


Reviewing the Impact of Generative AI on Language Learning and Teaching: A Synthesis of Potentials and Pitfalls

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Abstract: The role and implementation of Generative Artificial Intelligence (GenAI) tools have encouraged researchers to delve into this multifaceted area of study. This thematic literature review aims to study the role of GenAI in education, exploring the challenges and benefits in the context of language learning and teaching. This comprehensive literature review is centered on thematic analysis where scholarly publications were selected and analyzed based on predetermined themes including characteristics, challenges, benefits, current practices, and future directions of GenAI in education with a particular emphasis on language learning and teaching. The study presents the common characteristics of GenAI pertaining to the aspects of education. The study also highlights the common challenges investigated by researchers such as academic integrity, especially for written assignments, accuracy, overreliance, transparency, privacy, and the potential disruption of the existing assessment, which could diminish the perceived importance of acquiring knowledge encountered by the major stakeholders in education. The benefits of GenAI include providing personalized education, increasing productivity, providing instant feedback, creating teaching materials efficiently, and improving various language aspects. Given these underlying factors, stakeholders are recommended to integrate and implement GenAI in their education with a conscious consideration of the posed challenges and the benefits to maximize learning and teaching effectively.

Keywords: Generative Artificial Intelligence, AI, Language Learning and Teaching, Advantages, Challenges.

1. Introduction

1.1 Background Information

Generative AI (GenAI), a kind of artificial intelligence capable of generating new content based on previous data similar to human creativity as in text, voice, or image, has widely recognized as into a vital learning and teaching tool in language education. With the existing characteristics of providing dialogues, teaching and learning content, constant feedback, and many other features, GenAI tools have attracted learners' and educators' attention, seeing the tools as having the potential to make vital changes in the realm of education. GenAI poses the possibility of creating a turning point in the academic stages and even competing with the human mind as artificial intelligence has proven to be capable of accomplishing tasks that require the human mind.

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ChatGPT, as one of the GenAI tools, is considered the fastest-growing technology in history: in just three months following its public launch, it amassed an estimated 120 million monthly active users (Curry, 2024) with an estimated 13 million daily queries (Meyer et al., 2023), surpassing all other applications (Rudolph et al., 2023). On the other hand, scientists also raised concerns about the impact of ChatGPT on academic integrity and scientific publishing (Teng, 2023). Some teachers believe that its impact on education can be detrimental because of misuse and easy access to ready-made content which can reduce creativity, innovation, and research among students. It is evident from a study conducted by (Chen et al., 2023) discussing various concerns about the generated content from GenAI tools that can be random, inaccurate, and unreal as it lacks the source of ownership which can pose risks of violating the privacy, being biased as they rely on certain data sets. Some others fear that it may replace certain jobs, posing critical concerns for people whose work is dependent on such tasks duplicated by GenAI tools. All that aside, others view the tools as promising and effective in many fields. (Sima, 2023) suggests that AI should be viewed as a tool for improving teaching but not replacing humans in education can in turn lead to its beneficial integration into education. Since ChatGPT processes language and functions as a personal conversational interface, it is worth examining how it may support instruction and strengthen students' AI literacy skills. Moreover, (Labadze et al., 2023) highlight three major opportunities for students to take from Gen AI tools including assistance in completing homework and study, experiencing an individualized learning process, and improving different skills. Furthermore, (Chan & Hu, 2023a) conducted a study concluding learners hold positive perceptions towards the GenAI tool, acknowledging the possible advantages such as providing personalized learning, writing assistance, and honing research skills. The use of GenAI tools has expanded across almost all fields and language education is no exception. Teachers and students use the tools on a daily basis that has ultimately attracted researchers' attention to study new emergence. Understanding and uncovering the effects of the integration and impact of GenAI tools in language learning and teaching through addressing and evaluating the potentials and pitfalls of Gen AI tools can be fundamental for the major stakeholders to better understand and plan a mindful use of such tools in the field of language learning and teaching.

1.2 Problem Statement and Research Questions

In this modern era, the presence of artificial intelligence has become necessary and cannot be abandoned, but the faster it spreads, the more problems it can create as people newly experience the advancement without prior preparation. With schools becoming increasingly dependent on solutions that operate with artificial intelligence, there is a risk that teachers and students will become too dependent on technology. Having all that considered, a lack of understanding of the phenomenon can spell trouble for the stakeholders in language education. Major stakeholders as teachers and students should better equip themselves and explore the challenges and opportunities posed by GenAI tools. The study aims to seek answers to the following questions:

- What is the current status of the use of GenAI tools in the context of language learning and teaching?
- What challenges and opportunities exist in the implementation of GenAI in language education?

1.3 Aim and Significance of Study

The study's primary objective is to explore the relationship (the role) between AI generative tools and English language Education, focusing on identifying the challenges and opportunities that are brought about by this phenomenon innovation in the context of education and language learning and teaching. By conducting this research, we intended to gain a comprehensive understanding of the use of GenAI tools in language teaching and uncover its effects on various aspects of language learning. The current study is particularly significant as it addresses a pressing educational issue of the impact of the use of GenAI tools in education. Given the widespread use of artificial intelligence in education, understanding its effects on academia is enormously important not only for teachers and students but also for stakeholders involved in the educational context.

