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| RESEARCH ARTICLE

Moroccan EFL Teachers' Perceptions of AI-Generated Content: Impact, Effectiveness, and Challenges in Language Learning

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| ABSTRACT

Over the last few decades, the education sector has seen various pedagogical changes as a result of rapid technological breakthroughs, giving students and teachers access to a wide range of web-based materials and digital tools. The development of artificial intelligence technology, such as AI-generated content, which makes education more easily accessible with the press of a button, has further increased this accessibility. This study aims to explore English as a foreign language teachers' perceptions of the use of AI-generated content, investigating its potential impact on language learning outcomes and the overall learning experience. By delving into students' and educators' perspectives, this research also seeks to explore the effectiveness and challenges of integrating AI-generated content in language instruction. 40 English as a foreign language teachers took part in the study, including middle and high school teachers in Taourirt. A qualitative analysis was carried out to delve into EFL teachers' insights regarding AI-generated content. The findings of the study showed that the majority of teachers had positive attitudes toward the use of AI-generated content technology. Learning about teachers' attitudes toward AI implementation in the classroom will help pave the way for informed pedagogical practices and maximize the benefits of technological advancements in education.

| KEYWORDS

Generated content, education, EFL, high school teachers, attitudes, AI

| ARTICLE INFORMATION

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1. Introduction

Over the past few decades, the educational sector has witnessed remarkable transformations due to rapid technological advancements. These changes have not only revolutionized the learning and teaching processes but have also redefined the roles of both educators and learners. Central to this transformation is the emergence of artificial intelligence (AI) technology, which has paved the way for innovative pedagogical approaches and increased accessibility to educational resources (Crompton et al., 2022; Feng & Law, 2021). The integration of AI-generated content into education has particularly attracted educational scholars' attention for its potential to enhance learning experiences and outcomes.

1.1. Background and Context

Historically, the integration of technology in education has shown promise in enhancing pedagogical practices, engaging students, and promoting individualized learning (Crompton et al., 2022; Feng & Law, 2021; Kabudi et al., 2021; Ouyang & Jiao, 2021; Zafari et al., 2022; Zawacki-Richter et al., 2019; Zhai et al., 2021). The recent surge in AI technology, particularly AI-generated content, has taken this integration to a new level. AI-generated content encompasses a wide spectrum of tools and resources, including automated language exercises, virtual language tutors, and customized learning materials. These resources have the potential to offer personalized learning experiences, immediate feedback, and adaptive content delivery, thereby catering to the diverse needs and learning styles of students (Liu and Zhang , 2022; Nie et al , 2022).

However, while existing research has explored the potential benefits of AI-generated content in education, the majority of studies have primarily focused on its impact on students' learning outcomes. This study recognizes the equally important role of educators and aims to contribute to the understanding of their attitudes, perceptions, and reservations concerning the integration of AI-generated content in their teaching practices.

1.2. Research Gap and Objectives

The specific research gap that this study aims to address lies in the lack of in-depth investigation into English as a foreign language teachers' attitudes toward AI-generated content in ELT contexts. While broader discussions about technology integration have occurred, teachers' perspectives, concerns, and potential barriers in implementing AI-generated content remain understudied.

The main objectives of this research are as follows:

1. To explore English as a foreign language teachers' perceptions of the use of AI-generated content.
2. To investigate the potential impact of AI-generated content on language learning outcomes and the overall learning experience.
3. To gain insights into the effectiveness and challenges of integrating AI-generated content in language instruction.
4. To understand the attitudes of teachers toward the implementation of AI-generated content in the classroom.

1.3. Significance of the Study

This research contributes to the broader discourse on the role of technology in education by bringing to light Moroccan educators' perspectives. The findings of this study can inform educational stakeholders, curriculum developers, and policymakers about the perceptions as well as preferences of EFL teachers regarding the integration of AI-generated content. Ultimately, this understanding can aid in the development of informed pedagogical practices and strategies that maximize learning outcomes through AI incorporation in the EFL classroom.

In the subsequent sections of this paper, the methodology, findings, and implications of this research will be expounded upon in greater detail. By delving into the experiences and viewpoints of EFL teachers, this study aims to provide a comprehensive understanding of the evolving landscape of teaching English as a foreign language in the age of AI.

2. Literature review

2.1. What is Artificial Intelligence?

Artificial intelligence (AI) is a rapidly developing field that has sparked interest among academics, programmers, and computer enthusiasts. As technology advances, a number of experts (Coppin, 2004; Wardat et al., 2023;) and organizations have offered numerous definitions of AI.

