
Lack of Personalisation	68%
Ethical Concerns	44%
Over-reliance	32%

While AI tools offer significant advantages for academic writing and reading, students also face several challenges in their usage. A prominent concern, cited by 68% of the respondents, is the lack of personalisation, indicating that many feel these tools do not fully cater to their individual learning needs. Additionally, 44% of students expressed ethical concerns regarding the use of AI, reflecting apprehension about issues such as plagiarism and academic integrity. Cost is also a factor, with 24% noting that some tools are not free, potentially limiting access. Finally, 32% of participants mentioned the risk of over-reliance on AI, suggesting a need for balance in using these technologies. Together, these challenges highlight the complexities of integrating AI tools into academic practices.

6- Have you encountered any limitations when using AI for reading or writing?

Table 7 Limitations of AI in Reading and Writing

Yes, it misinterprets context	20%
Yes, it lacks understanding of nuance.	24%
No, I find it mostly helpful.	56%
No, but I have concerns about over-reliance.	20%

The statistics indicate that while AI is widely regarded as helpful for reading and writing, with 56% of respondents finding it mostly beneficial, concerns about its limitations persist. A notable portion of users (20%) report that AI misinterprets context, while 24% highlight its lack of nuance, suggesting that AI struggles with deeper comprehension and subtle meaning. Additionally, another 20% do not personally experience issues but worry about the risks of over-reliance.

7- How do you feel about the accuracy and reliability of AI-generated content in your academic work?

Table 8 Perceptions of Accuracy and Reliability in AI-Generated Academic Content

Very accurate and reliable	12%
Somewhat accurate, but I double-check	36%
Not very reliable, I use it with caution	48%
Not reliable at all	04%

When it comes to the accuracy and reliability of AI-generated content in academic work, students express a range of sentiments. Only 12% consider AI-generated content to be "very accurate and reliable," while 36% feel it is "somewhat accurate" but take the precaution of double-checking the information. A significant 48% indicate that they find AI tools "not very reliable," using them with caution in their academic skills. Additionally, 4% outright state that they find such content "not reliable at all." This spectrum of opinions highlights the cautious approach many students take when integrating AI-generated material into their work, emphasizing the need for careful verification alongside the use of these technologies.

8- How does AI influence your ability to create well-structured and cohesive academic papers?

Table 9 AI's Influence on Structuring Cohesive Academic Papers

It Makes it easier	56%
It Has no significant impact	04%
It Makes it more difficult	00%
I do not use AI for structuring papers	40%

AI has a notable influence on students' abilities to create well-structured and cohesive academic papers. A substantial 56% of respondents believe that AI makes the writing process easier, suggesting that these tools effectively assist in organizing thoughts and enhancing overall coherence. Conversely, only 4% reported that AI has no significant impact on their writing, and none indicated that it makes the process more difficult. Interestingly, 40% of participants stated that they do not use AI for structuring their papers at all. This data underscores the positive role AI can play in academic writing for those who choose to utilize it, while also pointing to a segment of students who may not yet be taking advantage of these resources.

9- Do you use AI tools during exams?**Table 10 The Use of AI Tools During Exams**

Yes (AI tools are allowed)	04%
No (AI tools are not allowed)	96%

The last part of the paragraph deals with the use of artificial intelligence during exams and the challenges faced if this assistance is not allowed. The use of AI tools during exams is minimal among students, with only 4% reporting that they use them in situations where such tools are permitted. In stark contrast, a significant 96% of respondents indicated that they do not use AI tools during exams, primarily because these resources are not allowed. This overwhelming majority highlights a clear adherence to academic integrity standards during testing environments, suggesting that while students may find value in AI assistance for studying and writing, they largely refrain from using these tools in formal assessments.