1.4 Methodology

This study has followed the essential steps of the thematic literature review by carefully identifying the study's purpose and problem. Published articles are selected using the following terms: “Generative AI and language learning and teaching, ChatGPT and language education, Gemini (Bard) and language education, Co-pilot and language education” in various databases including Semantic Scholar, ScienceDirect, Google Scholar, and Dimensions. Inclusion and exclusion criteria have been developed to whittle down the articles based on the research questions of the study, selecting themes that aligned with the predetermined themes of the study. The extraction of data was followed by a delving into the major aspects of the articles. A synthesis narrative was implemented to report the impact of GenAI on language education within the review.

2. Literature Review

2.1 The Role and Characteristics of GenAI Tools

Gen AI tools have permeated every discipline, posing the potential to shift the way the sectors operate, and education is no exception to this new emergence. The purpose and implementation of Gen AI tools can be different from one discipline to another aligned with various characteristics of GenAI related to the particular discipline. . There is value in exploring the common and popular characteristics of GenAI to better familiarize ourselves with the potentials based on our needs in the specified line of work in the education sector as researchers have paid substantial attention to the capabilities of these tools. For example, (Wu, 2023) presents some of the characteristics of GenAI tools. One is that GenAI tools possess various capabilities including the ability to generate text that closely seems like human language, drawing from the input they receive, in most cases called prompt. The responses they provide are mostly coherent and contextually relevant, enabling seamless communication through natural language. He adds that these tools can continuously improve their performance by leveraging extensive datasets and employing machine learning algorithmsthrough the feedback and interaction received from users. This particular feature of evolution is phenomenal, making GenAI tools more efficient and effective when in use. Other features have been explored, one of the vital characteristics GenAI tools possess is the fact that they are continuously accessible and available for that ultimately enhances the learning experience in the context of education. Another noticeable characteristic to address is that they can tailor the provided responses

personalized based on previous experience which enables them to provide targeted and on-point information to meet the preferences and needs of the user. The mentioned features collectively promote the integration of GenAI tools in education as they have the potential to enhance educational practice in many ways. We can identify these features as valuable assets to support and enhance learning experiences through constant feedback and support and offer individualized feedback on any given topic based on learners' needs and interactions. Take a student's learning journey as an example, attempting to improve language skills through the use of short stories. Such tools can support and guide the learner with the prerequisite steps and procedures needed to effectively use short stories to achieve the goal and receive constant feedback and support along the process. Having all that considered, the emergence of these tools is bound to bring about potential changes to language education. This area of work has been explored by researchers, aiming to delve into the role and effects of GenAI integration in educational settings. (Ruiz-Rojas et al., 2023) points out the GenAI tools can positively transform and enhance many fields with these distinctive and valuable characteristics with education benefiting significantly. The authors highlight that GenAI tools can vastly enhance learning and teaching experience through features such as providing personalized and adaptable learning experiences tailored to the learners' specific needs. One of the current, ever-occurring, and interconnected challenges educators face is class engagement and learner motivation. These tools are promising to also enhance engagement and motivation through the features that are phenomenal in this regard which ultimately affect academic success among learners. In the study, another finding discussed was that GenAI tools can promote inclusive education as the tools are mostly available for all the learners to access and. Prior to the, the synthesis of that, it is important to address that teachers spend a considerable amount of time and effort attempting to provide an inclusive and equitable learning environment where everyone in the classroom has access to the learning as per their specific needs. With Gen AI tools providing equal opportunity to students considering their background experience has become easier and possible. To further explore the role of GenAI in teaching, it is worth knowing that a common practice to promote critical thinking implemented by teachers is to pose challenges and questions to students to evaluate and synthesize information, with the help of these tools, such tasks can be performed in no time. This is supported by research. For example (Wu, 2023) discusses the fact that ChatGPT, one of GenAI tools, through tailored support, stimulating problem-solving skills, and encouraging the exploration of novel ideas, critical thinking, and creativity can be improved. This is particularly essential as this development also helps learners to improve their cognitive abilities, one of the goals of many educational programs. The use of GenAI tools expands to many other aspects of education. For instance, designing and developing teaching materials is one the backbones of any program as it sets out how teaching and learning are conducted. GenAI tools play a pivotal role in aiding educators to tailor teaching content. Research has been conducted emphasizing the role of GenAI tools in creating instructional content. A recent study by (Williyan et al., 2024) confirms the compatibility of GenAI tools with the EFL context in terms of teaching content development. The study highlights that educators are now depending on these tools to develop teaching content to a considerable extent which saves notable time and effort spent on developing such content. The best part of this is that teachers can now prepare content that best fits their learning needs as their classes contain students with various learning preferences and interests. This ensures smooth delivery and adaptation of content to meet the dynamic needs of learners as it is one of the challenges teachers encounter to address. With the help of AI tools, it can be less challenging for teachers to meet the needs of different learners in the classroom. Assessment as one of the aspects of

education has been affected by the emergence of GenAI tools. (Ruiz-Rojas et al., 2023) highlights the role of these tools in making assessment and feedback more efficient, offering precise tracking of student progress, immediate feedback, and data-driven insights for educators which facilitates the work of teachers and educators in this perspective. These roles of GenAI tools can tremendously benefit education in general and language learning and teaching in particular.