For example, Coppin (2004) defines artificial intelligence as the capability of machines to solve problems, respond to questions, devise strategies, and carry out a variety of other tasks that call for a level of intelligence that is typically found in humans. A more recent definition was provided by Wardat et al. (2023) who in turn define AI as the creation of intelligent robots that can mimic human cognitive processes and behaviors, proving valuable in a wide range of applications like medical diagnoses, autonomous vehicles, and educational settings. While the definitions of Coppin (2004) and Wardat et al. (2023) emphasize the broad scope of artificial intelligence, encompassing problem-solving, interactive responses, strategizing, and other tasks that demonstrate a level of intelligence comparable to that of humans, Whitby's definition takes a more inclusive approach. For him, it is the study of intelligent behavior in people, animals, and machines, as well as the attempt to construct such behavior into an artifact, such as computers and computer-related technology (2009). It is often the case that one can define a concept or notion by the goals it was created for. Thus, for Russel and Norvig (2002), developing robots that are capable of carrying out tasks that traditionally require human intelligence is the main goal of AI. Examples of such tasks include speech recognition, visual perception, decision-making, and natural language processing.

2.1. AI-Aided Teaching

Educational shifts and reforms in education are not new. Each time a new technological breakthrough occurs, efforts are made to make the best of these technologies to advance the educational field equally. It should be noted that even though computers have been around since the 1970s, their use in the educational sector was largely confined to browsing the net for educational resources (Cuban, 1986) like reading texts, quizzes, grammar exercises, etc., thoughtfully crafted and shared by fellow teachers for utilization and enhancement. However, the rise of AI has completely revolutionized how teachers and students interact with educational content, especially language teaching/learning content.

The pervasiveness and rapid integration of AI into various facets of our lives highlights its inevitability, especially in the educational sector. Due to the transformative power of AI and what it can do, some scholars and researchers went as far as to claim that it can replace teachers. This is mainly because AI is enormously capable of automatically tracking students' progress, assessing their performance, and offering individualized assistance (Albacete et al., 2019; Chounta et al., 2022).

Given the wide range of challenges teachers often encounter in their attempt to meet the diverse and demanding requirements of their students, ranging from attendance to individualized instruction to content creation and design, performance tracking, and meaningful feedback, AI is seen, then, as an effective solution to these challenges (Kaplan-Rakowski, 2023). This is simply because of its capability to handle large amounts of data and identify patterns within them. A number of scholars and researchers provide specific examples of how AI can actually be the solution to the previously mentioned challenges faced by teachers (Chen et al., 2023; Goel & Joyner, 2017). They provide examples of AI chatbots such as ChatGPT, Jasper, and Google Bard. These AI-powered tools, according to them, provide other means for students to receive real-time assistance by communicating with students and providing them with immediate answers, which reduces delays in learners' progress.

While the aforementioned studies touched upon AI-powered chatbots' capability to address instructional challenges, Chen et al. (2023) and Wu et al. (2020) studies emphasize students' engagement as well as their mental health and how they are positively affected by the use of AI-powered chatbots. Their findings perfectly align with Dhimolea et al's (2022) overview of AI-powered chatbots in education in which he extends the discussion to the potential AI technologies to promote social and emotional well-being among learners. This reinforces the idea that AI can serve not only as an educational tool but also as an agent that contributes positively to students' learning experiences and mental health.

It should be borne in mind that the above-mentioned scholars have approached AI in education by exemplifying how AI is capable of enhancing teachers' instructional practices and how it can offer solutions to teachers' needs. However, other scholars (Alberola et al,2016; Liu and Huang, 2020; Xie et al , 2021) discuss AI capabilities in terms of the roles it undertakes. They posit that AI tools are capable of playing numerous roles including facilitators or moderators, keeping an eye on student collaboration activities, identifying when students are having difficulty, and then offering focused assistance. In the same vein, Lukin et al (2016) contend that the roles that AI plays in education do not diminish teachers' value but rather give them more roles such as utilizing their time effectively and efficiently so as to enhance their knowledge, leverage it, and use it more effectively.

While there exists a substantial body of literature highlighting the significance of integrating AI into education and the diverse solutions it offers for both educators and learners, one aspect that has received limited attention is how teachers perceive AI-generated English as a foreign language content, especially with the Moroccan EFL context.. It is essential to point out that although AI-integrated content and chatbots play a substantial role in enhancing teaching and learning experiences, their effectiveness is closely linked to how they are introduced and integrated into the classroom. According to Kaplan-Rakowski et al. (2023), there has been a growing body of research exploring educators' perspectives on AI adoption in education since 2020. However, as of July 2023, the number of studies conducted in this area remains relatively scarce. Despite the increasing prevalence and accessibility of AI-powered tools, there is limited knowledge concerning teachers' perspectives on incorporating such AI technologies, like ChatGPT, into the educational context (Celik et al., 2022 as cited in Kaplan-Rakowski et al., 2023). By gaining insights into how educators view and engage with AI-generated content in the context of English language teaching, educators' perspectives can shape the way these AI technologies are implemented and made use of in the language classroom. This is because the successful implementation of AI technologies depends heavily on how teachers perceive these technologies (Cope & Ward, 2002; Ding et al., 2019; Ertmer, 2005; Ottenbreit-Leftwich et al., 2018). This can drive the development of AI tools that best align with educators' needs and teaching objectives, thus ultimately enhancing the overall learning experience of students.

