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Exploring Teachers and Students' Perceptions towards using AI-powered Tools for English Language Learning

The case study of Second-year students of English at Mohammed Khider University of Biskra

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A Dissertation Submitted to the Department of English and Literature in Partial Fulfillment of the Requirements for the Master's Degree in Sciences of the Language

Board of Examiners

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Declaration

I, Zahra FEKROUN, declare that this dissertation is my original work and has not been previously submitted to any institution or university for a degree. I also declare that all of the cited and quoted sources in this work are put forward in the references list. This work was certified and completed at Mohammed Khider University of Biskra, Algeria.

Zahra FEKROUN

Dedication

I dedicate this work to my mother. May Allah rest her soul. I am here to continue what you started. Your love and dedication to teaching have always been an inspiration and motivation throughout my learning journey.

To my dearest mom, I am grateful for the love, support, and sacrifices you have made for me. This degree is for not only mine but also yours. Moreover, I hope this achievement brings you as much pride and joy as it does for me.

To Dada and Dad, thank you for being my biggest supporters. To my beloved siblings especially Salma and all my family members, I dedicate my work to each one of you for always pushing me to the best and always standing by my side. Not to forget my best friends, thank you for all the memories we have shared and for being there through it all. Finally yet importantly, I want to thank me for all the hard work and never giving up.

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Abstract

The present study explores how EFL students use Artificial intelligence powered tools to improve their English language learning. Specifically, it explores the efficiency of AI-powered tools on student's English language learning. Focusing on their language skills. The major aims of this study are to gather both student and teachers perspectives about the effectiveness of using AI-powered tools in enhancing English language learning. The idea is explained and demonstrated in the context of English language learning. The goal is to provide valuable insight into the relationship between Artificial intelligence and English language learning which leads to shed light on the potential benefits of integrating AI into English language education. To achieve the intended aims of the study, we chose a descriptive approach that involves using mixed methods of collecting information. One of these tools is a questionnaire administrated to second year EFL learners (N = 25). In addition, a semi structured questionnaire was addressed to the teachers (N = 8). The findings indicated that both students and teachers are aware of the effectiveness of artificial intelligence and the potential possibility of including it in the learning process.

Keywords Artificial intelligence, English language Learning, AI-powered tools.

List of Acronyms

AI: Artificial Intelligence.

AIED: Artificial Intelligence in Education.

ASR: Automatic Speech Recognition.

DL: Deep Learning.

ITS: Intelligent Tutoring Systems.

L2: Second -year Licence.

ML: Machine Learning.

MT: Machine Translators

NLG: Natural Language Generation.

NLP: Natural Language Processing.

NLU: Natural Language Understanding.

SLA: Second Language Acquisition.

TTS: Speech Synthesis.

List of Tables

List of Figures

Table of Contents

GENERAL INTRODUCTION

General Introduction

In the context of the increasing evaluation and use of AI-powered tools in the educational field, Artificial Intelligence (AI) has revolutionized education. Artificial Intelligence powered tools has revolutionized education. AI tools have the potential to transform traditional educational methods. One of the primary advantages is the ability of AI to tailor educational content to individual student needs. This personalization can address diverse learning paces and styles (Luckin and Holmes (2016)). AI-powered tutoring systems also provide students with additional support outside the classroom, offering explanations and practice exercises that adapt to their learning progress (Graesser et al., 2018). When it comes to language learning, AI tools offer unique advantages that can significantly enhance language learning. AI language learning platforms can assess a learner's proficiency level and customize lessons to address specific areas of improvement (Chen et al., 2020). AI tools can offer immediate feedback on language exercises, allowing learners to understand and correct their mistakes in real-time. This instant assessment is crucial for language practice (Wang & Heffernan, 2010). AI language learning tools are often available on multiple platforms, including mobile devices, making them accessible anytime and anywhere (Godwin-Jones, 2021). The integration of AI tools in education, and particularly in language learning, presents significant opportunities to enhance the educational experience. By offering personalized, interactive, and flexible learning solutions, AI tools support diverse learning needs and promote effective language learning.

1. Statement of the problem

In the context of the increasing evaluation and use of A.I tools in the educational field (teaching and learning English as a foreign language) there is a need to understand how these technologies are used and integrated with the language learning process; this research aims to explore the users satisfaction and views of the effectiveness of AI-powered tools in enhancing

English language learning of EFL students at the department of English at Mohammed Kheider University of Biskra.

2. Aims of the study

1. To find out how EFL students at the department of English at UMKB use A.I technologies to improve their English language learning.

2. To find out how A.I technology can improve EFL students at UMKB English language learning.

3. To investigate the students at UMKB English department views on using A. I to improve their English language learning.

4. To investigate the views of teachers of English at UMKB on using A. I to improve students' English language learning.

3. Research Questions

RQ¹: Which language aspects do EFL students at the department of English at UMKB Improve using A.I technologies?

RQ²: How do UMKB English department students personalize their language learning experience using A.I tools?

RQ³: What are the perceptions of EFL students and teachers of UMKB towards the use of A.I in English language learning?

4. Research Methodology

This research sheds light on the perception of the effectiveness of using AI-powered tools for English language learning. Therefore, a descriptive research design with a mixed-methods approach is appropriate. The data collection tools include semi-structured questionnaires. The questionnaires are addressed to second-year (L2) students at the Department of English at Mohammed Khider University of Biskra and administered to teachers to gather insights from teachers in the same department.

4.1. Population and sampling

The population of the study consists of L2 students at the Department of English at UMKB. A sample of twenty-five (25) students and eight (8) teachers was selected for the questionnaires.

5. The significance of the study

This dissertation will provide valuable insights into the relationship between Artificial Intelligence Powered tools and English language learning. By exploring the perceptions of learners and educators, this research will contribute to the understanding of how AI-powered tools can be effectively used to Enhance English language learning experiences. Ultimately, this study will shed light on the potential benefits and challenges of Integrating AI into language education, paving the way for future research and development in this exciting and rapidly evolving field.

6. Structure of the study

The dissertation consists of two chapters: a theoretical and a practical one. The first chapter, which is the theoretical one, is divided into two main parts. The first part delves into the background and development of AI, including its branches. The second focuses on the various applications and implications of AI tools for English language learning. In addition, it discusses how artificial intelligence can support language learning. The practical part of the dissertation involves the description of the methodology of the study, the analysis of the data collected through the questionnaires submitted to participants (EFL students and teachers of UMKB English department).

CHAPTER ONE:

AI-POWERED TOOLS

Introduction

In today's rapidly evolving digital landscape, the fusion of artificial intelligence (AI) with various domains has become not just a trend but also a transformative force. One such domain experiencing a profound shift is education, particularly language learning. Within this realm, the integration of AI technologies holds immense potential to revolutionize the way we teach and learn languages, with English, as the lingua franca of the modern world, standing at the forefront of this transformation. This chapter delves into the history of artificial intelligence and its implications. By examining its branches, technologies, and core tools.

1. Artificial Intelligence History and Definition

The early origins of AI can be traced back to Alan Turing, a British logician and computer pioneer in the mid-20th century. Turing proposed a method, known as the Turing Test, to determine if a machine can display human-like intelligence. In his 1950 paper, "Computing Machinery and Intelligence," Turing introduced the test as a way to assess whether a machine's responses could be indistinguishable from those of a real person. The test involves three participants: a computer, a human interrogator, and a human foil. Through keyboard and display screen interactions, the interrogator poses questions to differentiate between the computer and the human. If the machine successfully convinces the interrogator of its humanity, it is considered intelligent. Turing's practical approach to evaluating AI contrasted with his absence of a formal definition. In 1956, McCarthy, Minsky, Rochester, and Shannon organized a workshop that brought Turing's theories to life. McCarthy, known as the father of AI, coined the term artificial intelligence. According to Tucci (2020), AI is the simulation of human intelligence in machines, particularly computer systems. Winston (1984, p. 3) also defined AI as the study of concepts that enable computers to exhibit intelligence.

Artificial intelligence (AI) has many definitions, each highlighting different aspects of its complexity and purpose. At its core, one of the aspects is human-like action and behavior,

where AI aims to give machines human-like abilities to perceive, reason, and act. As stated by Joshi (2019, p. 4), AI is about creating machines capable of human-like actions, not just super-intelligent computers. AI may not mean designing an incredibly smart computer that solves all problems, but rather building a machine that is capable of human-like action. Mehrotra (2019) presents another definition of AI: AI is the science of having a machine think and behave like a human being who is intelligent. AI makes machines think and behave like intelligent humans. August and Tsaima (2021) offer a perspective focused on tasks traditionally associated with human intelligence and describe AI as teaching computers to do tasks that usually require human intelligence. “AI is the study of how to make computers accomplish activities that appear to need intelligence when performed by people." Various perspectives define artificial intelligence (AI) in nuanced ways. McCarthy John defined AI as "the science and engineering of making intelligent machines" (2004). An additional common definition focuses on how AI systems mimic human functions. A definition is given by Anjila (2021, p. 65), who refers to AI as a system that mimics various functions that humans can perform. Stone et al. (2016) represent another computational and functional perspective. AI is "a science and a set of computational technologies that are inspired by—but typically operate quite differently from—the ways people sense, learn, reason, and take action." It means that AI is a field and a group of computer tools that are influenced by how humans sense, learn, think, and act, even though they usually work in different ways. For instance, Haugeland (1985) describes it as «the exciting new effort to make computers think... machines with minds, in the full and literal sense." Charniak and McDermott (1985) view AI as "the study of mental faculties through the use of computational models." Bellman (1978) characterizes it as "the automation of activities that we associate with human thinking, activities such as decision-making, problem-solving, learning, etc." Winston (1992) defines AI as the study of the computations that make it possible to perceive, reason, and act." Lastly, Kurzweil (1990) sees it as "the art of creating machines that perform functions

that require intelligence when performed by people." AI encompasses a broad range of definitions that collectively underscore its aim to replicate or simulate human intelligence through machines. This involves creating systems that can perform tasks requiring human-like thought processes and actions, utilizing computational models and technologies inspired by human cognition, even though they often operate in distinct ways.