All in all, the versatile characteristics of these tools offer huge potential for transforming educational practices. There is a great deal of value in deepening our understanding of the capabilities of these tools and staying in the loop as they evolve. It is particularly important for design makers in education to not only understand these advancements but also integrate these tools, aiming to enhance teaching and learning as they offer various and multi-purpose performances. Further investigation is required to explore the use and role of GenAI tools in other aspects of learning and teaching, placing profound emphasis on the need for empirical studies in this line of work.

2.2 Advantages of GenAI Tools in Language Learning and Teaching

The emergence of GenAI tools offers the potential to shift into many areas of education. Stakeholders in education are ultimately affected by the changes happening, thereby, understanding the potential advantages and implications of these tools plays a key role in better designing and developing our educational endeavors. Initially, the role of GenAI tools was introduced in two main educational implications including personalized tutoring and automated essay grading. The key takeaways of a study by (Chen et al., 2020) highlights that ChatGPT, one of the GenAI tools, can help users with tutoring specifically tailored to meet individual students' unique needs, which improves student learning outcomes, offering individualized learning opportunities as per the students' needs and lacks. Important findings from a study by (Barros et al., 2023) highlight the possible positive transformation of classrooms into spaces that develop creativity and critical thinking. The authors emphasize the important role of GenAI in academic writing, as a tool that facilitates many tasks for writers. Moreover, (Yu & Guo, 2023) believe stakeholders in education should integrate GenAI tools as a transformative source to reform the current educational practices, indicating that GenAI tools offer learners a more effective, better, individualized learning experience, emphasizing the importance of promoting digital literacy in the classroom to smoothen the integration of such tools into education. In the context of writing essays, a study carried out by (Herbold et al., 2023) showed the quality and characteristics of essays generated by AI models, outperforming student-written essays by generating higher-quality essays evaluated by experts. The researchers identified the key features of well-written essays in the AI-generated ones and provided comments similar to those given by human graders. The authors urge educators to reform assessment criteria and tools in this context. Another aspect of languages affected by the AI emergence is translation. GenAI tools show important capabilities in language translation. In a study conducted by (Mohamed et al., 2024) who explored the advancements of AI showing their exceptional dexterity in translation between two languages. It also confirms that it achieves state-of-the-art results in various translation standards by accurately understanding the meaning of sentences in one language and producing accurate translations in another. The synthesis of this is that new methods and strategies should focus on this integration as it ultimately affects human translation, particularly in language programs. Furthermore, part of language classes focuses on interactive activities where learners interact with each other or any other agent through

various forms including dialogues and conversations. A study by (Peng et al., 2019) explored the use of ChatGPT as an agent accompanying the learners with effective support and guidance by responding to whatever topic they want to discuss or ask about. The efficacy and relevance of ChatGPT's responses were incredible in this context. The synthesis of these findings confirms the vital role of GenAI tools in facilitating language skills improvement through interactive environments. The benefits of GenAI integration have been explored by researchers. (Baidoo-Anu & Ansah, 2023) addresses that integrating ChatGPT into adaptive learning systems has led to noticeable benefits among students, especially in supporting students' learning. This highlights ChatGPT's potential to revolutionize education by providing personalized support and dynamic adjustments to meet learners' evolving needs and abilities. There are research studies providing insights into the significant role GenAI tools play in educational settings. (Chan & Hu, 2023a; Chen et al., 2023; Chen et al., 2020; Williyen et al., 2024) have addressed that these tools offer many advantages to educational institutions, enhancing various aspects including personalized education, increase in productivity, improving the quality of education, instant feedback, and adaptive learning environments. The latter refers to an educational environment where the unique needs of each learner are taken into account and changes and adaptations occur according to learners' specific needs.

One of the aims of this study is to specifically explore the advantages of GenAI tools in the context of language education. One of the common outcomes of the integration of GenAI in education is that fact that they can bring benefits to the assessment of language skills (Crompton & Burke, 2023). The role of these tools has further been investigated. For example, (Mizumoto & Eguchi, 2023) examined the reliability and accuracy of ChatGPT as an automated essay scoring tool, and the results show that ChatGPT shortened the time needed for grading, ensured consistency in scoring, and was able to provide immediate scores and feedback on students' writing skills. According to (Su & Yang 2023) the integration of ChatGPT in education offers many advantages. First, it facilitates more customization, providing specific offers to various students, and an educational environment for students, enhancing confidence between teachers and learners. This contributes to students' productivity. ChatGPT contributes to crafting personalized recommendations and virtual tutors, which students can use to get targeted guidance according to their learning needs. Lastly, ChatGPT offers valuable assistance to teachers by providing suggestions and recommendations. It accelerates the advancement of AI by facilitating interaction between virtual and physical educational systems, expanding networks, and establishing new educational ecosystems. Additionally, the advantages of GenAI expand to various aspects of education. A recent investigation by (Ghimire et al., 2024) highlights the efficiency and automation of the completion of mundane tasks. For instance, ChatGPT can aid students in essay writing by proposing topics, structuring outlines, suggesting ideas, and refining academic writing skills. However, students must employ critical thinking to ensure the accuracy and coherence of their writing. The research further points out that GenAI can also serve as a thought starter and provide personalized teaching assistance. Empirical evidence from (Adiguzel et al., 2023) indicates that the implementation of GenAI tools can enhance learners' experience and class engagement through individualized learning environments and interactive activities. They can also provide personalized feedback and adaptive learning tools to tailor each learner's needs, enhancing their academic achievement and self-directed learning. The study emphasizes that GenAI tools mitigate anxiety and promote confidence through a supportive and low-pressure classroom atmosphere as they can provide adaptive content and activities. In the context of teaching, the study explains that GenAI can help educators to reduce workload as they can be helpful in providing feedback and grading papers.