3. Methodology

3.1. Purpose of the study

The purpose of the current study is to explore Moroccan English as a foreign language teachers' perceptions of AI-generated content. It also aims to delve into the potential of incorporating AI into the EFL classroom and the challenges inherent to AI adoption. The study also makes use of previous research carried out on the integration of AI-powered tools to explore the ways in which these tools can be used and taken advantage of by EFL teachers.

3.2. Sampling Procedures

Given that the primary aim of this study is to explore EFL teachers' perceptions of AI-generated content, the target population of interest comprises English as a foreign language teachers. However, since it is empirically impractical to include all EFL teachers in Morocco, a sample of EFL teachers with diverse educational backgrounds, ages, and teaching experiences was chosen so as to ensure the representativeness of the population.

3.3. Participants

The study involved a group of 40 English as a Foreign Language teachers who were actively engaged in teaching at both high school and middle school levels within the Taourirt directorate. The selected teachers represented a wide spectrum of educational experiences ranging from BA degrees to doctoral degrees.

It should be noted that the sample size for this study is appropriate for many reasons. First, the objective of the current study is to explore EFL teachers' perceptions regarding AI-generated content. This means that a sample of 40 teachers is appropriate since it provides an adequate number of participants to represent the diversity of experiences and perspectives of EFL teachers in Morocco. It should also be noted that the sample is appropriate given the number of EFL teachers in the district of Taourirt which is about 55 teachers. Other similar studies (Ertmer and Ottenbreit-Leftwich, 2005; Hwang et al, 2016) with similar objectives employed almost similar sample sizes in their exploration of teachers' perceptions of technology integration in the EFL classroom. Furthermore, the collaborative involvement of these EFL teachers not only provided depth to the research but also allowed for a more comprehensive understanding of AI-generated content in the Moroccan EFL classroom

3.4. **Data Collocation**

The administration of a comprehensive questionnaire designed to elicit the participants' insights was the main data collection method. Through this qualitative approach, the study aimed to gauge the teachers' levels of receptiveness to AI-generated content, especially that generated by AI-powered tools like ChatGPT, their expectations, and their reservations. The questionnaire provided a structured framework for systematically collecting data crucial in understanding patterns in teachers' perceptions toward AI implementation. Another data collection method used in the study was the analysis and the synthesis of the previously carried out research on the integration of AI in education including, proposed definitions of AI by different scholars, the benefits as well as the challenges associated with AI implementation in education, and teachers' attitudes toward AI-generated content in education.

4. Findings and Data Analysis

In this study, which focused on exploring Moroccan teachers' perceptions toward AI-generated content in the context of English language teaching, data from a diverse group of 40 EFL teachers employed across various high schools and middle schools in Taourirt was gathered. The participant pool revealed a fairly balanced gender distribution, with 45% of the participants identifying as female and 55% as male. Regarding teaching experience, a substantial portion of participants, comprising 57%, reported having between 1 to 5 years of teaching experience. Additionally, 32% reported having between 6 to 10 years of teaching experience, while 7.5% had a teaching background spanning 11 to 20 years. A smaller proportion, 2.7%, had more than twenty years of teaching experience. In terms of educational qualifications, a significant majority, accounting for 57% of the participants, held a Bachelor's degree, while 20% had a Master's degree. Notably, 2.5% of the participants had doctoral degrees. This demographic snapshot of participants provides a comprehensive overview of the diverse backgrounds and experiences that contributed to the investigation into teachers' perceptions of AI-generated content in English language teaching.

4.1. Impact of AI-Powered Tools on Different Aspects of English Language Teaching

As for the aspects that AI-powered tools help the most with, Figure 1. shows a spectrum of suitability for AI incorporation. Among the aspects surveyed, reading comprehension emerged as the most promising area for AI-generated content integration, with an overwhelming 85% of respondents affirming its suitability. The ability of AI-powered tools to generate a myriad of reading materials that are diverse and cater to learners' different needs makes it an asset that teachers need to exploit.

Vocabulary teaching and grammar instruction were closely close in terms of suitability, with 66.7% and 59.3% of respondents favoring AI integration, respectively. AI's capacity to provide tailored vocabulary exercises and offer instant grammar feedback aligns well with the repetitive and rule-based nature of these language components. Similarly, AI-generated content can greatly assist students in writing tasks, where 59.3% of educators deemed it useful. Some teachers reported that these AI-based tools' ability to suggest corrections, generate prompts, and aid in sentence structuring makes them indispensable tools for EFL teachers and students alike.

However, the survey highlighted areas where AI's practicality faces more challenges. this included speaking skills with **51.8**%. Interestingly, the survey indicated that AI-generated content's fit for game-based learning and projects was seen as limited, with only 14.8% of respondents deeming it suitable. This aligns with the understanding that the creative, collaborative, and exploratory aspects of language games and projects are best facilitated through human-guided experiences and that no matter how advanced and sophisticated AI gets, there will always be a need for a human touch.

