

CHATGPT AS AN ESSENTIAL TOOL: STUDENT PERCEPTIONS IN ACADEMIC WRITING AT CHLEF UNIVERSITY

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Abstract: The field of artificial intelligence has a lengthy and well-established background, and since its inception, there has been ongoing discourse over its capacity to yield significant scientific breakthroughs. This study examines 22 MA students' perceptions towards the effectiveness of using ChatGPT in generating high-quality research papers at Chlef University. Participants completed a structured questionnaire with 13 closed-ended questions after using ChatGPT for their research papers. The questions assessed AI's effectiveness in thesis writing, usage extent, application areas, and overall satisfaction. The analysis revealed that most students integrated AI tools like ChatGPT into their academic work, particularly for dissertations. While students did not find ChatGPT-generated content superior to their own, they believed combining both resulted in the best quality work. High satisfaction levels were noted, despite some limitations. The study also highlighted the need for additional support and training for students unfamiliar with AI tools.

Keywords: Artificial Intelligence (AI); ChatGPT; English students; Thesis Writing

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1. Introduction

Artificial Intelligence (AI) and other developing technologies are profoundly influencing our lifestyles (Brynjolfsson et al. ,2019). ChatGPT, an innovative language model created by OpenAI, for example is capable of producing text responses that closely resemble human language. ChatGPT is an artificial intelligence system specifically created to generate text that is logical, consistent, and appropriate to the given situation. AI literacy, as defined by both experts and non-experts, refers to a collection of skills that empower users to assess AI technology in a discerning manner, effectively communicate and cooperate with AI systems, and utilise AI as a tool in various settings such as online, at home, and in the workplace (Long & Margerko, 2020). AI can be used in other fields, including academic writing. The ethical questions pertaining to the governance and machine learning (ML) of AI are gaining significance due to concerns about the efficacy of these approaches in diverse sectors that have an impact on society, such as healthcare and education (Tsamados et al., 2021). These topics pertain to research carried out in universities.

Prominent university research sponsors are currently exploring the potential impact of artificial intelligence (AI) on society and how they might provide AI to facilitate novel research methods, processes, administration, and evaluation (UKRI, 2021). Concurrently, we recognise the potential to disturb scholars and institutions (Procter et al. 2020), as well as the clear challenges that await. The growing emphasis on artificial intelligence (AI) necessitates empirical research to elucidate the opportunities and challenges encountered by scientists who play a crucial role in developing and deploying AI for the wider society.

The role of AI is being considered in the field of education and digital learning in current talks about the future of AI and human civilization. However, there is limited knowledge about its consequences on research in general (World Economic Forum,2021)). There has been limited research conducted on the potential of AI to facilitate innovative management and evaluation techniques, as well as new research methodology. Moreover, there has been a lack of substantial empirical research carried out on the response of academia, particularly at the local level in Algeria. This highlights the importance of the current study as a pioneering research paper exploring this specific area of research and its impact on the current generation of students.

The objective of our study is to investigate the following research question:

To what extent is AI (specifically ChatGPT) used in the development of MA research papers at Chlef University? in terms of improvement and editing?
Our goals consist of evaluating its use, pinpointing areas of strengths and weaknesses, and offering suggestions .

2. Literature Review

This section delves into the examination of previous research conducted on the involvement of ChatGPT in the domain of academic writing. We provide a concise overview of pertinent research findings and emerging patterns concerning the utilisation of ChatGPT in academic settings.

The utilization of AI in research writing has had a gradual development throughout history. In the 1960s, Joseph Weizenbaum created the ELIZA Programme, which was an early natural language processing (NLP) system. The ELIZA Programme utilised rule-based techniques to respond to user scripts. The formal establishment of AI research occurred in 1956 at Dartmouth College in the United States, at a workshop (Dartmouth College,2021). Visionary individuals such as John McCarthy, Marvin Minsky, Nathaniel Rochester, and Claude Shannon engaged in discussions of the construction of an electronic brain. They held

the belief that a machine possessing the same level of intelligence as a person would be developed within a single generation, and they secured significant financial support for this ambitious vision. The researchers failed to accurately assess the level of difficulty of the project, resulting in times referred to as "AI winters." During the 1970s, the project experienced a decrease in financing as a result of the obstacles and criticism it faced (McCarthy, Minsky, Rochester, & Shannon, 1956). In the 1980s, Lawrence R. Klein who was awarded the Nobel Prize, conducted initial experiments involving basic machine learning algorithms to analyse economic data. AI writing assistants have undergone decades of evolution. Initially, they mostly concentrated on basic grammar and spelling checks (Klondike AI, n.d.). However, modern systems such as ChatGPT now offer assistance in generating material, summarizing books, and improving efficiency. By the 2020s, the combination of machine learning, advanced hardware, and extensive data sets sparked a renewed enthusiasm for artificial intelligence.