Another study by (Cong, 2024) provide strong evidence of the implementation and benefits of GenAI in second language learning for both teachers and students. For students, GenAI tools provide personalized feedback, promoting the learner to understand areas of weaknesses and strengths, thereby, providing a more precise and target instruction. For teachers, GenAi tools be of benefit in developing certain interventions to tackle various linguistic challenges encountered by learners and improve L2 acquisition strategies to better meet students’ needs. The research further suggests GenAI tools can make assessment tools more interactive, aligning with CLT practices, and making it more engaging for the students which ultimately boosts mass participation and motivation. More on the impact of GenAI tools on language acquisition, an intervention conducted by (Wei-Xun & Jia-Ying, 2024) point out the effect of AI-driven tools in enhancing vocabulary and motivation. There was statistical evidence proving that the strategies implemented using GenAI tools help the learner improve vocabulary and motivation. Table 1 summarizes the advantages of GenAI in a nutshell.

Table 1: Benefits of GenAI in a Glance

Category	Advantage	Implications (Educators, Institutions, Students)
Personalized Tutoring	Provide personalized tutoring tailored to individual students' needs, enhancing their learning outcomes by offering content that aligns with their specific strengths and weaknesses	deliver differentiated instruction, allowing for more targeted support and efficient learning processes that cater to diverse student needs.
Automated Essay Grading	Perform automated essay grading, producing high-quality assessments and consistent feedback similar to that of human graders, thus reducing the workload on educators	reform assessment methods to incorporate AI, allowing educators to focus more on personalized instruction and student engagement while maintaining grading consistency and efficiency.
Writing Development	Assist in academic writing by helping students develop content, refine ideas, and improve their writing skills, fostering creativity and critical thinking in the classroom	promote creative writing practices and enhance students' critical thinking abilities, leading to more dynamic and interactive learning environments.
Interactive Learning	create interactive learning environments by acting as conversational agents, assisting learners in acquiring language skills such as grammar, conversation, and pronunciation	use AI-driven tools to provide interactive, conversational practice opportunities, enhancing learners' engagement and supporting language acquisition through continuous and adaptive learning.
Translation	AI generative models show high proficiency in translating between languages, providing accurate and	facilitate bilingual and multilingual education, making content more accessible and understandable across different languages.

	meaningful translations, which is beneficial for multilingual education	
Feedback And Adaptive Learning	GenAI tools provide instant feedback and adapt learning content based on the learner's progress, helping to build confidence and address gaps in knowledge effectively	provide immediate, personalized feedback that supports self-directed learning and improves academic achievement.
Teacher Workload	help reduce teachers' workload by automating repetitive tasks such as grading and providing personalized content, freeing up time for more creative and interactive teaching	optimize teacher workload management, allowing educators to focus on more meaningful student interactions and curricular innovation.
Personalized Feedback	provide personalized feedback to students and help teachers develop specific interventions to address linguistic challenges, enhancing L2 acquisition	integrate AI to develop targeted instructional strategies that address the diverse needs of L2 learners, thereby improving language acquisition outcomes and fostering an engaging learning environment.
Vocabulary Learning and Motivation	enhance vocabulary learning and motivation among students, providing statistically significant improvements in language acquisition	design engaging vocabulary-building activities and motivational learning experiences, contributing to more effective language education practices.
Digital Literacy	encourages the development of digital literacy skills among students and teachers, preparing them for a tech-driven world	integrate digital literacy into the curriculum to facilitate the effective adoption and use of AI tools, fostering a digitally competent learning community.

2.3 Challenges of Using GenAI Tools for Language Learning and Teaching

The way learning and teaching are being conducted in this new era is on the verge of some potential but critical changes as GenAI tools have affected many other areas. These tools have the capability to provide various innovative ways to enhance learning and teaching including personalized feedback, developing interactive teaching content, and enabling adaptive learning environments. Despite these, the incorporation of GenAI tools in language learning and teaching also manifests critical challenges and issues that may undermine the educational practices that need to be addressed to unlock the full potential of the integration of GenAI tools in the context of language education. Scholars and researchers have delved into these aspects of GenAI. For example, (Farrelly & Baker, 2023) highlights a number of challenges. One of the most critical issues addressed is maintaining academic integrity. With GenAI tools, generating essays in seconds and a lack of detection tools with high accuracy, teaching and learning writing has faced a new challenge. It is of priority of academic institutions to work in harmony in assessing challenges posed as per the emergence of these tools and act accordingly to adequately prepare the involved stakeholders in

the field of education through tailored training and support to not only exploit the advantages of these tools but to also mitigate the pitfalls arise as we integrate these tools into our practices. There are reported concerns raised about the integration of these tools. A survey study by (Chan & Hu, 2023b) points out concerns about accuracy, transparency, privacy, and ethics in using these tools. The participants mentioned concerns about AI technologies collecting personal information and posing privacy and security risks. GenAI tools may be biased, inaccurate, or harmful if trained on biased datasets. The study also found that students were apprehensive about GenAI potentially hindering critical thinking, creativity, and job prospects.