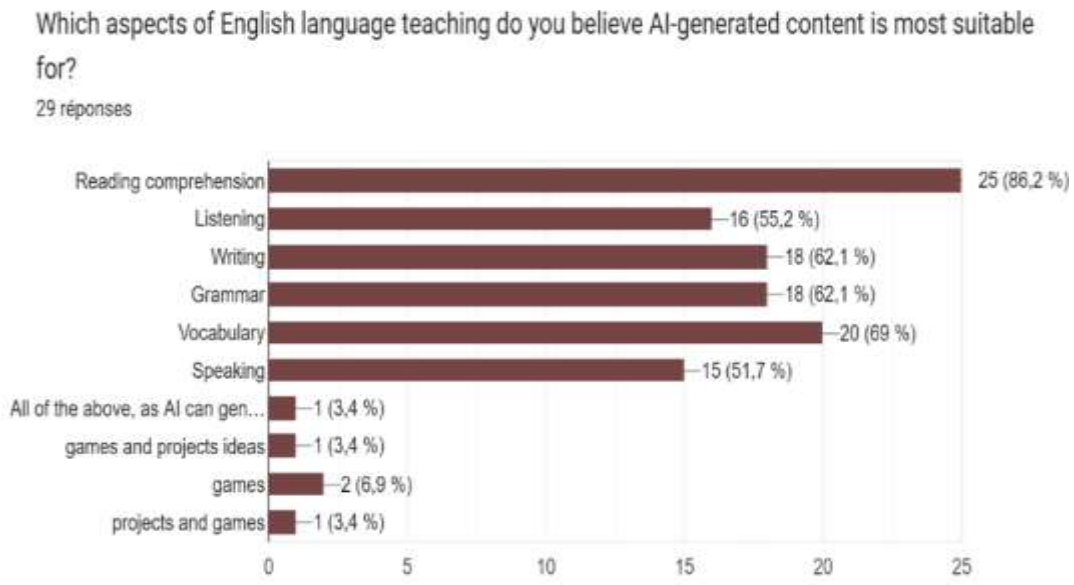

Figure 1 : AI-generated content and their suitability

4.3. Perceived benefits of AI-generated content

Another important question that had to be answered was the various benefits, if any, perceived by EFL teachers. As Figure 2 shows, there is an overwhelming consensus among teachers with regard to timesaving and content development, with 88.9% recognizing this as a pivotal advantage of AI integration. The rapid generation of a diverse range of educational materials is of paramount importance for educators burdened by time constraints. By integrating AI to generate EFL content, educators can redirect their efforts toward crafting personalized learning experiences and refining instructional strategies instead of wasting valuable time on tasks that can be easily and effectively carried out by AI.

Figure 2. also shows that the recognition of enhanced student engagement emerges as another significant benefit, with 51.9% of respondents acknowledging this advantage. AI's ability to personalize content to cater to different learning styles and interests can foster a deeper connection to the subject matter. Incorporating interactive elements, multimedia, and gamified components aligns with contemporary pedagogical theories, facilitating active participation and fostering a positive learning environment.

Personalized learning experiences also emerge as a benefit, with 51% of respondents believing that it can profit students. AI's data analytics capabilities enable the tailoring of content to individual learners, promoting a sense of autonomy. This customization not only accommodates varying learning paces but also addresses diverse learning needs and preferences, ultimately contributing to more effective skill development for all learners.

Similarly, 48.1% of respondents identified the benefit of adaptive and targeted learning as a crucial advantage of AI-enhanced content creation. AI's capacity to showcase learners' strengths and weaknesses paves the way for any necessary personalized interventions. By offering content aligned with specific learning objectives, educators can optimize the learning process and enhance language proficiency outcomes.

The acknowledgment of AI's potential to improve language accuracy and authenticity, as identified by 40.7% of respondents, reflects a nuanced perspective on its capabilities. While AI-generated content can provide grammatical corrections and contextually relevant examples, ensuring subtle language usage and cultural authenticity remains one of the challenges of these AI-powered technologies. This underscores the need for a balanced integration approach that harmonizes AI-generated content with human expertise to ensure that both linguistic precision and cultural sensitivity are not taken for granted