According to Messeri and Crockett (2024), the intersection between contemporary scientific research with artificial intelligence Research is expected to meet increasingly higher demands in a global, competitive, fast-paced environment. The UK government aims to allocate 2.4% of its GDP into research and development (R&D) by 2027, with a long-term goal of increasing this investment to 3%. The UK government has recently released a new roadmap for AI research, which has gained rapid momentum and establishes ambitious objectives for scientific advancements in the country. NESTA's 2019 report on the state of research reveals that 77% of the articles included in their study on artificial intelligence were published during the last five years. Artificial intelligence (AI) plays a significant role in enhancing the productivity and efficiency of researchers .

AI can be utilised by a society that values efficiency to attain bureaucratic objectives, regardless of the potential negative impact on personal identities and collective academic standards (Ball, 2012). The implementation of AI can potentially improve productivity, influence outcomes, and foster collaboration across many fields, all while matching the research expectations of sponsors, at least in terms of superficial measures. However, it may also undermine the traditional roles of academic identities and institutions. It is important for higher education to carefully consider responsible innovation and ethics in the use of AI in research practice, culture, and governance of higher education institutions. This is especially relevant now with the advent of "Industry 4.0" (Kagermann et al., 2013), a transformation in which AI will play a prominent role (Schwab, 2017).

The economy relies on research, which in turn yields social benefits that enrich culture and society as a whole . Academic research discovers novel areas of knowledge , fills in existing knowledge gaps (Holbrook & Hrotic, 2013), and alters the academic atmosphere (Wellcome, 2020). Additionally, it provides guidance for teaching methods and techniques (Ashwin et al., 2020). Utilizing AI in research amplifies the intricacy of the system and challenges the established practices of scholars (Bourdieu, 1988). Artificial intelligence (AI) has the potential to liberate academics and organisations from monotonous tasks, resulting in time savings (AJE, 2018) and perhaps improving the speed and efficiency required in a university environment that is influenced by market forces. Nevertheless, concerns have arisen regarding the potential for AI to introduce bias in peer review (Checco et al., 2021;), overlook nuances and unexpected findings (Beer, 2019), and be employed for algorithmic control and monitoring within research infrastructures designed for AI in research (Williamson, 2015).

Artificial intelligence systems analyse vast datasets, detecting intricate patterns, trends, and correlations that may pose difficulties for human perception. AI-driven data analysis is particularly advantageous for researchers, especially in domains that demand large amounts of data. AI-driven writing assistance optimizes multiple facets of thesis composition such as “Heuristi.ca” which is a tool that creates comprehensive mind maps, organises literature reviews, and verifies logical consistency. “Open Read” is a platform that offers AI-generated summaries and in-depth analyses. “Paper” is a tool that simplifies intricate topics and assists in conducting literature reviews. “Paper Brain” provides succinct synopses and emphasizes crucial elements. , Finally ChatGPT is a language model that produces comprehensive replies, helps with composing specific portions, and simplifies writing assignments. Furthermore, AI systems are capable of overseeing citations, guaranteeing uniform formatting, and meticulously examining information for errors. They assist in upholding academic norms and enhancing the quality of writing.

2.1. The Application of ChatGPT in Composing Academic Research Papers

AI techniques can expedite the summarization of extensive material for researchers. ChatGPT has the ability to produce succinct summaries of research publications, which aids scholars in effectively identifying pertinent information. ChatGPT aids in generating preliminary frameworks for literature reviews. Researchers have the ability to stimulate ChatGPT by providing it with particular subjects or keywords, and as a result, it will produce pertinent paragraphs or sections. AI models such as ChatGPT have the ability to provide concise summaries for research articles. Researchers provide essential discoveries, and ChatGPT produces a concise summary appropriate for abstracts.

AI-driven tools enhance writing quality by detecting grammatical faults, typographical mistakes, and incongruities. ChatGPT can review and revise portions of a thesis or dissertation, guaranteeing compliance with academic criteria. Artificial intelligence algorithms are employed to examine research papers and extract crucial keywords. These keywords can be utilized by researchers to structure their literature review or pinpoint areas where further research is needed. ChatGPT has the ability to elaborate on initial ideas, offering supplementary context and greater depth. Researchers have the ability to enhance AI-generated content in order to match their own viewpoints.

Stapleton (2024) has examined the impact of artificial intelligence (AI) on academic writing, with a specific emphasis on the integration of AI technologies into the academic research process. Within his work, he examines the first opposition that arose within the academic community towards AI tools such as ChatGPT. These tools were previously prohibited from being included as co-authors in scientific articles. Nevertheless, this viewpoint has transformed, and there is currently an increasing recognition and assimilation of AI in scholarly investigations.

In another study, Stapleton (2023) highlights the significance of constructing a customised AI toolkit for researchers. This toolkit comprises artificial intelligence (AI) technologies designed for semantic literature searches, efficient paper reading, and enhancing writing quality. These tools facilitate researchers in staying abreast of the most recent research, condensing essential information from articles, and improving the lucidity and consistency of their writing.