Part of the problem falls into the fact that these tools sometimes fail to provide accurate and unbiased responses. Therefore, it is urged that there should be advancements in this regard to mitigate this challenge (Zhang et al., 2023). The study signifies that understanding the context of generated content plays a key role in language learning and teaching so as to have a smooth and effective interaction with the tool. Other pitfalls have been addressed by researchers. For example, (Chan, 2023), it is particularly burdensome for many institutions to bear the cost of maintaining access to these tools, especially in countries where the economy is already collapsing. The study also discusses the cost of hardware and software of these tools that require giant companies to operate. Efforts should be made to make these tools more accessible and affordable. Maybe having specified versions for educators and students serves the education realm. The study mentions some other challenges including privacy invasion and ethical and safety issues, especially if these tools are well-managed. The possibility of gathering private data from students without consent is also considered a concern. More on this has been investigated by researchers, (Harrer, 2023) reports that the prompted content by these tools shows bias and inaccuracy. Therefore, researchers such as (Lubowitz, 2023) recommend human touch as these tools do not properly assess the validity of content or spot falsehoods.

Another challenge discussed in the study was that the current assessment system should adapt to the changes that can cause distribution, especially in the initial stages of integration. Proper preparation would immensely ease the process in this regard. Abandoning these changes would not be an effective solution as there were initiatives in the beginning to ban these tools due to educators and institutions expressing their worry about students using them to do homework and assignments. For instance, the University of Hong Kong decided to ban the use of these tools in their studies as a way to maintain academic integrity (Cannix Yau, 2023). Educators and institutions have started to assess submissions to check for the possibility of AI use. However, there are reports showing that sometimes the detection platforms fail to detect AI-generated content which raises concerns about academic integrity and authorship (Peres et al., 2023). Such findings can also be observed from other studies. (Chan, 2023) states that the application of such tools can jeopardize the reliability of the current assessment criteria, with written assessments being the most vulnerable to this emergence. One of the flaws spotted by researchers, through evaluating the texts generated by such tools, was that the responses users receive seem pertaining and convincing but they usually lack references, and personal opinions and are irrelevant depending on how well the user writes the prompts which ultimately poses challenges to learners whose writing skills are not fully up to the level of producing such well-written prompts (Warschauer et al., 2023) that leads to such inconvenience.

Additionally, interaction is considered one of the effective ways to improve language skills as it provides the opportunity not to only have exposure to the target language but also provides the opportunity to produce and practice what is learned. Overreliance on GenAI tools can potentially reduce the necessary human interaction (Adiguzel et al., 2023) which is considered one of the challenges posed by GenAI tools. The authors also refer to concerns pertaining to “intellectual property” rights (IP) and decision-making processes. Learners turn to GenAI tools to make various decisions including completing many and maybe simple tasks due to the consequences of overreliance which can be in this regard as cheating, and this practice can also restrain learner creativity. It is research-based that the use of these tools raises risks to maintaining academic honesty (Chan & Tsi, 2023). Recently studies have further been conducted reporting students resorting to academic dishonesty during assessment as discussed by (Ghimire et al., 2024). There are inevitably many benefits of GenAI tools. However, These challenges highlight the need for a careful consideration of GenAI tools' integration. Therefore, it's essential to address limitations and challenges through further research to effectively integrate AI into the teaching and learning process so as to maximize the value or the potential value of its integration



Figure 1: Challenges Addressed in the Study

2.4 The Current Practices and Future Directions of Using GenAI Tools for Language Education

A growing body of literature has delved into the use of GenAI in language education to further deepen our understanding of the new norm and concept in the field of education. The future of GenAI is certainly not

fully known. However, the current state of GenAI can be explored. The literature emphasizes that GenAI can pose challenges and provide opportunities in education practices urging stakeholders to focus on accommodating both the challenges and opportunities of GenAI. One of the existing issues of GenAI use is that educators are reluctant to allow its use on a wide scale. (Kaplan-Rakowski et al., 2023) from the University of North Texas, USA has emphasized the important implications of GenAI for pre-service teacher training and professional development in education, as it can increase educators' trust in implementing GenAI. The study suggests that the more frequently educators integrated GenAI tools, the more positive their perceptions became. Lack of teacher training and adequate preparation leads to reluctance and fear in integrating technologies and AI into practice. Increasing exposure to AI through professional development training can make educators more confident and eager to incorporate AI into their regular practices. Future perception studies can determine if the normalization of GenAI in education occurs as it has with previous new technologies. Also (Wu, 2023) has mentioned how the use of GenAI tools like ChatGPT in language education is rapidly evolving, presenting innovative opportunities for both learners and educators. Current practices in language education include language practice and feedback, comprehension support, production assistance, and automated assessment. (Kostka & Toncelli, 2023) explored the role of GenAI in language education and pointed out the current uses of ChatGPT as a prototype of GenAI, aiding educational stakeholders in promoting personalized learning via personalized feedback, interactive experience, writing aid, and culturally relevant content. Teaching content and materials has now become easier in terms of time and effort, allowing teachers to pay more attention to student interaction. The study addresses potential challenges including academic misconduct, overreliance, and the possibility of bias and issues with data security. They suggest educators collaborate and establish policies to promote academic integrity, involving learners to have their voice heard about the impact of GenAI tools and develop assessments to enhance critical thinking and sustainable learning while promoting a human-led approach to the changes. Future directions include personalized learning paths, multimodal experiences, cultural understanding, collaborative environments, and continuous adaptation.