AI development has experienced periods of optimism and disappointment. The 1960s and 1970s witnessed what is called the AI winter. However, since 2010, significant progress has been made due to big data, new algorithms, and computing resources, highlighting the rapid development of AI (Toosi et al., 2021).

2. Fundamental Key Components of Artificial Intelligence

Artificial intelligence encompasses a range of systems and applicable techniques like natural language processing, machine learning, and deep learning. These technologies play a vital role in enhancing language-learning processes. The following part highlights specific artificial intelligence technologies that hold great importance in English language learning.

2.1 Machine learning

Machine learning is a subset of artificial intelligence that develops algorithms and techniques that enable computers to learn from data and make predictions without explicit programming. Machine learning is a foundational technology in AI, enabling intelligent systems to improve performance over time. Many AI applications, including language learning, use machine-learning techniques for data analysis and processing. (Villegas-Ch et al., 2020).Machine learning, according to (Popenici & Kerr, 2017) , is "a subfield of AI that includes software able to recognize patterns, make predictions, and apply newly discovered patterns to situations that were not included or covered by their initial design." The most fundamental goal of machine learning is to provide techniques that allow computers to perform

better at certain tasks by using data that has been observed (Ghahramani, 2015). (Gori, 2017) holds a similar view that machine learning (ML) is an effort to create intelligent agents for a particular learning goal using artificial models that are mostly based on computational models. Copeland (2016) claims that machine learning (ML) is a method that requires learning processes in order to arrive at a final prediction. According to Jordan & Mitchell (2015), different types of information are collected so that anyone can act upon the knowledge about things that are offered globally. Alpaydın (2016) clarified that the data now includes text, photos, videos, ranks, frequencies, gene sequences, sensor arrays, click logs, and lists of suggestions in addition to numbers. According to Jordan and Mitchell (2015, p. 257), "Mobile devices and embedded computing permit large amounts of data to be gathered about individuals, and machine-learning algorithms can learn from these data to customize their services to the needs and circumstances of each individual.

2.2 Natural language processing

Natural language processing is part of AI, which involves the designing and implementaion of various systems and algorithms that are able to interact with human language(Lauriola et al., 2022). According to Dr. Ann Copestake (2003) in her handout lectures about natural language processing, the automatic (or semi-automatic) processing of human language is known as natural language processing, or NLP. The goal of NLP, a branch of AI and linguistics, is to enable computers to comprehend words and sentences written in human languages (Khurana et al., 2022). According to Mah et al. (2022) natural language processing (NLP) is the study of mathematical and computer modeling of language in a variety of contexts and across a broad spectrum of systems. In recent research on natural language processing, Meera & Geerthik (2022) explored that NLP is the process of creating software that can use natural language tasks to function and operate in certain helpful ways. NLP is a branch of

artificial intelligence that focuses on teaching machines to mimic human language understanding and production (Raina & Krishnamurthy, 2022).

According to Mamatha (2023), there are three components of NLP:

2.2.1 Speech recognition

It is the translation of spoken language into text.

2.2.2 Natural Language Understanding (NLU)

Understanding involves the following tasks: mapping the given input in natural language, such as sentences or phrases, into representations that capture the underlying meaning and context into useful representations; and creating structured formats or models that capture the meaning and context of the input text in a way that is suitable for computational analysis. By analyzing the different aspects of the language and converting the raw text data into a form that a computer can process and manipulate.

2.2.3 Natural Language Generation (NLG)

It is the process of producing meaningful phrases and sentences in the form of natural language from some internal representation that serve as a bridge between the input data and the final text output, providing a structured framework for organizing and ma ***2.3 Deep learning***

Within the field of artificial intelligence, deep learning is a subset of machine learning that uses artificial neural networks—computing systems that mimic certain neural networks found in the human brain—to learn from massive datasets. While deep learning could potentially be used for natural language processing (NLP), its primary focus is on vision-based categories (such as image recognition). By recognizing complex patterns in data, including text, audio, and pictures, deep learning is a revolutionary approach that makes it possible for computers to learn in a manner similar to that of humans. By utilizing complex neural networks with advanced functions, it outperforms humans and independently extracts valuable insights

from unprocessed input data (Janiesch et al., 2021). The promise of deep learning extends to enhancing data performance on websites and applications, which is advantageous across several domains.

3. Educational Artificial Intelligence (AIED)

Artificial intelligence, with its capacity for advanced data processing, pattern recognition, and natural language understanding, offers a myriad of possibilities to enhance the English language learning experience. According to (Mukhallafi, 2020) Using AI in education is currently a popular trend in experimental research. Research shows that AI education tools are varied, including programmed learning and other advanced technologies available as open source. The significance of AI applications in education lies in their ability to cater to individual learners' needs and capabilities, align with their learning preferences, and track their progress. These applications offer pathways that accommodate learners of all levels, boost their motivation to learn, and address issues like low attention levels. They provide feedback to indicate student achievement levels and areas of strength and weakness in the subject matter. Additionally, they ensure the integration of curriculum subjects, logical progression within each subject, and mastery of one section before advancing to the next level.

4. AI-powered Tools for English language learning

4.1 Intelligent tutoring systems (ITS)

Intelligent tutoring systems are a key component of AI integration in second language acquisition (SLA). By tailoring information and providing instruction to each learner's unique needs, these systems use AI algorithms to customize language-learning experiences (Bisson et al., 2019). Studies have indicated that students who use ITSs outperform those who use standard teaching techniques in terms of language competency (Agrawal et al., 2019). Furthermore, because AI-powered ITSs offer real-time feedback and adaptive learning activities, they have

the potential to increase learner motivation and engagement (Xu et al., 2021). The development of language learning apps with speech recognition and automated skills evaluation has been made easier by AI technologies like machine learning and natural language processing (NLP) (Bisson et al., 2019). With the use of these resources, students may practice giving and receiving feedback in a more interactive and engaging manner.

4.2 Chatbots and conversation simulators

As per Nghi et al. (2019), chatbots are an artificially intelligent conversational system type that is meant to talk to people or computers automatically. Several prior studies have proved that using chatbots for learning is effective, especially when studying the English language (Afrianto et al., 2019); the chatbot application being developed will act as an English conversation partner for teaching and learning the language. Normally, talking can take place verbally or in writing, hence the need for the user to be able to practice both. In order to serve as a training tool for English conversations, a chatbot app should have two features: grammar error correction and a daily log for users. According to Huang et al. (2019), a chatbot is a software program that allows users to have a conversation with it in natural language. Powered by artificial intelligence, chatbots are designed to conduct conversations that mimic human dialog, act as conversational agents, and are programmed to communicate with people using normal language to help people as if they were working as personal assistants. As Essel et al. (2022) noted, AI technology is applied in virtual assistants, and they are designed to understand computer users' requirements and respond to them in natural language. Due to the progress of AI, chatbots are applied in many areas, with one of them being educational support. . Their versatility enables them to undertake various tasks, from answering questions to offering directions. Haristiani (2019) research indicates that language learners favor chatbots for language learning due to their accessibility and the confidence they inspire, compared to direct

interactions with human tutors, which means that chatbots have given foreign language learners a chance to improve their language skills by facilitating human-to-human conversations. With the emergence of an extensive range of communication technologies, students may now engage in genuine and natural conversations with real audiences throughout the world. Kim (2017) claims that this is particularly helpful for fostering communication skills. Artificial intelligence (AI) chatbots have garnered significant interest in the English as a Foreign Language (EFL) domain. Which is definitely a useful tool for EFL students, especially in light of the limited opportunities for target language practice (Fryer and Carpenter 2006). An example of this software is OpenAI's ChatGPT. The application of ChatGPT has the potential to provide a great deal of advantages and chances for language learning for students of various skill levels. Kasneci et al. (2023) state that ChatGPT can offer customized practice materials and explanations in addition to helping language learners improve their writing and vocabulary acquisition skills. In addition, ChatGPT provides discipline-specific language skills and can help with writing, research report writing, and problem solving tasks.