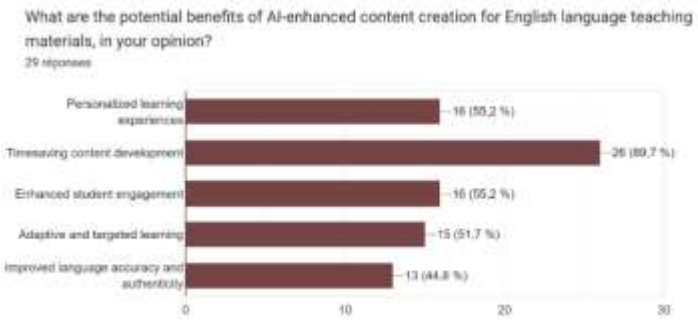

Figure 2 : Perceived benefits of AI-generated content

4.4. Preferred AI-Powered Tools

While there are a number of teachers who attest to the importance of AI integration in the EFL classroom to meet the overall learning objectives, these teachers make use of different AI-powered tools to achieve this end. When asked if they use any AI-powered tools in their EFL classroom, the majority of respondents reported that they did actually utilize them, with the majority leaning toward the use of ChatGPT (50%). Others mentioned other tools such as Bard AI, Chatbots, and Tome AI. It should be highlighted that there were also teachers who justified their use of ChatGPT by claiming that it was the only AI-powered tool that existed or they knew of.

It should be borne in mind that the percentage of teachers who viewed the integration of ChatGPT as being ineffective in the EFL classroom was non-existent. The previously-mentioned percentage included only teachers who actually claimed that they made use of AI in their teaching, ChatGPT in particular. About 57% (19 teachers) deemed it as very beneficial, 39% (13) deemed it as beneficial, 3% (one teacher) deemed it somewhat beneficial while 9.1% (3 teachers) were unsure about AI usefulness. These results best align with Mohamed's (2023) and Ali's studies (2023) in which teachers' preferences regarding the AI tools they integrate into their teaching were investigated. The findings of the study revealed teachers held positive attitudes toward the integration of ChatGPT in their language classroom. The findings also showed that ChatGPT has the ability to enhance and complement previous teaching methods.

4.5. Concerns and Limitations of AI-Generated Content

Since the study's main objective is capturing EFL teachers' attitudes toward AI-generated content in education, it was of paramount importance to shed light on the different concerns and limitations teachers associate with AI-generated content. These concerns and limitations are summarized as follows:

*Potential Inaccuracies in the generated language***:** Most teachers point out that AI-generated content might sometimes contain mistakes. If not careful. teachers might mistakenly share content with students that is erroneous. Teachers suggest that it is therefore advisable to check every AI-generated content.

*Lack of Pedagogical Expertise***:** The lack of pedagogical expertise in AI-generated content is highlighted. Educators emphasize that effective teaching requires more than just text generation; it necessitates a deep understanding of teaching methodologies, learning objectives, and appropriate instructional design. What this indicates is that English language teaching is a multifaceted process that goes beyond merely producing written texts and then presenting them to students. Teacher participants posited that effective teaching also entails the ability to adapt content based on the specific needs and capabilities of individual students or groups, something that AI-powered tools fail to do most of the time. According to them, teachers tailor their teaching methods to accommodate diverse learners and their unique strengths and weaknesses. This personalization, which is barely present and understood by AI-powered tools, is critical for fostering meaningful learning experiences that resonate with each student's level of comprehension and interest.

*Unauthentic Texts***:** Some respondents perceive AI-generated texts as lacking authenticity and human touch. The generated content could sound robotic or formulaic and fall short of capturing the subtleties of real communication. Some teachers even claimed that it is easy for them to detect any AI-generated language and that it is crucial for teachers to make the necessary corrections and modifications.

*Mistakes and Weak Content***:** The mention of "stupid mistakes" and "weak content" highlights concerns about the quality of AI-generated material. Errors and weak sentences can undermine the effectiveness of language teaching materials, particularly when specific dialogues or texts are needed. This is another instance when teachers' interventions are needed to rectify the language generated so as to avoid teaching students misinformation and language errors.

*Impact on Teacher Creativity***:** The concern that AI might stifle human creativity among teachers is also raised. AI-generated content could potentially limit teachers' opportunities to innovate, develop unique teaching materials, and bring their personal touch to the classroom. While the concern about AI impacting human creativity negatively among teachers is valid, it's also a chance to redefine and rethink the roles of educators in the digital age. By adopting a proactive approach to AI-generated content, teachers can exploit its benefits while preserving their crucial role. This balance can lead to a rich and dynamic educational experience that combines the strengths of both human educators and AI technology.

*Similar Generated Content***:** The observation that AI-generated content might lack diversity and result in similar or repetitive materials raises concerns about offering students a well-rounded learning experience. This means that teachers should not take AI-generated content for granted by trusting the content it generates and then spoon-feed it to students without any re-evaluation and revision. In other words, teachers should review AI-generated materials to ensure they align with the desired educational objectives and provide an effective learning experience.

In summary, the limitations voiced by educators reflect challenges related to the quality, authenticity, adaptability, and human touch that AI-generated content might lack. While AI is seen now as an asset to be taken advantage of, it is equally important for teachers to be aware of the limitations inherent to AI and the strategies required to address them.