3. Discussion

The application of GenAI tools is already impacting educational practice. The long-term effects are yet to be fully predicted. The following discussion section provides the analyzed themes focused on this study. The explanation and implications of the studied themes of the study will be interpreted, interpreting the findings in the broader view as the study provides a foundation for educational stakeholders to understand the potentials and pitfalls of GenAI tools integration in language learning and teaching, aiming to ultimately better exploit the benefits and reduce challenges associated with the use of these tools.

3.1 Role and Characteristics of GenAI in Language Education

The current study addresses the role of GenAI tools in language education with a particular focus on their potential and pitfalls in their integration into language learning and teaching. The research around the notion presents the fact that these can facilitate personalized learning practices, develop contextually pertinent teaching content, and enable continuous instant feedback based on students' needs. The tools are adaptable to many educational settings and purposes, allowing the teachers to provide inclusive learning experiences. On the other hand, GenAI tools pose significant challenges and concerns including the

possibility of user overreliance that ultimately diminishes many important skills including critical thinking, problem-solving, and creativity among learners. The issue of overreliance is particularly essential in language learning and teaching as human interaction has a key role in acquiring languages, with overreliance on GenAI tools, reducing human interaction and authentic communication can reduce the amount of language input and output to a detrimental extent that may not only affect language learning process but also other important social skills. If we trace back to a common language learning experience before the emergence of GenAI tools, we can agree that a learner had to reach out to a mentor or a peer to explore a concept. With the help of GenAI tools, this can easily be accessed. The easy and ready-made content for learners is blamed for the lack of effort and challenge, limiting the germane and intrinsic cognitive load with less schema construction and in-depth understanding that diminishes expected learning outcomes as per cognitive load theory developed by (Sweller, 1988). Stakeholders are urged to maintain a balanced approach to integrating GenAI tools. More studies are needed to explore the role of GenAI tools integration in other aspects of education in depth, focusing on multifaceted language learning and teaching.

3.2 Benefits of GenAI Tools in Language Learning and Teaching

Another theme of the study involved exploring the advantages of in the context of language education. Providing personalized feedback, automated organizational tasks, and improved learner engagement through interactive and adaptive educational practice. Teachers can use GenAI tools to easily give students personalized assistance based on their needs in no time, reducing the amount of time spent on preparing such support which ultimately allows educators to provide interactive activities and engage learners using interactive teaching material that suits the learners' interest.

Furthermore, the integration of GenAI tools promotes inclusive education as one of the trendy practices in education, by providing learners with diverse learning chances, adapted to their personal needs and lacks, particularly for classes where students have come from various learning backgrounds. This is one of the ever-occurring language classes where the students do not share a similar learning background, requiring educators to spend a great among time tailoring their content to fit everyone in the class. The GenAI tools can assist in various ways including tutoring, assisting in writing, translating, and creating interactive learning content which are considered essential advantages as reported by (Chen et al., 2020) and (Su & Yang 2023). Significantly, educators implement the tools that align with their teaching objectives, with an emphasis that these tools are complementary to the fundamental practices thereby authentic practices and academic integrity are maintained.

3.3 Challenges in Using GenAI for Language Education

The current study highlighted considerable pitfalls and challenges connected with the implementation of GenAI tools in language learning and teaching. The challenges include engagement with academic misconduct, privacy concerns, data security, and the ethics of using content generated by these tools. The quality and equality of education are at risk when the stakeholders misuse and unethically depend on these tools. An implication of this is that the availability of these tools causes reluctance and hesitation among teachers to implement many meaningful practices that can easily be done without the learner being genuinely involved in them, causing inequality and the quality of education to reduce. Another layer of

this is that some of the low-income stakeholders may be limited in reaching the benefits of these tools identified as a concern in terms of equality and accessibility. One critical challenge is related to the disruption of the current practiced assessment tools with educators and learners not being adequately prepared to take on the challenge. To address these discussed challenges, the study highlights the need for educational institutions to establish comprehensive instructions and guidelines to manage the implementation of these tools better as they are inevitable. Decision makers in educational institutions need to invest in these tools not only by providing training sessions and seminars but also by supporting educators to integrate these tools as some of the tools are not easily accessible without the support of institutions in this regard. With this kind of support and consideration, educators' views on integration will improve as discussed by (Kaplan-Rakowski et al., 2023)

3.4 Future Directions for GenAI in Language Education

The current study highlights recommended further studies, aiming to effectively integrate GenAI in the context of language learning teaching. Future directions should focus on the development of more personalized experiences as one of the popular approaches to teaching, promoting collaborative learning and multimodal learning environments that integrate not only text elements but also visual and audio as new tools of these kinds are emerging. It is urged that stakeholders remain open to adapting these GenAI tools to keep up with newly emerging educational needs along with the fast-paced technological advancements.