10- What specific challenges do you face when taking exams without the assistance of AI tools?**Table 11 Challenges of Taking Exams Without AI Assistance**

Limited Access to Resources	16%
Difficulty in Problem-Solving	04%
Time Constraints	32%
Uncertainty in Answering	24%
I have no problem because I do not use AI in my work	32%
Lack of Familiarity with Traditional Methods	04%

Students encounter various challenges when taking exams without the assistance of AI tools. A notable 32% cited time constraints as a significant issue, indicating that managing time effectively during exams can be difficult. Additionally, 24% expressed uncertainty in answering questions, which may stem from the absence of real-time support. Limited access to resources was mentioned by 16% of respondents, while only 4% reported difficulties in problem-solving and lack of familiarity with traditional methods. Interestingly, another 32% stated they have no problems, as they do not use AI in their academic work. This array of responses highlights the diverse obstacles students face in exam settings, particularly under the pressure of time and the need for confidence in their answers.

7. Discussion of the Results

The findings confirm that AI is widely recognised as a valuable aid in improving comprehension, with many students highlighting its ability to simplify complex material, offer explanations, and support summarisation and paraphrasing. However, a small proportion of students reported no improvement, suggesting that AI's effectiveness may depend on individual learning styles and prior proficiency levels.

AI tools clearly influence the academic reading and writing experiences of second-year university students. While most perceive benefits in making texts more accessible and enhancing comprehension, concerns remain regarding accuracy, reliability, and the potential for over-reliance. Some students use AI as a shortcut rather than engaging deeply with the material, highlighting the need to balance technological assistance with the development of critical reading and writing skills. Comfort levels also vary, particularly in exam contexts where AI is restricted, revealing challenges in working independently without technological support.

ChatGPT emerges as the dominant tool, likely due to its interactive and adaptive features, whereas tools like Grammarly and Quillbot are less frequently used, and Turnitin is not seen as supportive, reflecting students' perception of AI primarily as a learning aid rather than an academic integrity measure. Despite its advantages, limitations such as lack of personalization, ethical concerns, and occasional unreliability underscore the complexity of integrating AI effectively into academic practice.

In academic writing, AI helps students structure and organise their papers, though some still prefer traditional methods, reflecting varying levels of dependence. Its minimal role in exams reinforces students' commitment to academic integrity, while challenges encountered without AI, such as time constraints and uncertainty, highlight its supportive role in non-exam contexts.

These findings correspond with the distinctions highlighted by Sumaya Laher (2025, p.2) in *Using AI in Academic Writing: What's Allowed and What's Not*. She differentiates between "AI-assisted content, where students primarily produce original work but use AI for enhancements like grammar and style, and AI-generated content, where AI creates substantial portions of the text based on user prompts." The results suggest that while many students benefit from AI-assisted writing to improve comprehension and structure, concerns about over-reliance reflect a cautious approach to AI-generated content.

Building on previous research, Ji et al. (2023, p.2) emphasize "the growing role of AI in education." This is consistent with the findings, as many second-year students find AI helpful for comprehension, text organisation, and writing efficiency. The widespread adoption of AI underscores the importance of guiding students in its responsible use, ensuring that they can leverage these tools

effectively while maintaining independent thinking, skill development, and academic integrity.

8. CONCLUSION

The findings from the survey provide compelling evidence regarding the influence of AI tools on university students' reading comprehension and writing quality. A significant majority of students reported positive impacts from using AI, acknowledging improvements in their reading and analytical skills, and stating that AI eases the writing process. These results support the hypothesis that AI tools enhance academic performance compared to traditional methods.

However, challenges remain, concerns about the reliability, academic integrity, personalisation of AI tools, and the potential for over-reliance have been raised. The results suggest that AI can be a valuable resource for students, but it is essential to balance its use with the development of fundamental skills.

All in all, the integration of AI tools in reading and writing presents both opportunities and challenges. While these technologies can enhance immediate support and engagement, it is crucial to critically assess their impact on students' critical thinking and independence. By investigating this balance, we aim to develop strategies that leverage AI effectively while ensuring that our students cultivate essential literacy skills. This study will help teachers better prepare them for a future where technology and communication skills go hand in hand.