4.3 Ai –powered software's

Research indicates that AI-powered language-learning tools are effective. Ahmed et al. (2022) investigated how learners' competency was impacted by AI-based language learning software. In contrast to conventional teaching classroom methods, applications' significantly enhanced students' speaking and language memory abilities. In a similar vein, Granados-Bezi (2015) discovered that students receiving AI-supported instruction showed improved performance results and motivation. These are mobile applications that may be downloaded onto a tablet or smartphone. A variety of learning activities, including vocabulary drills, grammar tests, and conversation practice, are often included in language learning applications. A few language-learning applications further employ speech recognition technology to offer

instant pronunciation feedback. Apps for learning languages include Rosetta Stone, Babbel, and Duolingo.

4.4 Machine Translators

Machine translation (MT) is an automated system that facilitates seamless translation between languages, addressing the need for cross-lingual communication in our increasingly globalized world. Traditional manual translation methods are resource-intensive and costly, making MT a practical solution to enhance efficiency. In language education, machine translation technology integrates interactive systems that foster productive human-machine collaboration (Urlaub & Dessein, 2022). These dynamic systems offer learners valuable opportunities, prompting language educators to recognize the positive impact of MT tools in their classrooms.

MT's capacity to generate tens of millions of translations daily and swiftly adapt to new terminology surpasses the capabilities of individual learners (Raheem, 2020). Studies on MT, such as Google Translate, reveal its effectiveness in facilitating the acquisition of word meanings, comprehension of complex sentence structures, sentence construction, spelling accuracy, and pronunciation, making it a valuable resource for students in various language-learning activities (Shahriar, 2023; Wirantaka & Fijanah, 2021). MT helps students focus more on the topic and minimize orthographic, lexical, and grammatical mistakes. As a result, students using MT create revisions with a higher number of successful edits and higher-quality L2 writing, as supported by several studies (Lee, 2020).

4.5 Speech Technology

Speech technology is a set of computing capabilities that allow electronic systems to identify, analyze, and comprehend spoken words or audio inputs. It is useful in a variety of

educational contexts, including vocabulary evaluation, communication and listening skills development, and pronunciation training (Krasanova & Bulgakova, 2014). According to Patty (2024), speech technology includes two uses

4.5.1 Automatic speech recognition (ASR)

ASR is an essential part of speech technology specialized in converting spoken words (inputs) into text by breaking down audio into discrete sounds and changing them into a digital format by using algorithms to figure out the most probable textual representation. Allowing computers to understand the spoken language.

4.5.2 Speech Synthesis (TTS)

Known as text-to-speech. It works in a different way, by converting text into audible syllabuses.

4.6 Adaptive learning systems

Adaptive learning systems are learning tools that are designed adapt according to each learners unique needs and skill level. These solutions give students tailored feedback and personalize their learning experience by using data and analytics (Jin, 2022). Artificial intelligence algorithms are utilized by adaptive learning systems to evaluate students' language skills and adjust their courses of study accordingly. The methods indicated above provide learners with individualized learning materials based on their skills and abilities, and adjust the level of difficulty of tasks based on their progress. Research has shown that using adaptive learning systems can lead to a significant improvement in students' language ability. Huang (2021).

Conclusion

As a result, as technology continues to advance at an unprecedented pace, the integration of artificial intelligence (AI) into English language learning becomes an urgent need. Moreover, the personalized learning experiences facilitated by AI cater to the unique needs and learning styles of each individual learner. Through ML, DL, and NLP, AI-powered tools can tailor lesson plans, exercises, and feedback to address specific areas of improvement, maximizing the efficiency of English learning skills.

Chapter Two: AI-powered Tools in Language Learning

Introduction

As we delve deeper into the implications of AI-powered tools in English language learning, it becomes evident that these technologies hold the potential to significantly enhance educational outcomes. By fostering a more interactive and personalized learning experience, AI-powered tools is empowering learners to achieve greater success in the pursuit of language mastery. This chapter will explore the various dimensions of AI integration in language learning, highlighting the benefits of this rapidly evolving field.

5. Advantages of AI-powered tools in language learning

5.1 Personalized learning

The integration of AI is crucial as it enables customized curriculum interactions that enhance the accessibility, engagement, and appropriateness of educational information (Følstad & Brandtzaeg, 2020). Artificial Intelligence technologies for language learning provide focused support by offering customized experiences depending on each student's requirements and development (De La Vall & Araya, 2023). Personalized learning adapts instruction to each student's individual requirements in order to meet curriculum requirements and enhance development. It gives students an opportunity to investigate their areas of interest and strength, enabling them to take charge of their learning (Bray & McClaskey, 2013). This method gives learners the confidence to take on challenging tasks, establish higher objectives, and produce significant results. High levels of participation are essential to student-centered learning, which focuses on addressing each student's very different abilities and weaknesses (Makhambetova et al., 2021).

5.2 Flexibility and accessibility

Almusaed et al. (2023) assert that by giving students more flexibility and accessibility, artificial intelligence (AI) is essential in reducing barriers to education. By enabling students to learn independently utilizing a variety of formats, including online courses, video lectures, and individualized learning plans, it greatly increases access to education. Students are further

empowered to study on their own terms by having access to AI-powered language learning tools at any time and from anywhere, which eliminates the limitations of traditional classroom learning.

5.3 Real Time Feedback and Assessment

According to Nazari et al. (2021), "providing immediate feedback to learners about their learning progress" is one of AI's most significant contributions to education and meaningful learning (p. 2). According to Dodigovic (2007), artificial intelligence (AI) systems have the ability to assist in language acquisition by identifying mistakes made in speaking and writing and then giving the learners feedback. Eventually, AI can give instant feedback on how efficiently learners are performing. For example, AI can detect and correct plagiarism, incorrect sentence structure, and grammatical and spelling errors (Allen et al., 2014; Almaleki, 2021; Fitria, 2021b; Myers et al., 2007). Fitria (2021) states that "grammarly" software is capable of identifying mistakes including "inappropriate noun usage, irregular verb conjugations, prepositional errors, and misused words" (p. 66). Additionally, AI systems provide feedback on learners' accuracy, fluency, intonation, and pronunciation, including segmental problems like sound, syllable clusters, and aspiration sounds (Fakdawer, 2020). According to Sidgi and Shaari (2017), certain artificial intelligence applications may provide feedback and examples of words mispronounced in addition to identifying learners' mistakes. They can also compare users' pronunciation to that of native speakers and indicate where a sound should be produced. Other AI systems provide users with a detailed report that may be downloaded (Fakdawer, 2020). Feedback increases students' motivation, activity, independence, and capacity for developing knowledge, which enhances achievements (Nazari et al., 2021; Zimmerman & Kitsantas, 2007).

5.4 progress tracking

Above all, AI's ability to track students' behavior, progress, and changes over time has many benefits (Chapelle and Sauro 2017). These benefits include raising students' autonomy and motivation (J. Zhang et al., 2020; J. Li, 2021), promoting self-checking and self-direction (D. Lee, 2007), enhancing students' grammatical accuracy, and decreasing the chance of future grammatical errors. In addition, Y. Zhang (2022) declares, “AI technology is indispensable for autonomous English language learning." Dodigovic (2007) claims that AI may provide students with the opportunity to study by themselves in a way that they are comfortable with, which increases autonomy. Which led to enhance students' interest in learning a language. Students might be encouraged to participate in language learning materials through gamification and other interactive learning aspects. For instance, Zwasaki et al.'s (2019) study examined the application of an AI-based adaptive feedback language learning game and observed that students were more motivated and engaged while using the game than when using conventional language-learning resources.

Conclusion

AI-powered tools for language learning offer learners unprecedented flexibility and convenience. Whether through mobile apps, online platforms, or virtual classrooms, students can engage with English language materials anytime, anywhere. Ultimately, the integration of AI into language learning represents a paradigm shift in education, ushering in an era of enhanced accessibility, effectiveness, and individualization.

Chapter Three:

Field Work and Data Analysis

Introduction

The purpose of the current study is to explore teachers' and students' (L2) perceptions about the use of AI-powered tools in improving EFL students' English language learning at the University of Mohammed Khider Biskra. This chapter discusses the methodology used in this research. It presents the research design, the data collection tools, the population, and the sample targeted in the study. Additionally, it presents the analysis and discussion of the data collected from both teachers' and students' questionnaires.

1. Research methodology

To explore the teachers' and students' attitudes about the effectiveness of AI-powered tools in language learning, the mixed-methods approach seems to be the most suitable to serve the nature of this study. To answer the research questions, the researcher opted to collect data through a semi-structured questionnaire for both students and teachers.

1.2. Research design

The researcher has chosen a descriptive design to reach the main objective of the study; exploring both students' and teachers' points of view about using AI-powered tools for language learning. A mixed-methods research approach combining both, quantitative and qualitative data, provides a comprehensive understanding of the subject by gathering in-depth insights and assessing attitudes, beliefs, and experiences with AI-powered tools.

1.3. Population and sample

The target population for the current study is second-year students of the English language department at the University of Mohamed Kheider in Biskra. They were chosen for several reasons at this level. Most students are digital natives who are familiar with language learning apps and AI-powered ones. This familiarity results more insightful evaluation of the use of AI-powered tools. In addition, L2 students range from beginners to advanced learners who are still in need for language improvement. Twenty-five (25) students serve as a sample

from a population of three hundred and ninety-one students (391) in addition to eight (8) teachers of the same department.