Future directions should also emphasize the long-term effects of GenAI tools in language education with a particular focus on developing strategies and techniques considering the practical, pedagogical, and ethical pitfalls discussed in the study which ultimately allows the educational stakeholders to ensure that the integration of GenAI tools serves as vital support to enable learners and educators not hindering the process of language education. Empirical studies on the impact of GenAI tools on language aspects would enrich the existing literature in this line of work.

4. Conclusion

The incorporation of GenAI tools can inevitably present both potentials and pitfalls that need to be explored. One of the vital expectations of this integration is to provide opportunities to educational stakeholders with innovative ways to improve language education. However, it is particularly essential that this integration does not undermine the educational practice as these tools present various ethical, practical, and pedagogical challenges as proven by the existing literature, requiring a balanced approach to consider both challenges and opportunities into account. Future studies must focus on developing strategies surrounding the responsible and mindful use of GenAI in the context of language education. Considering the presented opportunities and challenges will enable stakeholders to better implement these tools to promote a more impactful and inclusive educational environment.

This particular study focuses on thematically synthesizing the existing literature as it presents the opportunities and pitfalls of GenAI tools in language learning and teaching. It is vividly evident that the integration of GenAI tools offers innovative ways to improve language education as these tools promote personalized learning, class engagement, and productivity. The studies highlight the fact that various

aspects of language learning can be enhanced such as language skills, particularly writing, feedback, and content development. While these are vitally essential, the GenAI integration comes with several challenges including academic misconduct, privacy concerns, and ethical use of these tools. To maximize the advantages of these tools and mitigate the challenges, the results of this study recommend a balanced approach to incorporate the use of these tools.

To maintain the suggested balance, educational stakeholders should establish effective frameworks and relevant policies to make sure that there is an ethical and practical GenAI integration in the context of language education. There is value in training and supporting teachers to effectively apply these tools in their teaching. Further studies must focus on investigating the practical application and long-term effects of these tools in language learning and teaching, developing strategies to mitigate the pitfalls, and better incorporating these for a more inclusive and successful language education practice. Stakeholders can make informed decisions when considering the GenAI integration into practice when they develop an understanding of both the opportunities and pitfalls of these tools which serve to promote a more effective educational practice.

Reference

- Adiguzel, T., Kaya, M. H., & Cansu, F. K. (2023). Revolutionizing education with AI: Exploring the transformative potential of ChatGPT. *Contemporary Educational Technology*.
- Baidoo-Anu, D., & Ansah, L. O. (2023). Education in the era of generative artificial intelligence (AI): Understanding the potential benefits of ChatGPT in promoting teaching and learning. *Journal of AI*, 7(1), 52-62.
- Barros, A., Prasad, A., & Śliwa, M. (2023). Generative artificial intelligence and academia: Implication for research, teaching and service. *Management Learning*, 54(5), 597-604.
<https://doi.org/10.1177/13505076231201445>
- Cannix Yau, K. C. (2023, February 17). University of Hong Kong temporarily bans students from using ChatGPT, other AI-based tools for coursework. *South China Morning Post*.
<https://www.scmp.com/news/hong-kong/education/article/3210650/university-hong-kong-temporarily-bans-students-using-chatgpt-other-ai-based-tools-coursework>
- Chan, C. K. Y. (2023). A comprehensive AI policy education framework for university teaching and learning. *International Journal of Educational Technology in Higher Education*, 20(1), 38.
<https://doi.org/10.1186/s41239-023-00408-3>
- Chan, C. K. Y., & Hu, W. (2023a). Students' voices on generative AI: perceptions, benefits, and challenges in higher education. *International Journal of Educational Technology in Higher Education*, 20.
- Chan, C. K. Y., & Hu, W. (2023b). Students' voices on generative AI: Perceptions, benefits, and challenges in higher education. *International Journal of Educational Technology in Higher Education*, 20(1), 43.
- Chan, C. K. Y., & Tsi, L. H. (2023). The AI revolution in education: Will AI replace or assist teachers in higher education? *arXiv preprint arXiv:2305.01185*.
- Chen, C., Fu, J., & Lyu, L. (2023). A pathway towards responsible ai generated content. *arXiv preprint arXiv:2303.01325*.