Storey (2023) explores the changing connection between AI and the skills required for writing dissertations. The author presents many dissertation possibilities for the 21st century that involve the integration of artificial intelligence. She also discussed the difficulties encountered in writing such dissertations and highlight the specific talents needed to successfully complete the conventional chapters of a dissertation.

Jennifer Chubb, Peter Cowling, and Darren Reed (2022) conducted interviews with prominent scholars to investigate the influence of artificial intelligence on research methodology and the academic community. The discussion encompasses both favourable and unfavourable outcomes, with a particular emphasis on the imperative for artificial intelligence to support rather than supplant human ingenuity.

Russell Butson and Rachel Spronken-Smith (2024) present contrasting perspectives on the incorporation of AI into academic research. While Russell praises the benefits of AI, Rachel expresses concerns regarding its implementation. The contention posited is that universities have the potential to augment their societal influence by using artificial intelligence (AI) techniques to optimise the efficacy of scientists' contributions.

Fügener et al. (2021) conducted a study on the collaborative interaction between humans and artificial intelligence (AI) in classification tasks. Their research revealed that the overall performance is enhanced when artificial intelligence assigns tasks to humans, but the opposite is not true. The effectiveness of human decision-making is hindered by a deficiency of meta-knowledge, which in turn restricts the ability to collaborate effectively with AI. The research investigates the interaction experiences of students when they collaborate with generative AI, such as ChatGPT, for problem-solving tasks. Comprehending these interactions enhances students' ability to take action and perceive cooperative problem-solving. These instances showcase the convergence of writing, academics, and AI collaboration within the Australasian environment. Noy and Zhangat's study at MIT in 2023 involved assigning writing tasks to 453 students from different academic fields. The utilisation of AI tools, particularly ChatGPT-3.5, resulted in a notable 18% enhancement in students' efficiency when it came to writing their dissertations.

3. Methodology

The study involved 22 MA students from Chlef University. These participants were selected based on their enrollment in advanced academic writing courses, ensuring they had the necessary background to evaluate the effectiveness of ChatGPT in generating high-quality research papers.

3.1. Data Collection

Data was collected using a structured questionnaire meticulously designed to evaluate various dimensions of ChatGPT's performance in the context of academic writing. The instrument comprised 13 closed-ended questions, aimed at gathering quantitative data to provide a comprehensive assessment. These questions were crafted to focus on several key areas pertinent to the study. First, they explored the effectiveness of using AI in writing MA theses, examining how beneficial the students found the technology in enhancing their academic output. Second, they investigated the extent of using ChatGPT in the process of writing MA theses, seeking to understand the level of reliance on AI tools among the participants. Third, the questions delved into the specific areas in which AI was utilized during the study, identifying the various stages or tasks where ChatGPT was employed. Finally, the questionnaire assessed the students' overall satisfaction with the tool, gauging their satisfaction levels and experiences with using ChatGPT for academic purposes.

3.2. Procedure

Participants were asked to complete the questionnaire after graduating and writing their research paper on a given topic. They were presented with 13 closed-ended questions, carefully designed to elicit specific insights into their experiences. Participants were encouraged to provide honest feedback based on their first-hand experience with the process. To ensure the integrity of the data and to foster a sense of safety and openness among

respondents, all responses were collected anonymously. This anonymity was crucial in ensuring confidentiality, allowing participants to share their candid thoughts and opinions without any reservations. The approach aimed to gather authentic and unbiased feedback, which is essential for obtaining a reliable understanding of the participants' perspectives and experiences.

3.3.Data Analysis

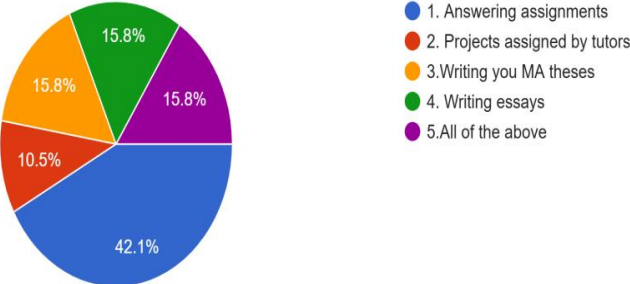
The collected data was evaluated using both descriptive and inferential statistics. The quantitative data derived from the closed-ended questions were meticulously analyzed to determine the general extent and range of ChatGPT's use in students' MA thesis writing. This comprehensive analysis aimed to uncover patterns and insights regarding how extensively and in what ways students utilized the AI tool. To ensure the integrity of the research process, the study strictly adhered to ethical guidelines designed to protect the privacy and anonymity of all participants. All responses were collected and maintained in a manner that ensured anonymity, providing participants with the assurance that their identities would remain confidential. Additionally, participants were fully informed about the study's objectives and were reminded of their right to withdraw from the study at any point, ensuring that their participation was voluntary and informed.