1.4. Data collection tools

The data collection tools used in this study are semi-structured questionnaires. The student questionnaire elicits data about how students use these tools to enhance their language learning experiences. On the other hand, the teacher's questionnaire was used to elicit data on their attitudes about their students' use of AI-powered tools for language learning.

2. Students questionnaire

2.1 Description of students questionnaire

The questionnaire was designed for L2 students of English at the University Mohamed Kheider of Biskra. It consists of two main parts and fourteen (14) close-ended and open-ended questions requiring students to tick (✓) the appropriate answer (s) or rate specific aspects by choosing the appropriate answer in a scale, and write a full statement when necessary. The questionnaire is described as follows:

• **Section One:** General information (Q1-Q4) it gives information about students' age, gender, level of English proficiency, and motivation level for language learning.

• **Section two:** about AI-powered tools (Q5-Q14). The questions in this section aim to elicit data about the student's familiarity with language learning AI-powered tools as well as their experience with these tools. The questions also seek data about their opinions of these tools.

2.2 Piloting and validating of the questionnaire

To ensure that all questions were clear and easily understood by respondents, and to avoid any difficulty in obtaining reliable answers, a pilot study was conducted on Friday, May 24, 2024, with 25 students. After this initial phase, the modified version of the questionnaire, incorporating slight changes in the forms of questions and the choices, was submitted to the students.

2.3 Administration of the questionnaire

The final version of the questionnaire was designed using Google Forms. Then it was administered online to the target sample on Monday, May 27, 2024. Submitting the online questionnaire was an appropriate option because it coincides with the students' exams.

2.4 Analysis of the students' questionnaire

Section One: General information

Item 1 Students Age

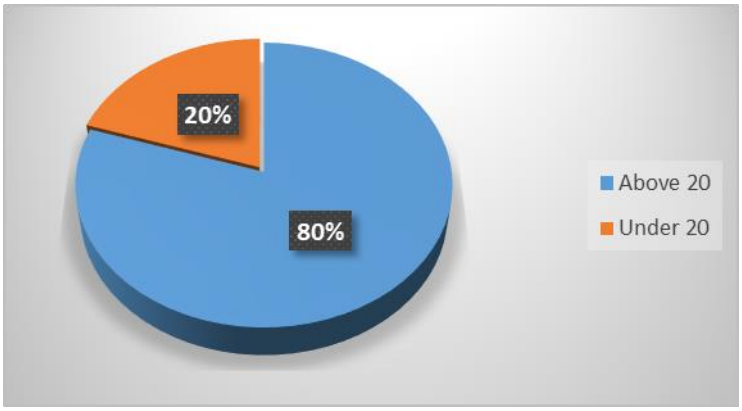

Figure 1 Students' Age

Table 1 Students' Age

option	Frequency	Percentage
Above 20	**20**	**80%**
Under 20	**5**	**20%**
Total	**25**	**100%**

According to the results of **Figure 1**, (80%) of the students are above 20 years old, whereas (20%) are under 20 years old; this might give more mature perspectives and a different learning experience with AI-powered tools.

Item 2 Students Gender

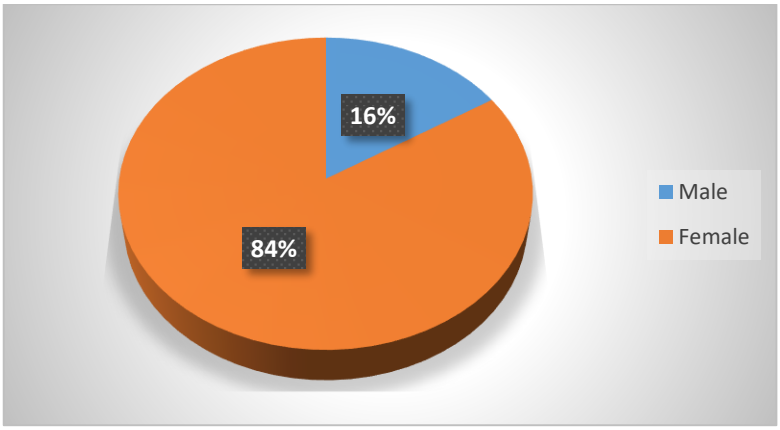

Figure 2 Students' Gender

Table 2 Students' Gender

Option	Frequency	Percentage
Male	**4**	**16%**
Female	**21**	**84%**
Total	**25**	**100%**

This item represents students' gender; the majority of participants (84%) are females. While, just (16%) are males which represent 4 male participants out of the total number twenty-five 25. This might mean that females are more likely to study the English language in universities more than males.

Item 3 Level of English language proficiency

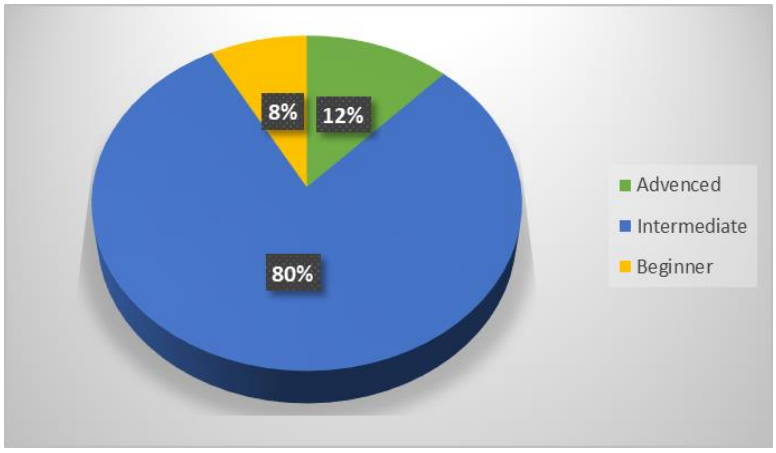

Figure 3 Students' Level of English langugae proficiency

Table 3 Students' Level of English language profeciency

Option	Frequency	Percentage
Advanced	**3**	**12%**
Intermediate	**20**	**80%**
Beginner	**2**	**8%**
Total	**25**	**100%**

According to the results of Figure 3, (80%) of the students perceive their level of English language proficiency as intermediate, whereas (12%) indicate their level as advanced. The minority, (8%), are beginners. Regarding the results above, most of the students believe that they have an intermediate level, which means that there is a strong potential for further English language development.

Item 4 Motivation level for English language learning

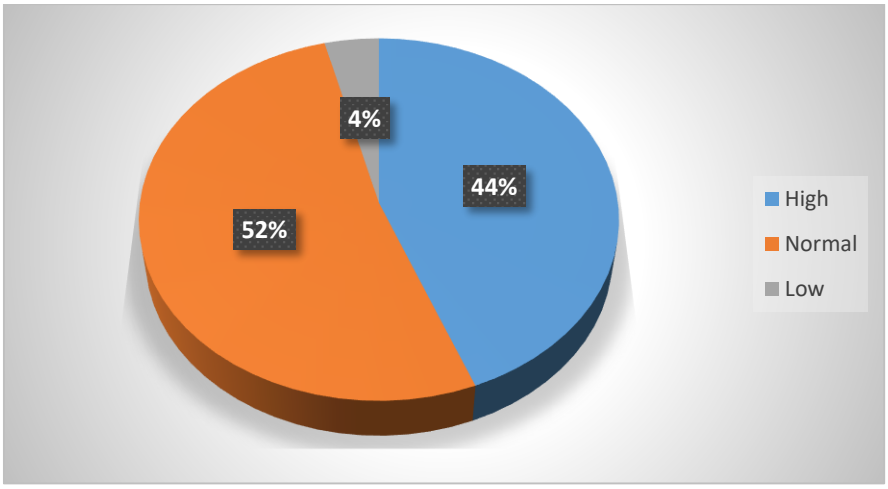

Figure 4 Students' Motivation level for English lnagugae learning

Table 4 Students' Motivation level for English language learning

Option	Frequency	Percentage
High	**11**	**44%**
Normal	**13**	**52%**
Low	**1**	**4%**
Total	**25**	**100%**

In the chart above, we notice that (44 %) of students have a high motivation level to learn the English language, followed by (52%) with a normal level, and just (4%) with a low English learning motivation level. This suggests a general willingness to learn the English language among L2 students

Section two: AI-powered tools

Item 5 Are you familiar with artificial intelligence powered tools for language learning?