4.6. Assistance and Training Required

When it comes to what assistance and training are required for AI to be incorporated effectively, the majority of teachers mentioned workshops. They also placed a strong emphasis on the value of seminars, talks, and the inclusion of AI-related instruction in teacher training centers around the county. According to them, workshops provide a hands-on environment for educators to experiment with AI-powered language tools, fostering a greater understanding of their capabilities and possible advantages. As for the incorporation of AI in teacher training centers, it is evident that this idea recognizes the significance of ongoing learning and professional development. These training centers can give would-be teachers the knowledge and abilities necessary to effortlessly incorporate AI tools into their pedagogical practices by incorporating modules on AI into their current training curriculum.

All in all, a thorough approach to preparing teachers for the era of AI-integrated language instruction can be seen in educators' choices for workshops, presentations, and the integration of AI education within teachers' training centers. These strategies not only facilitate technical knowledge acquisition but also nurture a mindset that embraces technology as a valuable enhancement to traditional teaching methods.

5. Discussion

As mentioned before, the objective of this research is to explore teachers' perceptions toward AI-generated content in the context of English language teaching, evaluate the potential impact of AI-generated content on language learning outcomes, and shed light on the overall learning and teaching experiences. The analysis and findings above reveal diverse opinions, AI-powered tool preferences, and degrees of perceived benefits among teachers. They also indicate that the majority of teachers perceive the use of AI-powered tools to generate their EFL educational resources as beneficial. This is clearly shown in their opinions regarding the aspects of language that these AI-powered tools help them with. Reading comprehension, as indicated above, emerged as the most promising area for AI integration, followed by vocabulary teaching, grammar, and writing tasks. These findings highlight the different ways AI tools can help teachers.

While AI integration was generally viewed positively, teachers expressed concerns and limitations. These included the potential for AI-powered tools to struggle with capturing language nuances, a lack of pedagogical expertise in AI-generated content, and perceived limitations in fostering authentic, engaging, and diverse language learning experiences. These concerns emphasize the importance of a balanced approach that combines AI-generated content with human expertise to address these challenges effectively. Although only a modest group of 40 EFL teachers participated in this study, the number of educators who held negative views about AI-generated content was minimal. It's worth noting that had the sample size been larger, the number of teachers with negative perceptions might also have been higher. This implies that, despite the generally positive perceptions of AI-generated content among our study participants and those mentioned in previous research, there remains room for improvement in preparing teachers to maximize the benefits of AI in language classrooms.

Expanding on this, it's evident that a larger sample size could further affirm the positive aspects of AI-generated content among EFL teachers. Nonetheless, this should not lead to complacency but rather serve as an impetus to implement robust teacher training

programs and ongoing professional development initiatives to ensure that there is an effective implementation of AI in the language classroom. These initiatives can equip educators with the knowledge and skills necessary to effectively integrate AI into their teaching methodologies. In addition to training, fostering a culture of adaptability and experimentation among teachers is crucial. Encouraging educators to explore innovative ways to incorporate AI into their lesson plans and adapt AI tools to meet specific learning objectives can yield more profound benefits for both teachers and students. Moreover, promoting collaboration between educators and AI developers can lead to the creation of AI-powered resources that are tailored to the unique needs of language learners. This is already seen with the development of AI-based tools that are capable of generating lesson plans, worksheets, quizzes. tests with the blink of an eye.

In conclusion, while the positive perception of AI-generated content is encouraging, proactive efforts in teacher training and the cultivation of a dynamic educational environment are essential to make the best of AI in language education. This includes not only technical training but also the development of pedagogical expertise in effectively integrating AI tools to enhance the overall language learning and teaching experiences. The findings from this study have several implications for English language teaching in Morocco and potentially beyond. Educators can leverage AI-generated content to enhance teaching efficiency, engagement, and personalization. However, it is crucial to address concerns related to language authenticity, and the need for pedagogical expertise in content creation.

6. Limitations

In spite of the attempts to integrate technological innovations into education, certain challenges persist, with one notable concern being the willingness of all teachers to participate in such studies. Throughout the course of this research, a substantial number of English as a foreign language teachers eagerly engaged in the study, a subset displayed a degree of reluctance in their willingness to participate. The study's intent was to include a diverse range of English language educators, including both middle and high school teachers in Taourirt in order to have a comprehensive understanding of how AI technology is viewed by EFL teachers. However, a small yet noteworthy number of teachers opted not to take part in the study.

Another limitation of the study is geographical in nature, as the study focused only on Taouriti teachers. Future research can explore teachers' perceptions of AI and its perceived benefits in English instruction in Morocco and whether it has any bearing on students' language proficiency by focusing on a larger sample.

Conclusion

This research has explored the perceptions of Moroccan teachers toward AI-generated content in English language teaching in the directorate of Taourirt. While the findings reveal positive attitudes toward these AI-powered tools, highlighting the capabilities of such tools in enhancing different aspects of language, they also showed that teachers should not take these tools for granted as they are limited in their use and may result in undesirable outcomes.