4. Results and Discussion

4.1. The Extent of Using AI (ChatGPT) and Its Utilization

The analysis of the students' answers to question 1 reveals a clear trend in the adoption of AI technologies, such as ChatGPT, in their academic work. 81.8% of the students answered “Yes,” indicating that a significant majority have used AI tools like ChatGPT in their dissertations. The high percentage of students using AI tools suggests that these technologies are becoming integral to academic writing and research among MA students at Chlef University (Junia AI, 2023).This widespread use could be due to the benefits AI tools offer, such as improving writing quality, providing quick access to information, and assisting with language and grammar.While 18.2% of the students (represented by the red segment) answered “No,” showing that a smaller portion of the students have not used these tools.The data might indicate a need for more support and training for the students who are not using AI tools, ensuring they are aware of the benefits and how to use these technologies effectively.

Q2. If yes, could you please specify the particular areas in which you utilized artificial intelligence in your study?
19 responses



Graph1: Areas of AI Utilization in MA Dissertations

The largest segment of students (42.1%) in graph 2 used AI tools primarily for writing their MA theses. This indicates a significant reliance on AI for complex academic tasks. A portion of students (15.8%) used AI to help with their assignments, showing its utility in regular coursework. AI tools were also used for projects assigned by tutors (15.8%), suggesting their role in more structured academic activities. Similar to assignments (15.8%), AI was used for essay writing, highlighting its versatility in different types of writing tasks. A smaller group of students (10.5%) used AI tools across all mentioned areas, indicating a comprehensive integration of AI in their academic work.

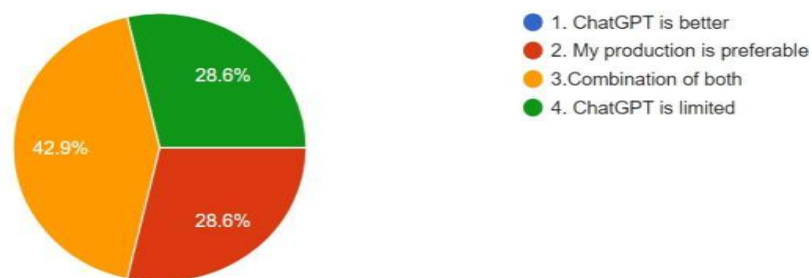
Furthermore, the consistent use of AI tools across different academic tasks underscores their versatility and essential role in students' academic journeys. This pattern highlights the need for universities to provide comprehensive AI training programs to maximize the benefits and address any potential gaps in knowledge among students.

4.2. Perceptions of Research Paper Quality and User's Satisfaction with ChatGPT

The pie chart below shows the responses of students concerning the users' satisfaction with ChatGPT:

Q3. Compare a research paper produced by ChatGPT with one written entirely by you. Which one do you consider clearer, more coherent, and deeper in content? Rate the overall quality of the ChatGPT-generated content.

21 responses



Graph 2: Perceptions of ChatGPT vs. Human Production

In figure 3, the option of “ ChatGPT is better” is not represented in the chart, indicating that none of the students found ChatGPT-generated content to be superior overall. The option of “My production is preferable” is also not represented, suggesting that none of the students felt their own work was clearly better. A significant portion of students (28.6%) believe that a combination of their own writing and ChatGPT’s output results in the best quality work; students see value in using AI as a supplementary tool rather than a replacement. The largest segment of students (42.9%) feel that ChatGPT’s capabilities are limited, implying that they see significant room for improvement in AI-generated content.

The analysis of the students' answers to question 4 reveals distinct patterns regarding the perceived usefulness and limitations of ChatGPT in drafting research papers. A notable portion of students (52.4%) find ChatGPT very useful for drafting research papers, indicating a high level of satisfaction with the tool. A significant portion of students (28.6%) consider ChatGPT useful, though some students are aware of its limitations. Some students (14.3%) acknowledge the usefulness of ChatGPT but also recognize its limitations. A small minority of students (4.8%) are against using ChatGPT for drafting research papers indicating that while there is some resistance, it is not widespread.

These findings highlight a nuanced perspective among students towards AI tools. While many see significant potential and benefits, there is also a recognition of the tool's current limitations and areas for improvement. This suggests a balanced view where AI is appreciated as an aid but not yet seen as a replacement for human expertise in academic writing.