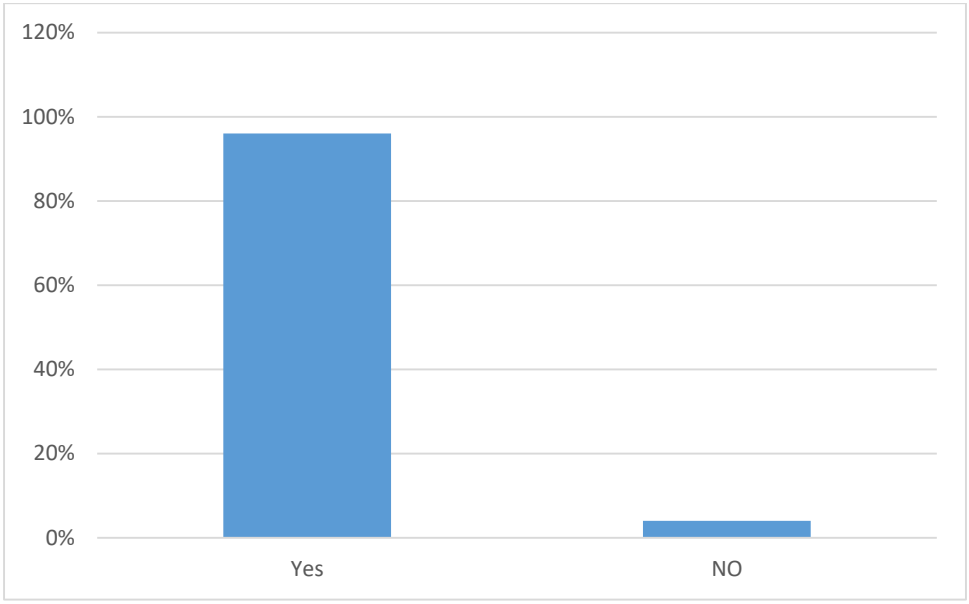

Figure 5 Students' familiarity with AI-powered tools for English language learning

Table 5 Students' familiarity with AI-powered tools for English language learning

Option	Frequency	Percentage
Yes	**24**	**96%**
No	**1**	**4%**
Total	**25**	**100%**

The present item is indicated in order to explore the learner's familiarity with AI-powered tolls for English language learning. According to the histogram, the majority of participants 24(96%) are familiar with AI-powered tools for English language learning. Only a single participant1, which represents (4%) of the sample, is not familiar with them. In summary, almost all participants are familiar with AI-powered tools for learning the English language, with just one exception.

Follow up Question: If yes, to what extant are you familiar with them?

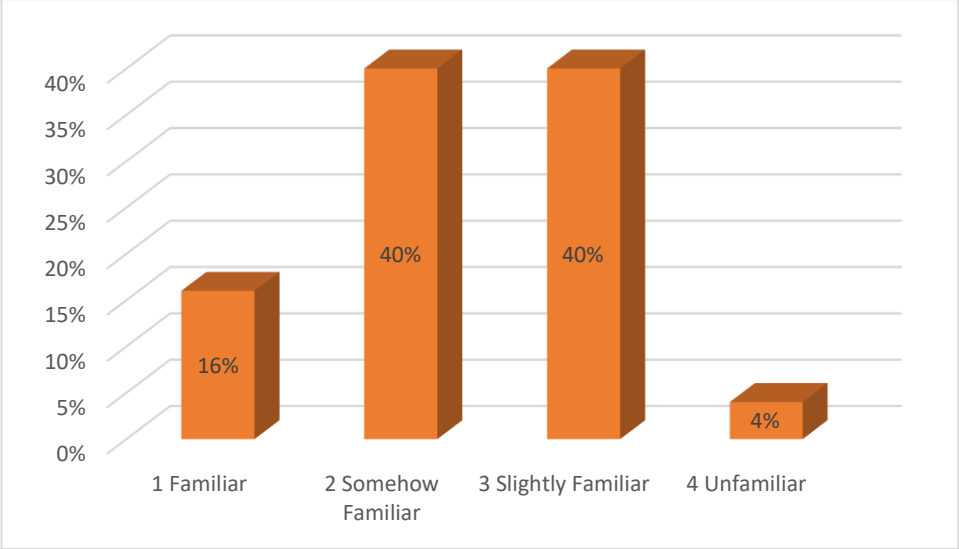

Figure 6 Students' extent of familiarity with AI-powered tools for English language learning

Table 6 Students' extent of familiarity with AI-powered tools for English langugae learning

Option	Frequency	Percentage
1 Familiar	**4**	**16%**
2 Somehow Familiar	**10**	**40%**
3 Slightly Familiar	**10**	**40%**
4 Unfamiliar	**1**	**4%**
Total	**25**	**100%**

Out of 25 students, 4 participants (16%) declared that they are familiar with AI-powered tools for English language learning; however, 1 of them (4%) claimed that they are unfamiliar with them. An equal percentage (40%), 10 students showed that they are somehow familiar and the other 10 are slightly familiar with those tools, the majority of students' have a moderate familiarity degree with AI-powered tools.

Item 6 Do you use AI-powered tools for English Language Learning?

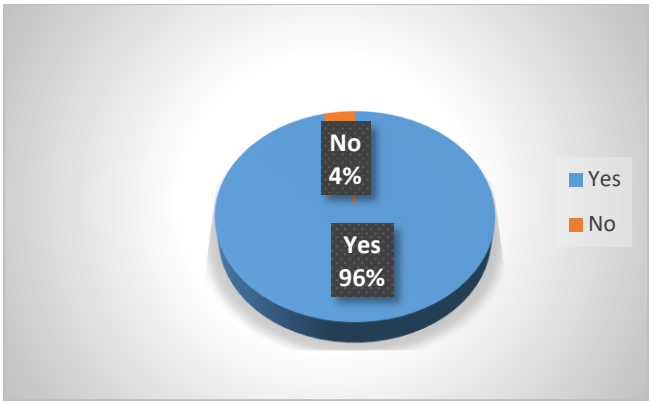

Figure 7 Students' use of AI-powered tools for English language learning

Table 7 Students' use of AI-powered tools for English langugae learning

Option	Frequency	Percentage
Yes	**24**	**96%**
No	**1**	**4%**
Total	**25**	**100%**

This item represents whether participants are using AI-powered tools for English language learning or not. According to the chart, 24(96%) of participants confirmed that they use those tools in learning English language. Only 1 of them (4%) indicated that they are not using them. This confirms that the overall number of participants using AI-powered tools for learning English language.

Item 7 How often do you use them?

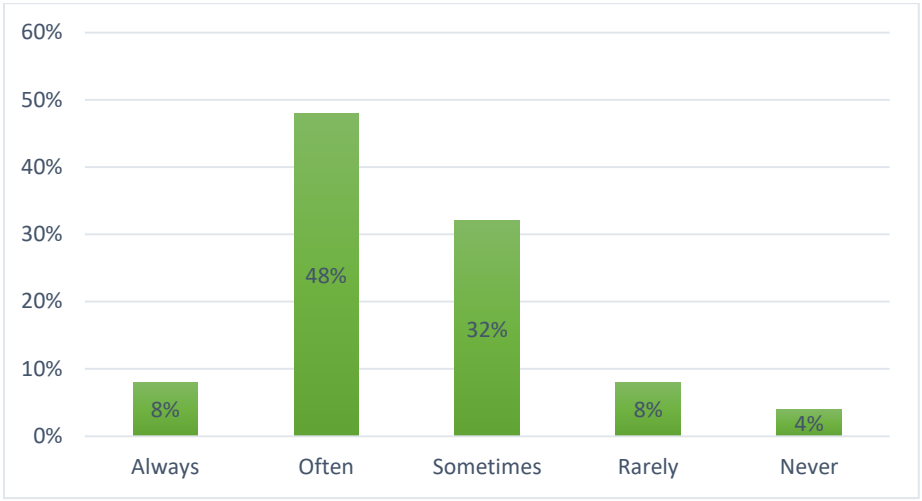

Figure 8 Students usage of AI-powered tools for English langugae learning

Table 8 Students usage of AI-powered tools for English langugae learning

Option	Frequency	Percentage
Always	**2**	**8%**
Often	**12**	**48%**
Sometimes	**8**	**32%**
Rarely	**2**	**8%**
Never	**1**	**4%**
Total	**25**	**100%**

The question was measured on a frequency Likert scale. As seen above, (8%) of the students (2 students) have reported that they always use AI-powered tools for English learning, the same percentage for those who reported 'rarely'. (48%) of the respondents have reported that they often use them. Moreover, (32%) pointed out that they sometimes use those tools for learning the English language. While the rest (4%) never use those tools. These results demonstrate that most of the students frequently use AI-powered tools to learn English.

Item 8 which of the following AI–powered language learning tools do you use to improve listening and speaking skills?