As the rise of technology persists, so too will the imperative to exploit its outcomes, especially for educators. In an era where technological advancements redefine educational goals, teachers are compelled to explore and leverage the consequences of this digital wave to enhance language instruction. As seen before, the successful integration of AI-powered language content is closely linked to how such tools are perceived by teachers. Hence, it remains essential for teachers to foster a culture of adaptability and experimentation regarding AI technologies so as to unlock further potential of AI incorporation.

Since the majority of teachers placed significant attention on the importance of trainings as a way of copying and overcoming the challenges inherent to AI, it is of paramount importance for Moroccan policy makers to take into account the development of robust training programs and ongoing professional development initiatives whose main goal will be equipping teachers with the skills necessary to implement AI technologies more effectively. Further research can inform us more about the capabilities of AI technology and how it can help students achieve better outcomes. Future research may also focus on how AI integration into the language classroom can affect students' academic achievement.

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References

[1] Ali, J. K. M., Shamsan, M. A. A., Hezam, T. A., & Mohammed, A. A. (2023). Impact of ChatGPT on learning motivation: Teachers and students' voices. *Journal of English Studies in Arabia Felix*, 2(1), 41-49.

[2] Chocarro, R., Cortiñas, M., & Marcos-Matás, G. (2023). Teachers' attitudes towards chatbots in education: A technology acceptance model approach considering the effect of social language, bot proactiveness, and users' characteristics. *Educational Studies, 49*(2), 295–313. https://doi.org/10.1080/03055698.2020.1850426

[3] Chounta, I. A., Bardone, E., Raudsep, A., & Pedaste, M. (2022). Exploring teachers' perceptions of Artificial Intelligence as a tool to support their practice in Estonian K-12 education. *International Journal of Artificial Intelligence in Education, 32*(3), 725-755. https://doi.org/10.1007/s40593-021-00243-5

[4] Cuban, L. (1986). *Teachers and machines: The case for a revolution in education*. Teachers College Press.

[5] Crompton, H., Bernacki, M., & Greene, J. (2020). Psychological foundations of emerging technologies for teaching and learning in higher education. *Current Opinion in Psychology, 36*, 101-105. https://www.sciencedirect.com/science/article/pii/S2352250X2030069

[6] Ertmer, P. A., & Ottenbreit-Leftwich, S. D. (2005). *Teacher technology change: Fostering innovation in K-12 schools*. Routledge.

[7] Fitria, T. N. (2021). The use of technology based on artificial intelligence in English teaching and learning. *ELT Echo: The Journal of English Language Teaching in Foreign Language Context*. https://doi.org/10.24235/eltecho.v6i2.9299

[8] Huang, C. S., Yang, S. J., Chiang, T. H., & Su, A. Y. (2016). Effects of situated mobile learning approach on learning motivation and performance of EFL students. *Journal of Educational Technology & Society, 19*(1), 263-276.

[9] Intelligence Unleashed: An argument for AI in education—UCL Discovery. (n.d.). Retrieved August 12, 2023, from https://discovery.ucl.ac.uk/id/eprint/1475756/

[10] Ismail, S. Z., Nur, A. J., Raman, A., & Purnomo, Y. W. (2019). A mixed-method study of the epistemological teacher-beliefs towards educational research in classroom teaching practices. *International Journal of Instruction*. https://doi.org/10.29333/iji.2019.12426a

[11] Lambert, C., Philp, J., & Nakamura, S. (2017). Learner-generated content and engagement in second language task performance. *Language Teaching Research, 21*(2), 168-185. https://doi.org/10.1177/1362168816683559

[12] Legg, S., & Hutter, M. (2007). Universal intelligence: A definition of machine intelligence. *Minds and Machines, 17*(4), 391-444. https://doi.org/10.1007/s11023-007-9079-x

[13] Liu, F., & Huang, R. (2020). AI-powered personalized learning in education: A review. *Journal of Educational Technology & Society, 23*(2), 357-372.

[14] Luckin, R., Holmes, W., Griffiths, M., & Forcier, L. B. (2016). *Intelligence unleashed: An argument for AI in education*. Pearson.

[15] Liao, Q. V. (2022). Designing for responsible trust in AI systems: A communication perspective. https://doi.org/10.48550/arxiv.2204.13828

[16] Meniado, J. C. (2022a). Technology in English language teaching and learning: An interview with professor Greg Kessler. *Relc Journal*. https://doi.org/10.1177/00336882221081892

[17] Morocco-Clarke, A., Sodangi, F. A., & Momodu, F. (2023). The implications and effects of ChatGPT on academic scholarship and authorship: A death knell for original academic publications? *Information & Communications Technology Law, 0*(0), 1–21. https://doi.org/10.1080/13600834.2023.2239623

[18] N, M., & N S, P. K. (2023). Investigating ESL learners' perception and problem towards artificial intelligence (AI)-Assisted English Language Learning and Teaching. *World Journal of English Language*. https://doi.org/10.5430/wjel.v13n5p290