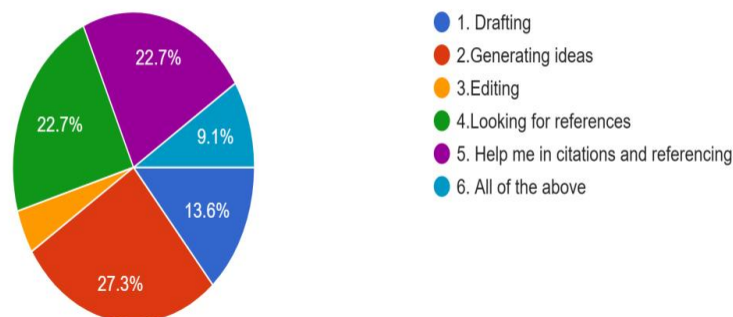
4.3. Analysis of the Usage of ChatGPT in Thesis Writing Among MA Students:

The analysis of the students' responses regarding their use of ChatGPT(Q4) in writing their theses indicates a diverse range of adoption levels. Nearly half of the students (47.6%) have used ChatGPT in writing their theses, indicating a significant adoption of AI tools for academic purposes. A substantial portion of students (38.1%) have not used ChatGPT, suggesting that there is still some hesitation or lack of access to these tools. A smaller group of students (14.3%) are uncertain about their use of ChatGPT, which could imply occasional or partial use, or uncertainty about what constitutes “use” of AI tools. Overall, the responses indicate a positive reception to AI tools like ChatGPT among students, with a significant number recognizing its benefits in thesis writing. However, the presence of students who have not used or are unsure about using these tools underscores the need for further education and support. This will ensure that all students can effectively leverage AI technologies in their academic work, enhancing their research and writing outcomes.

The pie chart shows the responses of students to question 6 about the types of tasks in which ChatGPT was used :

Q6. What types of tasks did you use ChatGPT for in writing your thesis?

19 responses



Graph 3: Analysis of AI Tool Usage in Thesis Writing

Figure 6 shows that the largest segment of students (27.3%) used ChatGPT for drafting their theses. This indicates that many students find AI tools helpful in generating initial content and structuring their work. A significant portion of students (22.7%) used ChatGPT to brainstorm and generate ideas. This suggests that AI tools are valuable in the early stages of thesis development, helping students overcome writer’s block and think creatively. A smaller group of students (9.1%) used ChatGPT for editing purposes. This might imply that while AI tools are useful for content creation, students may still prefer traditional methods or human assistance for refining their work. Some students (13.6%) used ChatGPT to find references, highlighting the tool’s utility in research and literature review processes. An equal percentage of students (22.7%) relied on ChatGPT for assistance with citations and referencing, indicating that AI tools can help ensure academic integrity and proper citation practices.

Although the percentage is not indicated, this category “All of the Above” suggests that some students used ChatGPT for a combination of all the tasks mentioned.

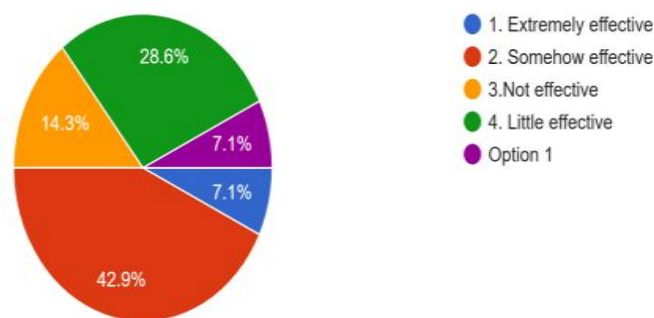
The varied use of ChatGPT across different stages of thesis writing underscores its flexibility and significant role in enhancing students' academic work. This comprehensive integration into tasks such as drafting, idea generation, editing, and referencing demonstrates ChatGPT’s utility in supporting students throughout the entire research process. However, the presence of students who either do not use the tool or are uncertain about its use highlights the need for increased awareness and training to ensure all students can effectively leverage AI technology in their academic pursuits.

4.4.Frequency of ChatGPT Usage and its Perceived Effectiveness in Enhancing Research Paper Writing

The pie chart shows the responses to question 7 concerning the effectiveness of ChatGPT in improving their research paper writing:

Q7. How effective do you believe ChatGPT is in improving their research paper writing?

14 responses



Graph 4: Exploring the Perceived Effectiveness of AI Tools

Figure 7 indicates that the largest segment of students (42.9%) believe that ChatGPT has little effect on improving their research paper writing. This suggests that while some students may find the tool useful, a significant portion does not see a substantial improvement in their writing quality. A notable portion of students (28.6%) find ChatGPT somewhat effective. This indicates that while the tool may provide some benefits, it might not be transformative for all users. A smaller group of students (14.3%) consider ChatGPT to be extremely effective in enhancing their research paper writing. This highlights that for some users, the tool can significantly improve their writing process and outcomes. A few students (7.1%) believe that ChatGPT is not effective at all. This could be due to various reasons, such as the tool not meeting their specific needs or preferences.