9. Bibliography List

1. Amidon, E. (1967). *The Role of the Teacher in the Classroom: A Manual for Understanding and Improving Teacher Classroom Behaviour*. Association for Productive Teaching.
2. Brace, I. (2018). *Questionnaire design: How to plan, structure, and write survey material for effective market research* (3rd ed.). Kogan Page.
3. C. Silor, A. and C. Silor, F.S. (2025) *Boosting Reading Comprehension Through AI- based Learning Tools*. Mindanao State university- Iligan Institute of Technology Iligan City, Phillipines. *International Journal of Learning, Teaching and Educational Research*.
4. Das Deep, P. and Yixin C. (2025). *The Role of AI in Academic Writing: Impacts on Writing Skills, Critical Thinking, and Integrity in Higher Education*, published in *Societies*. Vol.15, no.9.
5. Grabe, W. and Stoller, F (2011). *Teaching and Researching Reading* (2nd ed.). Routledge.
6. Harmer, J. (2004). *How to Teach Writing* (1st ed.) Pearson Education.
7. Haugeland, J. (1985). *Artificial Intelligence: The Very Idea*. MIT Press.
8. Ji, H., Han, I., & Ko, Y. (2023). A systematic review of conversational AI in language education: Focusing on the collaboration with human teachers. *Journal of Research on Technology in Education*, 55(1), 48–63.
9. Laher, S. (2025). Using AI in academic writing: what's allowed and what's not. *South African Journal of Psychology* DOI: 10.1177/00812463251338244

10. Manning, C. (2020). Artificial Intelligence Definitions. Stanford University.

11. Russell, S. and Norvig, P. (2021). Artificial Intelligence: A Modern Approach, 4th US Edition.

10. Appendix:

The questionnaire

Dear Students,

We invite you to participate in this questionnaire about reading proficiency, writing skills, and the use of artificial intelligence. Your responses will help us better understand your experiences, challenges, and perspectives on these topics.

Please answer the questions as honestly as possible. Your responses will remain anonymous and confidential.

Thank you for your time and participation

Age and Gender:

1- How often do you use AI tools (grammar checkers, text summarises, text paraphrase) to assist with your academic reading?

- Always
- Sometimes
- Often
- Rarely
- Never

2- Which AI tools or platforms do you find most helpful for improving your academic reading or writing skills?

- Chatgpt
- Grammarly
- Quillbot
- Turnitin

3- In what ways has AI improved your understanding of complex reading material or academic texts?

- Simplifies complex language
- Summarises large texts into key points
- Provides explanations or clarifications
- Translates foreign language content
- Paraphrase a passage
- Has not improved understanding

4- Do you believe that using AI tools has improved your reading comprehension and ability to analyse academic texts?

- Improved
- No noticeable change
- Worsened

5- What challenges do you face when using AI tools for academic writing or reading?

- Cost (not free), Lack of Personalisation
- Ethical Concerns, Over-reliance

6- Have you encountered any limitations when using AI for reading or writing?

- Yes, it misinterprets context
- Yes, it lacks understanding of nuance.
- No, I find it mostly helpful.
- No, but I have concerns about over-reliance.

7- How do you feel about the accuracy and reliability of AI-generated content in your academic work?

- Very accurate and reliable
- Somewhat accurate, but I double-check
- Not very reliable, I use it with caution
- Not reliable at all

8- How does AI influence your ability to create well-structured and cohesive academic papers?

- It Makes it easier
- It Has no significant impact
- It Makes it more difficult
- I do not use AI for structuring papers

9- Do you use AI tools during exams?

- Yes (AI tools are allowed)
- No (AI tools are not allowed)

10- What specific challenges do you face when taking exams without the assistance of AI tools?

- Limited Access to Resources
- Difficulty in Problem-Solving, Time Constraints
- Uncertainty in Answering
- I have no problem because I do not use AI in my work, Lack of Familiarity with Traditional Method