- Chen, L., Chen, P., & Lin, Z. (2020). Artificial intelligence in education: A review. *Ieee Access*, 8, 75264-75278.
- Cong, Y. (2024). AI Language Models: An Opportunity to Enhance Language Learning. *Informatics*, 11(3), 49. <https://www.mdpi.com/2227-9709/11/3/49>
- Crompton, H., & Burke, D. (2023). Artificial intelligence in higher education: the state of the field. *International Journal of Educational Technology in Higher Education*, 20(1), 22. <https://doi.org/10.1186/s41239-023-00392-8>
- Curry, D. (2024, July 2). ChatGPT Revenue and Usage Statistics. *Business of Arts*. <https://www.businessofapps.com/data/chatgpt-statistics/>
- Farrelly, T., & Baker, N. (2023). Generative artificial intelligence: Implications and considerations for higher education practice. *Education Sciences*, 13(11), 1109.
- Ghimire, A., Prather, J., & Edwards, J. (2024). Generative AI in Education: A Study of Educators' Awareness, Sentiments, and Influencing Factors. *arXiv preprint arXiv:2403.15586*.
- Harrer, S. (2023). Attention is not all you need: the complicated case of ethically using large language models in healthcare and medicine. *EBioMedicine*, 90.
- Herbold, S., Hautli-Janisz, A., Heuer, U., Kikteva, Z., & Trautsch, A. (2023). A large-scale comparison of human-written versus ChatGPT-generated essays. *Sci Rep*, 13(1), 18617. <https://doi.org/10.1038/s41598-023-45644-9>
- Kaplan-Rakowski, R., Grotewold, K., Hartwick, P., & Papin, K. (2023). Generative AI and Teachers' Perspectives on Its Implementation in Education. *Journal of Interactive Learning Research*, 34(2), 313-338.
- Kostka, I., & Toncelli, R. (2023). Exploring applications of ChatGPT to English language teaching: Opportunities, challenges, and recommendations. *Tesl-Ej*, 27(3), n3.
- Labadze, L., Grigolia, M., & Machaidze, L. (2023). Role of AI chatbots in education: systematic literature review. *International Journal of Educational Technology in Higher Education*, 20.
- Lubowitz, J. H. (2023). ChatGPT, an artificial intelligence chatbot, is impacting medical literature. *Arthroscopy*, 39(5), 1121-1122.
- Meyer, J. G., Urbanowicz, R. J., Martin, P. C., O'Connor, K., Li, R., Peng, P.-C., Bright, T. J., Tatonetti, N., Won, K. J., & Gonzalez-Hernandez, G. (2023). ChatGPT and large language models in academia: opportunities and challenges. *BioData Mining*, 16(1), 20.
- Mizumoto, A., & Eguchi, M. (2023). Exploring the potential of using an AI language model for automated essay scoring. *Research Methods in Applied Linguistics*, 2(2), 100050. <https://doi.org/https://doi.org/10.1016/j.rmal.2023.100050>
- Mohamed, Y. A., Khanan, A., Bashir, M., Mohamed, A. H. H., Adiel, M. A., & Elsadig, M. A. (2024). The impact of artificial intelligence on language translation: a review. *Ieee Access*, 12, 25553-25579.
- Peng, H., Ma, S., & Spector, J. M. (2019). Personalized adaptive learning: an emerging pedagogical approach enabled by a smart learning environment. *Smart Learning Environments*, 6(1), 1-14.
- Peres, R., Schreier, M., Schweidel, D., & Sorescu, A. (2023). On ChatGPT and beyond: How generative artificial intelligence may affect research, teaching, and practice. In (Vol. 40, pp. 269-275): Elsevier.

- Rudolph, J., Tan, S., & Tan, S. (2023). War of the chatbots: Bard, Bing Chat, ChatGPT, Ernie and beyond. The new AI gold rush and its impact on higher education. *Journal of Applied Learning and Teaching*, 6(1), 364-389.
- Ruiz-Rojas, L. I., Acosta-Vargas, P., De-Moreta-Llovet, J., & Gonzalez-Rodriguez, M. (2023). Empowering education with generative artificial intelligence tools: Approach with an instructional design matrix. *Sustainability*, 15(15), 11524.
- Sima, A. (2023, 9 Mar). ChatGPT and the future of university assessment. *Times Higher Education*. <https://www.timeshighereducation.com/campus/chatgpt-and-future-university-assessment>
- Su, J., & Yang, W. (2023). Unlocking the Power of ChatGPT: A Framework for Applying Generative AI in Education. *ECNU Review of Education*, 6(3), 355-366.
<https://doi.org/10.1177/20965311231168423>
- Sweller, J. (1988). Cognitive Load During Problem Solving: Effects on Learning. *Cognitive Science*, 12(2), 257-285. https://doi.org/https://doi.org/10.1207/s15516709cog1202_4
- Teng, F. (2023). Scientific writing, reviewing, and editing for open-access TESOL journals: The role of ChatGPT. *International Journal of TESOL Studies*, 5(1), 87-91.
- Warschauer, M., Tseng, W., Yim, S., Webster, T., Jacob, S., Du, Q., & Tate, T. (2023). The affordances and contradictions of AI-generated text for writers of English as a second or foreign language. *Journal of Second Language Writing*, 62.
- Wei-Xun, L., & Jia-Ying, Z. (2024). Impact of AI-Driven Language Learning Apps on Vocabulary Acquisition among English Learners. *Research Studies in English Language Teaching and Learning*, 2(1), 2-10. <https://doi.org/10.62583/rseltl.v2i1.32>
- Williyan, A., Fitriati, S. W., Pratama, H., & Sakhiyya, Z. (2024). AI as Co-Creator: Exploring Indonesian EFL Teachers' Collaboration with AI in Content Development. *Teaching English with Technology*, 24(2), 5-21.
- Wu, Y. (2023). Integrating generative AI in education: how ChatGPT brings challenges for future learning and teaching. *Journal of Advanced Research in Education*, 2(4), 6-10.
- Yu, H., & Guo, Y. (2023). Generative artificial intelligence empowers educational reform: current status, issues, and prospects [Review]. *Frontiers in Education*, 8.
<https://doi.org/10.3389/feduc.2023.1183162>
- Zhang, R., Zou, D., & Cheng, G. (2023). Chatbot-based training on logical fallacy in EFL argumentative writing. *Innovation in Language Learning and Teaching*, 17(5), 932-945.