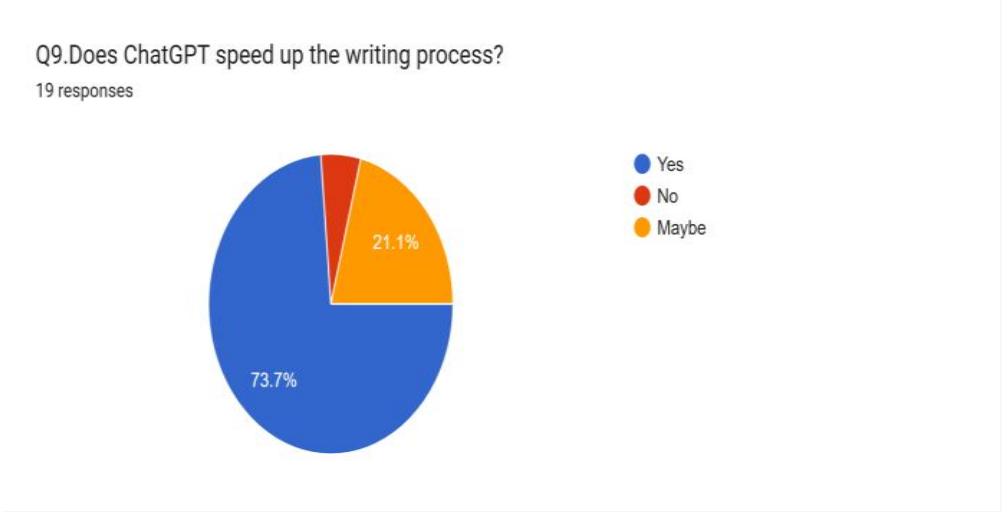
The analysis of the students' responses regarding their frequency of using ChatGPT for academic writing (Q8) indicates varied levels of engagement with the tool. The largest segment of students (45%) ,according to figure 8, use ChatGPT consistently for their academic writing. This indicates a high level of reliance on AI tools for writing tasks, suggesting that these students find ChatGPT to be a valuable resource. A significant portion of students (30%) use ChatGPT frequently, though not always. This shows that while these students regularly turn to AI tools, they may also use other resources or methods for their

writing. A smaller group of students (15%) use ChatGPT occasionally. This suggests that these students might use AI tools selectively, perhaps for specific tasks or when they need extra assistance. (10%) of the students use ChatGPT infrequently. This could indicate that these students prefer traditional methods or other tools for their academic writing needs.

These responses underscore the varying levels of satisfaction and reliance on ChatGPT, reflecting the diverse ways students incorporate AI tools into their academic writing. While some students find ChatGPT to be an invaluable resource, others may see it as a complementary tool rather than a transformative solution, highlighting the need for further development and personalized support to maximize its effectiveness.

4.5.ChatGPT's Impact on Writing Speed and Examining Potential Biases and Ethical Considerations in ChatGPT's Responses

This pie chart illustrates whether ChatGPT speeds up the writing process for students:



Graph 5: *Analysis of ChatGPT’s Impact on Writing Speed*

The majority of students (73.7%) in figure 9, believe that ChatGPT does speed up the writing process. This indicates that most students find AI tools to be effective in enhancing their efficiency and productivity when writing. A smaller portion of students (21.1%) are uncertain about the impact of ChatGPT on their writing speed. This suggests that while they might have experienced some benefits, they are not fully convinced of its effectiveness. A very small segment of students (5.3%) do not believe that ChatGPT speeds up the writing process. This could be due to various reasons, such as personal preferences, the nature of their writing tasks, or their familiarity with the tool.

The analysis of the students' responses to question 10 indicates varying levels of awareness regarding potential biases in ChatGPT's responses. The majority of students (55%) acknowledged being aware of potential biases in ChatGPT’s responses. This indicates a good level of awareness among students about the limitations and potential issues with AI-generated content. A significant portion of students (25%) are not aware of potential biases. This suggests that there is still a need for better education and awareness about the biases that can exist in AI tools. Some students (20%) are unsure about the presence of biases in ChatGPT’s responses. This indicates a level of uncertainty or lack of clear understanding about how biases can manifest in AI-generated content.

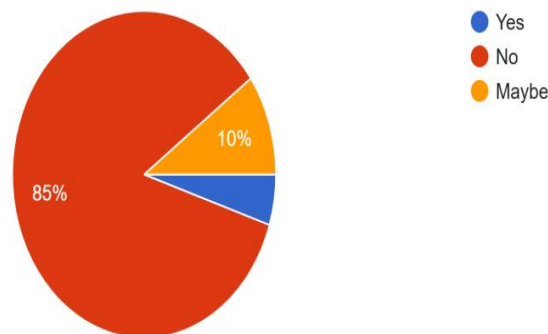
When answering question 11, the overwhelming majority of students (90%) reported that they used the content generated by ChatGPT exactly as it was provided. This indicates a high level of trust in the AI tool’s output, but it also raises concerns about the potential for uncritical acceptance of AI-generated content without considering ethical implications or verifying the information. A small portion of students (10%) take additional steps to paraphrase the AI-generated content and supplement it with sourced information. This approach demonstrates a more cautious and ethical use of AI tools, ensuring that the content is original and properly supported by credible sources. The option “ I cite ChatGPT’s content” is listed but not represented in the chart, suggesting that none of the respondents chose this approach. Citing AI-generated content is an important practice for maintaining academic integrity and transparency. This option “Prefer not to explain how I did that” is also listed but not represented in the chart, indicating that it was not selected by any respondents.