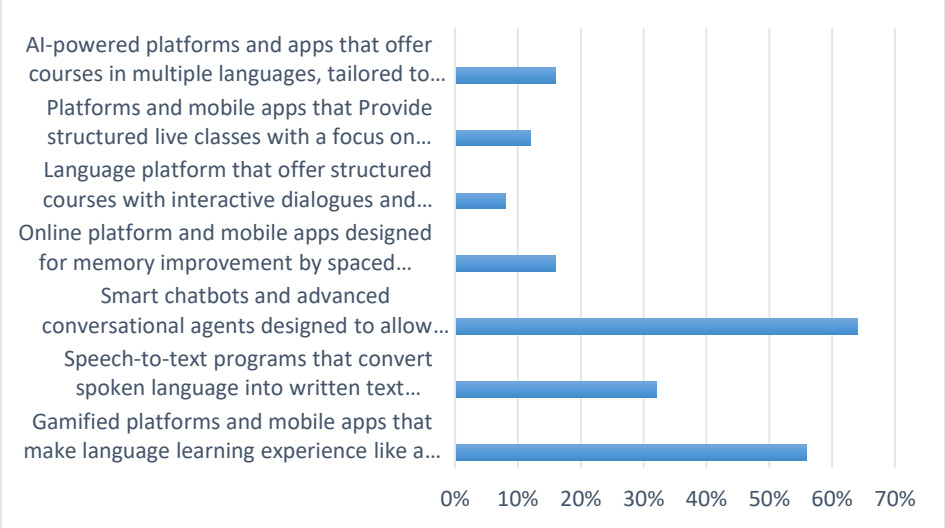

Figure 9 Students opnions about the effctive AI-powered tools for imporoving listening and speaking skills

As shown in Figure 9, the most selected option on this checklist was “Smart chatbots and advanced conversational agents designed to allow interactive and personalized dialogues by simulating human-like conversations. (e.g. ChatGPT, Replika…),” with a rate of 64%. Furthermore, 56% of the participants have chosen Gamified platforms and mobile apps that make language learning experience like a game with points, levels, rewards, and competitions (e.g. Dualingo …).whereas 32% of the participants indicated the use of the Speech-to-text programs that convert spoken language into written text (e.g.Google speech-to-text, text-to-speech, Speechnotes,Otter.ai …). (16 %) of the students selected both “online platform and mobile apps designed for memory improvement by spaced repetition techniques and audio-video exercises for vocabulary and grammar practice. (e.g.Memrise …)” and “AI-powered platforms and apps that offer courses in multiple languages, tailored to different proficiency levels provides interactive lessons and real-time conversation practice (e.g.Mondly, Fluant u,

Elsa speak, Lingochamp....) ". (12%) opt for the use of Platforms and mobile apps that provide structured live classes with a focus on real-time interaction and contextual learning. (e.g. Lingoda…,). a small percentage (8%) of the participants appear to use language platform that offer structured courses with interactive dialogues and real-life scenario for practical conversation practice (e.g. Rosetta stone, Babbel…).

Item 9 Which AI-powered tools do you currently use for improving your English language writing skills?

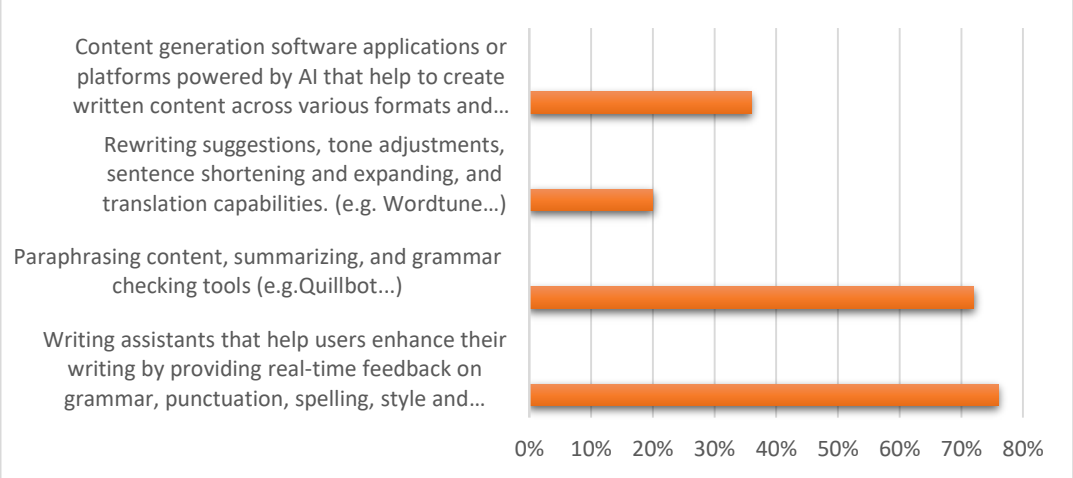

Figure 10 Students opinions about the effective AI-powered tools for improving English langugae learning

The results in the figure shows that the most chosen AI-powered tools by students that they use to improve their writing skills (76%) is writing assistants that help users enhance their writing by providing real-time feedback on grammar, punctuation, spelling, style and plagiarism detection (e.g.Grammarly…).followed by paraphrasing content, summarizing, and grammar checking tools (e.g.Quillbot...) (72%). However, (36%) of the participants chose content generation software applications or platforms powered by AI that help to create written content across various formats and purposes. (e.g.GenAI, Copi.AI, DeepL…) which indicates

a moderate use of this type of tools. Finally, a lower use indicated by (20%) for rewriting suggestions, tone adjustments, sentence shortening and expanion, and translation capabilities. (e.g. Word Tune…).

Item 10 Which of the following AI-powered tools have you tried to improve your translation skills in English?

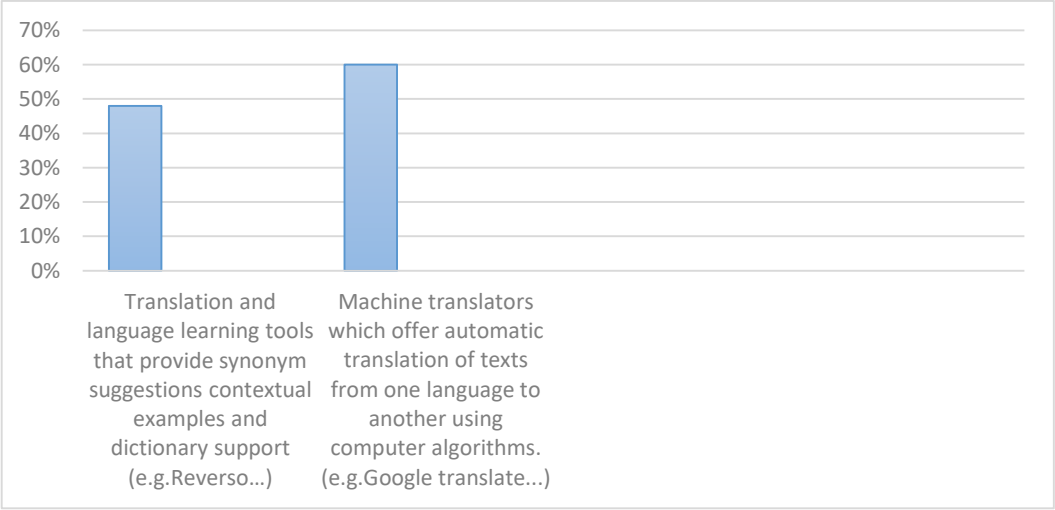

Figure 11 Students opinions about the effective AI-powered tools for improving translation skills

According to Figure 11, (60%) of students use machine translators that offer automatic translation of texts from one language to another using computer algorithms. (e.g.Google Translate) to support their translation skills. On the other hand, (48%) is the percentage of students' who report using translation and language learning tools that provide synonym suggestions, contextual examples, and dictionary support (e.g., Reverso). As a result, a significant number of students rely on different types of AI-powered translation tools to enhance their language learning.

Item 11 Do you think that AI –powered tools are helpful?

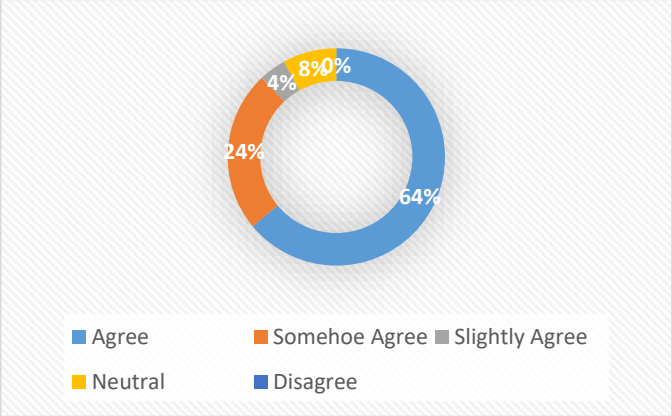

Figure 12 Students' Opinions about the usefulness of AI-powered tools for English language learning

Table 9 Students' Opinions about the usefulness of AI-powered tools for English languge learning

Option	Frequency	Percentage
Agree	**16**	**64%**
Somehow Agree	**6**	**24%**
Slightly Agree	**1**	**4%**
Neutral	**2**	**8%**
Disagree	**0**	**0%**
Total	**25**	**100%**

Based on the results of this graph, which describes the percentage of students' opinions about the usefulness of AI-powered tools, as we see, (64%) of the participants agree that AI-powered tools are helpful. Meanwhile, (24 %) somehow agree. Some of them (8 %) are neutral. While the rest 4 % are slightly agree. No one disagrees (0 %). We can summarize or conclude this result by saying that the plurality of participants confirms the usefulness of AI-powered tools.

Item 12 What skill do you think is most improved by using AI tools?