[19] Nazaretsky, T., Cukurova, M., & Alexandron, G. (2022). An instrument for measuring teachers' trust in AI-based educational technology. https://doi.org/10.1145/3506860.3506866

[20] Paschen, J., Kietzmann, J., & Kietzmann, T. C. (2019). Artificial intelligence (AI) and its implications for market knowledge in B2B marketing. *Journal of Business and Industrial Marketing*. https://doi.org/10.1108/jbim-10-2018-0295

[21] Preparing for AI-enhanced education: Conceptualizing and empirically examining teachers' AI readiness. (2023). *Computers in Human Behavior, 146*, 107798. https://doi.org/10.1016/j.chb.2023.107798

[22] Preparing for AI-enhanced education: Conceptualizing and empirically examining teachers' AI readiness—ScienceDirect. (n.d.). Retrieved August 9, 2023, from https://www.sciencedirect.com/science/article/abs/pii/S0747563223001498?fr=RR-2&ref=pdf_download&rr=7f41d8cd9f0a3147

[23] Qazdar, A., Er-Raha, B., Cherkaoui, C., & Mammass, D. (2019). A machine learning algorithm framework for predicting students' performance: A case study of baccalaureate students in Morocco. *Educ Inf Technol, 24*(6), 3577–3589. https://doi.org/10.1007/s10639-019-09946-8

[24] Saleh Ahmed, S. T., Ahmed Qasem, B. T., & Pawar, S. V. (2020). Computer-Assisted Language Instruction in South Yemeni Context: A study of teachers' attitudes, ICT uses, and challenges. *International Journal of Language Education*. https://doi.org/10.26858/ijole.v4i2.10106

[25] Slimi, Z. (2021). The impact of AI implementation in higher education on educational process future: A systematic review. https://doi.org/10.21203/rs.3.rs-1081043/v1

[26] Sun, Z., Anbarasan, M., & Praveen Kumar, D. (2021). Design of online intelligent English teaching platform based on artificial intelligence techniques. *Computational Intelligence, 37*(3), 1166–1180. https://doi.org/10.1111/coin.12351

[27] Tarik, A., Aissa, H., & Yousef, F. (2021). Artificial intelligence and machine learning to predict student performance during the COVID-19. *Procedia Computer Science, 184*, 835–840. https://doi.org/10.1016/j.procs.2021.03.104

[28] Tate, T., Doroudi, S., Ritchie, D., Xu, Y., & Uci, M. W. (2023). Educational research and AI-generated writing: Confronting the coming tsunami. *EdArXiv*. https://doi.org/10.35542/osf.io/4mec3

[29] Uzun, L. (2023). ChatGPT and academic integrity concerns: Detecting artificial intelligence-generated content. *Language Education and Technology, 3*(1). http://www.langedutech.com/letjournal/index.php/let/article/view/49

[30] Wang, Y., Pan, Y., Yan, M., Su, Z., & Luan, T. H. (2023). A survey on ChatGPT: AI-generated contents, challenges, and solutions. https://doi.org/10.1109/OJCS.2023.3300321

[31] Warschauer, M., & Healey, D. (1998). Computers and language learning: An overview. *Language Teaching*. https://doi.org/10.1017/s0261444800012970

[32] Weidener, L., & Fischer, M. (2023). Artificial intelligence teaching as part of medical education: Qualitative analysis of expert interviews. *JMIR Medical Education*. https://doi.org/10.2196/46428
[33] Yore, L. D. (1991). Secondary science teachers' attitudes toward and beliefs about science reading and science textbooks. *Journal of Research in Science Teaching*. https://doi.org/10.1002/tea.3660280106
[34] Yükselir, C. (2016). English foreign language (EFL) instructors' and teachers' perceptions towards the integration of internet-assisted language teaching (IALT) into EFL instruction. *Journal on Efficiency and Responsibility in Education and Science*. https://doi.org/10.7160/eriesj.2016.090104
[35] Zahour, O., Benlahmar, E. H., Eddaoui, A., Ouchra, H., & Hourrane, O. (2020). A system for educational and vocational guidance in Morocco: Chatbot E-Orientation. *Procedia Computer Science, 175*, 554–559. https://doi.org/10.1016/j.procs.2020.07.079
[36] Ziegler, N. E., & Feucht, F. C. (n.d.-a). Technology and second language learning. https://doi.org/10.4018/978-1-61350-059-0.ch008
[37] Nie, L., Wang, Y., & Sun, J. (2022). Research on AI-generated content in education: A review. *Journal of Educational Technology & Society, 25*(4), 327-342.
[38] Liu, Y., & Zhang, L. (2022). AI-generated content for education: A review of the literature. *Education Sciences, 12*(1), 11.
[39] Wang, X., & Chen, W. (2022). The impact of AI-generated content on education: A review of the literature. *Education and Information Technologies, 27*(7), 1-29.
[40] Zhang, Y., & Li, X. (2022). AI in education: A review of the literature. *Educational Technology Research and Development, 70*(4), 795-812.