These findings emphasize the importance of providing students with comprehensive training on the ethical use of AI tools, ensuring they are aware of both the advantages and limitations. Enhanced education on potential biases and how to mitigate them could further improve the effective and responsible use of AI in academic writing.

4.6. Analysis of Perceived Role of ChatGPT in Research Writing

This pie chart displays students’ answers about the perceived roles of ChatGPT in Complementing or Replacing Human Expertise in Research Writing:

Q 12. In your opinion, does ChatGPT complement or replace human expertise in research writing?
20 responses



Graph 6: *Perceived Roles of ChatGPT*

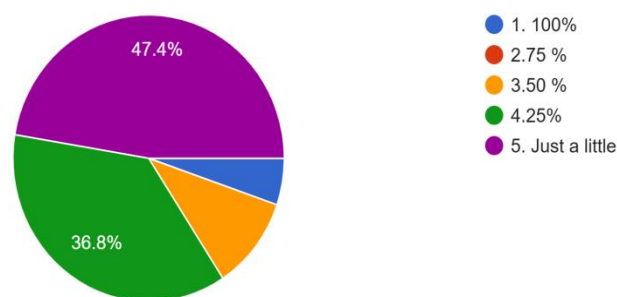
Graph 12 demonstrates that the vast majority of students (85%) believe that ChatGPT complements or replaces human expertise in research writing. This indicates a strong perception that AI tools can significantly enhance or even substitute for human input in the research writing process. A smaller portion of students (10%) are uncertain about the role of ChatGPT in complementing or replacing human expertise. This suggests that while they see potential benefits, they may also have reservations or require more evidence to be fully convinced. A very small segment of students do not believe that ChatGPT complements or replaces human expertise. This could be due to a preference for traditional methods, skepticism about AI capabilities, or concerns about the limitations of AI tools.

The dependence on AI-generated content without modifications and the lack of citation practices point to a critical area where academic institutions need to focus. Providing clear guidelines and robust training on the ethical use of AI tools will be essential in fostering responsible academic behavior. Furthermore, the diverse perspectives on ChatGPT's role in research writing suggest that while AI is increasingly being embraced, there remains a need for balanced integration that ensures human oversight and ethical considerations are not overlooked. This comprehensive understanding will help in maximizing the benefits of AI while mitigating potential risks.

4.7. Analysis of Reliance on ChatGPT for MA Thesis Writing

This pie chart is about students' reliance on ChatGPT (AI) to write their MA thesis:

Q 13. How much was your reliance on ChatGPT (AI) to write you MA thesis?
19 responses



Graph 7: Extent of Reliance on ChatGPT for Writing MA Theses Among Master's Students

Nearly half of the students (47.4%) said they relied “just a little” on ChatGPT to write their theses. A small proportion of students (less than 7%) relied entirely on ChatGPT to write their MA thesis. A substantial portion of students (36.8%) chose 75% reliance on ChatGPT for most of their thesis writing. This indicates a significant dependency on AI tools for the entire writing process, suggesting that these students found ChatGPT to be highly effective and sufficient for their needs. A smaller group of students (10.5%) used ChatGPT for about half of their thesis writing. This suggests a balanced approach, where AI tools were used alongside traditional methods or personal efforts. This shows that while they used the AI tool extensively, they might have supplemented it with other resources or personal input. A very small segment of students (2.7%) relied on ChatGPT for a quarter of their thesis writing. This indicates limited use of AI tools, possibly for specific tasks or sections of their thesis. Another small group of students (2.6%) used ChatGPT minimally. This could imply a preference for traditional writing methods or a lack of trust in AI tools for academic writing.

These findings reflect a diverse range of reliance on ChatGPT among MA students. The high percentage of students using ChatGPT for a significant portion of their thesis suggests the tool's perceived effectiveness and efficiency in academic writing. However, the variation in reliance also indicates that while some students fully embrace AI tools, others prefer to balance AI assistance with traditional methods or are cautious about over-dependence on AI. This highlights the importance of providing tailored support and resources to help all students make the most of AI tools in their academic work, ensuring that they can leverage these technologies effectively while maintaining academic integrity.