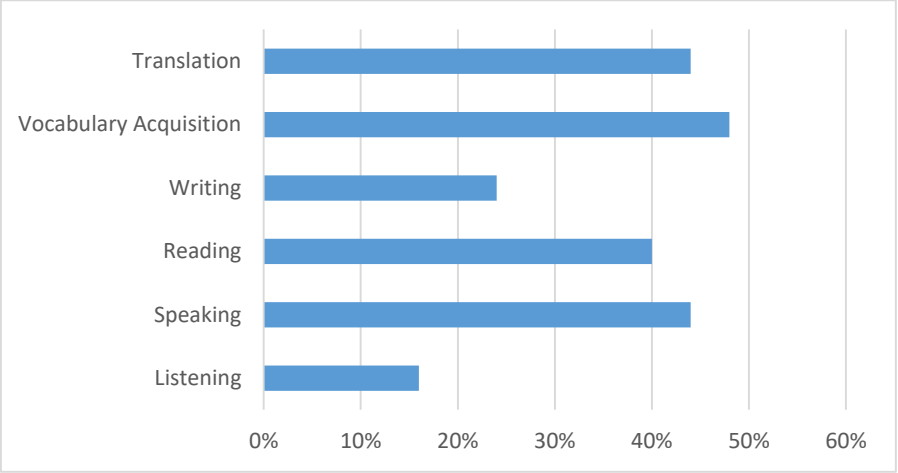

Figure 13 Students' Opinions about most improved Langugae skills by using AI-powered tools

Based on the results shown in the figure, we noticed that the main improved skill by AI-powered tools is “translation” and “speaking” (44%). Additionally, 48% of the respondents reported that AI-powered tools help with vocabulary acquisition. According to 40% of participants, reading is the second most improved skill by using AI-powered tools. Meanwhile, 24% of students affirm that writing is slightly improved by using those tools. However, 16% of participants selected the listening skill. Overall, AI-powered tools help in enhancing language skills that lead to the development of EFL learners’ English language learning.

Item 13 In what ways using AI-powered tools could be helpful in language learning?

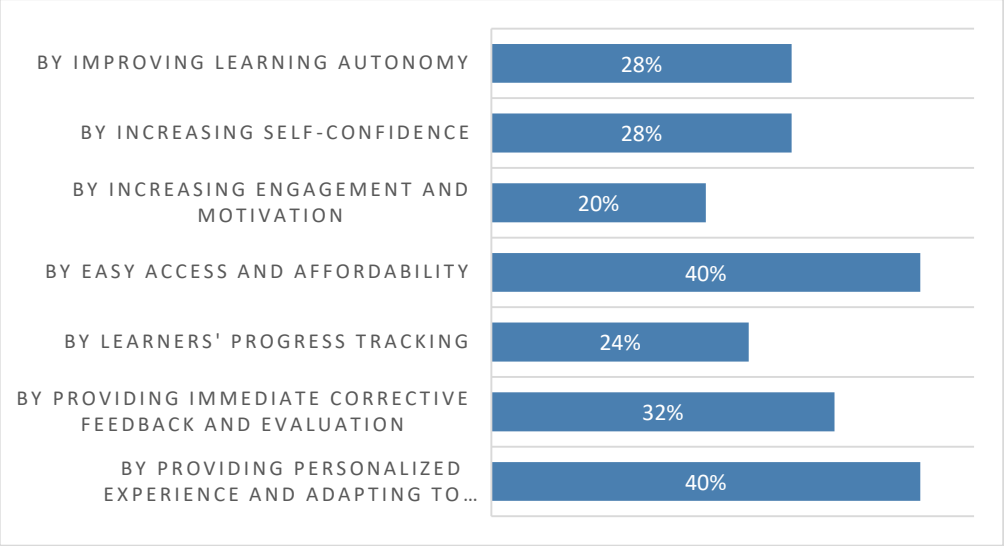

Figure 14 Students attitudes towrds the advanteges of AI-powered tools for English langugae learning

The question seeks to identify participants' views of how AI-powered tools could be helpful for language learning. The highest percentage of participants (40%) chose two advantages of AI-powered tools, personalized experience and adapting to learners' level and easy access and affordability . 32% believe that , providing immediate corrective feedback and evaluation to be the most essential benefit AI-powered tools provide . A percentage (28%) believe that the tools help them in increasing self-confidence and improving learning autonomy. (24%) claimed that learners' progress tracking provided by AI-powered tools is the most effective element in language learning. A small percentage of (20%) chose increasing engagement and motivation. Overall, the data suggests that while AI-powered tools offer several valuable features for language learning, their effectiveness may vary based on individual learner needs and preferences.

Item 14 As an L2 student, what is your attitude towards using AI-powered tools for English language learning?

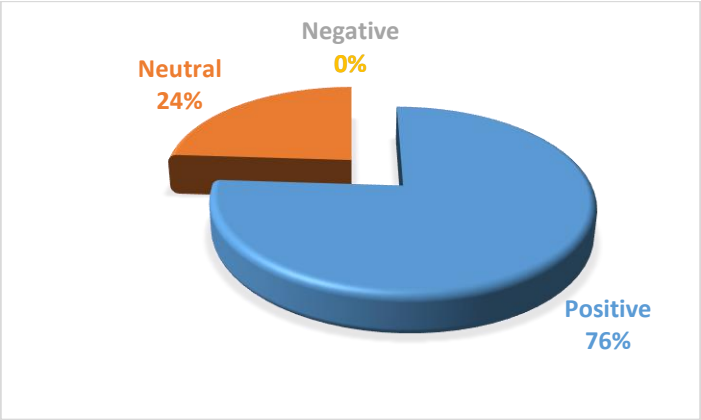

Figure 15 Students' attitudes towards the use of AI-powered tools for English language learning

Table 10 Students attitudes towards the use of AI-powered tools for English langugae learning

Option	Frequency	Percentage
Positive	**19**	**76%**
Neutral	**6**	**24%**
Negative	**0**	**0%**
Total	**25**	**100%**

As shown in this graph, most participants (76%) have indicated a positive attitude towards using AI-powered tools in their English language learning. However, only (24%) have chosen a neutral attitude towards this concept. while 0% indicated a negative attitude. Furthermore, the students' agreed that the use of AI-powered tools for learning could bring benefits to the English language learning experience.

Follow up Question: can you explain why?

As shown in the figure above, a vast majority of the students believe that the use of AI-powered tools can improve English language learning. Most of them gave common comments and justifications, and they consider those helpful tools that develop students' learning process. Some of their justifications are:

- Adaptation to learners' needs and saving time and effort.
- Improving language skills.
- Making learning experiences more engaging, easy and effective.
- Allowing students to practice their English not just in the classroom but also outside the classroom.
- Giving the opportunity for learners to update with new world advancement.

2.5 Discussion and Interpretation of Students' Questionnaire

The results of the questionnaire shows diverse levels of motivation among second-year EFL learners to learn the English language. Specifically, 44% of students exhibit a high motivation level, (52%) display a normal motivation level, and only (4%) have a low motivation level. These findings suggest that the majority of students are at least moderately motivated to improve their English proficiency.

Furthermore, the data indicates that (80%) of the students perceive their level of English language proficiency as intermediate, whereas (12%) indicate their level as advanced. The minority (8%) are beginners. This level of proficiency, combined with their motivation levels, points to a significant engagement in the language learning process.

Regarding the use of AI-powered tools for English language learning, the students demonstrate a notable familiarity with these technologies. The questionnaire results show that learners have already incorporated AI tools to enhance language skills such as listening and

speaking. This familiarity reflects positively on the perceived benefits of these tools in their language-learning journey.

In conclusion, the questionnaire highlights a high motivation level among second-year EFL learners to learn English. Their intermediate proficiency levels and positive experiences with AI-powered tools suggest that these technologies play a crucial role in personalizing the learning experience, improving language skills, and providing immediate feedback. This reinforces the importance of integrating AI-powered tools in English language education to support and enhance student-learning outcomes.

3. Teachers Questionnaire

3.1 Description of the teachers questionnaire

A semi-structured teacher's questionnaire was designed to gather data from the teachers at the department of English at the University of Mohamed Khider Biskra. It aims to elicit data concerning their opinions and attitudes towards the use of AI-powered tools in language learning process. The questionnaire consists of eleven (11) questions, which include close-ended and pen-ended questions requiring teachers to tick (✓) the appropriate answer (s) or rate specific aspects by choosing the appropriate answer in a scale, and write a full statement when necessary. The questionnaire was divided into two main sections:

- **Section One:** general information's (Q1-Q2) try to get information about the teachers' gender and years of experience in teaching.
- **Section Two:** Questions from (Q3 - Q11) aim to gain understanding of the teachers' familiarity with AI, the primary AI-powered tools they recommend for enhancing English language learning in general, and language skills in particular, as well as their overall thoughts on AI-powered tools.

3.2 Administration of the teachers questionnaire

The administration of the questionnaire took place on Monday, May27, 2024.The interview process was conducted in two ways: six (6) teachers responded to an online Google Forms questionnaire sent via their emails, and a hand-to hand questionnaire was submitted to two (2) teachers.

3.3 Analysis of the teachers questionnaire

Section One: General information

Item 1 what is your Gender?