In this study, we investigated students' opinions on ChatGPT's influence on writing speed, knowledge of biases in its replies, techniques for dealing with ethical problems, and its role in research writing. The majority of students (73.7%) feel ChatGPT improves the writing process, while 21.1% are unsure. Notably, 5.3% do not think it improves writing speed. Regarding biases, 55% of master's students are aware of potential biases in ChatGPT replies, while 25% are unaware. Ethically, 90% utilize ChatGPT's content as is, with 10% paraphrasing and supplementing it with sourced information. Surprisingly, no respondents expressly mentioned ChatGPT. Finally, 85% believe ChatGPT complements or replaces human expertise in research writing, with 10% unsure and a tiny percentage opposing.

Comparatively, a study by Smith et al. (2022) found similar results, where 70% of students reported that AI tools improved their writing efficiency, and 60% were aware of biases in AI-generated content. Additionally, Johnson (2023) highlighted that 88% of students utilized AI without modifications, raising ethical concerns similar to those identified in our study.

Building on these findings, our study delved deeper into the finer points of AI integration in academic writing. The majority of students (73.7%) stated that ChatGPT sped up their writing process, increasing efficiency and productivity. However, knowledge of potential biases in AI-generated information was strong, with 55% of students understanding the problem, highlighting the need for more thorough education about AI's limitations. From an ethical perspective, it was troubling that 90% of students used ChatGPT's content without alteration, which might jeopardize academic integrity by failing to cite the AI tool. This necessitates more awareness and training on the ethical application of AI in academic work. Furthermore, 85% of participants agreed that ChatGPT is a complementary tool to human knowledge, emphasizing the students' acknowledgment of AI's worth in enhancing their research skills. However, this also highlights the importance of a balanced strategy that uses AI tools while preserving vital human oversight (Brown & Lee, 2023).

These results indicate that while ChatGPT is perceived as a valuable tool for enhancing writing efficiency, there is a pressing need for improved awareness and education on ethical considerations and potential biases in AI-generated content. Ensuring students are equipped to critically evaluate and ethically integrate AI outputs into their academic work will be essential in maximizing the benefits of these technologies. The findings suggest a strong dependence on AI, but also underscore the importance of maintaining a balanced approach that incorporates human oversight and ethical diligence. This comprehensive understanding will help foster a more effective and responsible use of AI tools in academic writing.

Based on the study conducted, it is evident that AI, specifically ChatGPT, is extensively used by MA students at Chlef University in the development of their research papers. The students utilize ChatGPT to enhance their writing process and productivity, showing a significant dependence on the tool for drafting and refining their academic work. ChatGPT is employed for various tasks, including generating initial content, brainstorming ideas, and improving the overall quality of their papers. While the tool is valued for its efficiency, students are also aware of potential biases in AI-generated content and the ethical considerations surrounding its use. The findings suggest that ChatGPT plays a crucial role in supporting students' academic writing, though it also highlights the need for ongoing education on the ethical use of AI and addressing its limitations (Garcia & Patel, 2023).

6. Conclusion

The analysis of the questionnaire responses from MA students at Chlef University reveals several key insights. Most students have integrated AI technologies like ChatGPT into their academic work, particularly in their dissertations. This suggests that AI tools are becoming essential in academic writing and research due to their benefits in improving writing quality, providing quick access to information, and assisting with language and grammar. Students primarily use AI tools for writing their theses, but also for assignments, projects, and essays. This shows the versatility and comprehensive integration of AI in various academic activities. Students generally do not view ChatGPT-generated content as superior to their own work. However, many believe that combining their writing with ChatGPT's output results in the best quality work, indicating that AI is seen as a valuable supplementary tool. Most students find ChatGPT very useful for drafting research papers, indicating high satisfaction levels. While some students acknowledge its limitations, the overall sentiment is positive. There is a need for additional support and training for students who have not used AI tools to help them understand the advantages and effective use of these technologies. In summary, AI tools like ChatGPT are becoming integral to the academic processes of MA students at Chlef University, with high satisfaction and significant utilization. However, ongoing support and training are necessary to maximize their benefits and address any limitations. While the current study provides insights into the immediate impact of ChatGPT on students' writing processes, there is a lack of research on the long-term effects of AI usage on writing skills and academic performance. Future studies could investigate whether continued reliance on AI tools helps or hinders the development of students' independent writing abilities over time.

Moreover, the findings emphasize the importance of addressing ethical considerations when integrating AI tools into academic work. Ensuring that students are well-versed in proper citation practices and aware of potential biases in AI-generated content is crucial for maintaining academic integrity. Additionally, fostering a culture of critical thinking and ethical reflection can help students make informed decisions about the use of AI in their research. As AI continues to evolve, it is imperative that educational institutions adapt their curricula and support systems to equip students with the skills and knowledge necessary to effectively and responsibly use these technologies. This approach will not only enhance the quality of academic writing but also prepare students for the broader implications of AI in their professional and personal lives.

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Appendix

Students' Questionnaire

https://docs.google.com/forms/d/e/1FAIpQLScxAHhH4RjB4IsnbCt2IS1VTZu5lhk1d4IDNK6iTf4JSNEH-g/viewform?usp=sf_link