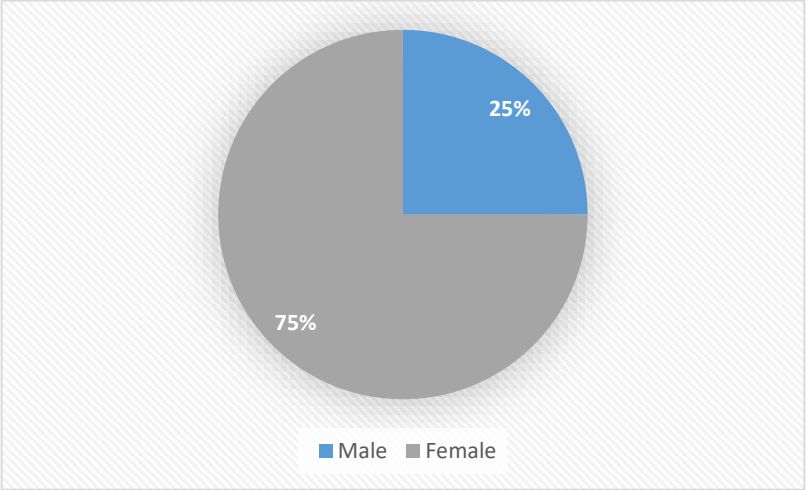

Figure 16 Teachers Gender

Table 11 Teachers Gender

Option	Frequency	Percentage
Male	**2**	**25%**
Female	**6**	**75%**
Total	**8**	**100%**

The gender of our sample will enable us to determine whether both sexes are willing to engage in the idea of using AI-powered tools for English language learning. From the figure, we notice that (75%) of the participants, (6), are females and (2%) are males, which represents (25%) of the whole sample.

Item 2 How long have you been teaching?

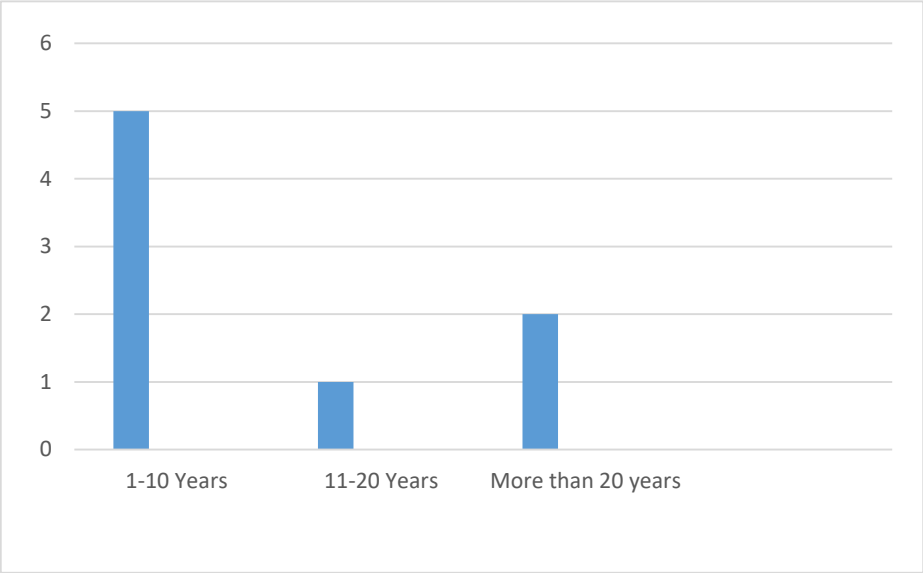

Figure 17 Teachers years of experience

Table 12 Teachers years of experience

Option	Frequency	Percentage
From 1 to 10 Years	**5**	**62.5%**
From 11 to 20 Years	**1**	**12.5%**
More than 20 Years	**2**	**25%**
Total	**8**	**100%**

Teachers' answers to the question "How long have you been teaching?" varied. The responses included 4 years, 3 years, 10 years, 5 years (mentioned twice), 32 years, 22 years,

and 17 years. As the results show, 5 teachers out of the total number (62.5%) declared that they have less than 10 years of experience. While 1 teacher (12.5) has experience spanning 10 to 20 years. The other 2 teachers (25%) have more than 20 years of experience in teaching. The varying responses indicate a wide range of teaching experience among the teachers.

Item 3 Are language familiar with AI-powered tools for English language learning?

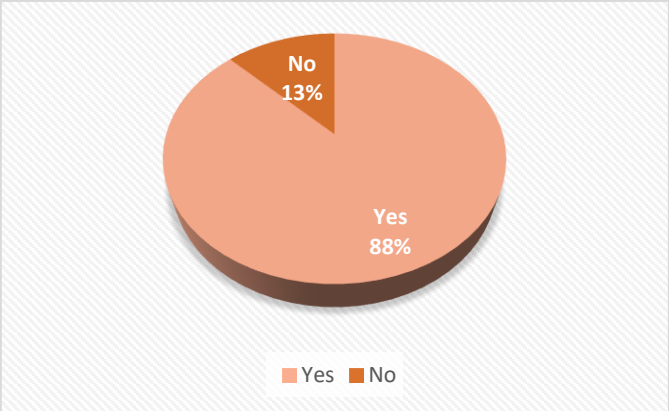

Figure 18 Teachers familiarity with AI-powered tools for English langugae learning

Table 13 Teachers familiarity with AI-powered tools for English langugae learning

Option	Frequency	Percentage
Yes	**7**	**88%**
No	**1**	**13%**
Total	**8**	**100%**

Figure indicates that (87%) which represent the majority of teachers are familiar with AI-powered tools for English language learning, while (13%) are not. this high percentage of familiarity suggests a widespread awareness and possibly a growing trend in the adoption of these technologies among teachers.

Follow up Question: How familiar are you with them?

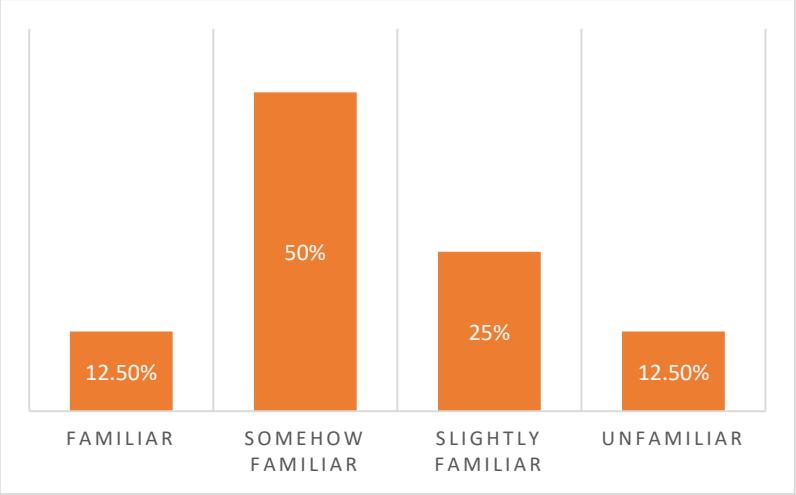

Figure 19 Teachers extent of familiarity with AI-powered tools for English langugae learning

Table 14 Teachers extent of familiarity with AI-powered tools for English language learning

Option	Frequency	Percentage
Familiar	**1**	**12.5%**
Somehow Familiar	**4**	**50%**
Slightly Familiar	**2**	**25%**
Unfamiliar	**1**	**12.5%**
Total	**8**	**100%**

According to the results in the figure, (12.5%) of the teachers are familiar with AI-powered tools for language learning, the same percentage are not familiar (12.5%).while, the half (50%) are somehow familiar with those tools, (25%) are slightly familiar with them.

Item 4 Do you notice your students using AI-powered tools?

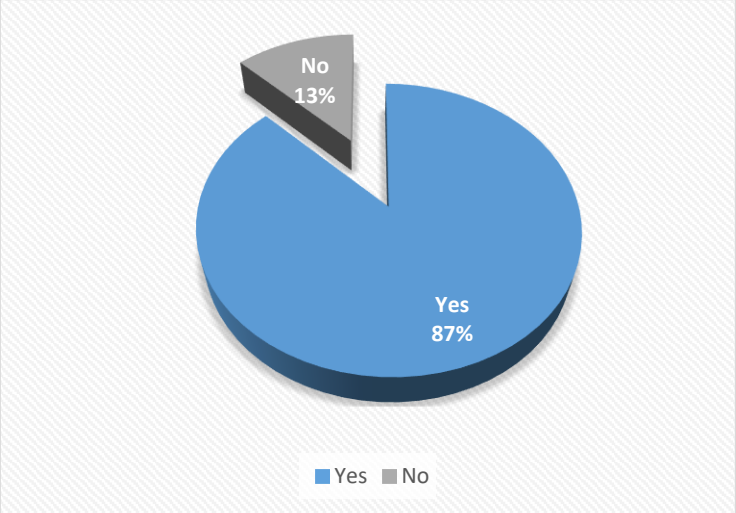

Figure 20 Teachers' observation of students' use of AI-powered tools

Table 15 Teachers observation of students' use of AI-powered tools

Option	Frequency	Percentage
Yes	**7**	**87%**
No	**1**	**13%**
Total	**8**	**100%**

As shown in the figure, the dominant number of participants (87%) declared that they noticed their students using AI-powered tools. On the other hand, (13%) mentioned that they had not noticed such usage before. This highlights a strong presence of AI-powered tools in students' activities as perceived by the majority of participants.

Item 5 In your experience, do AI-powered tools help in enhancing language-learning skills?

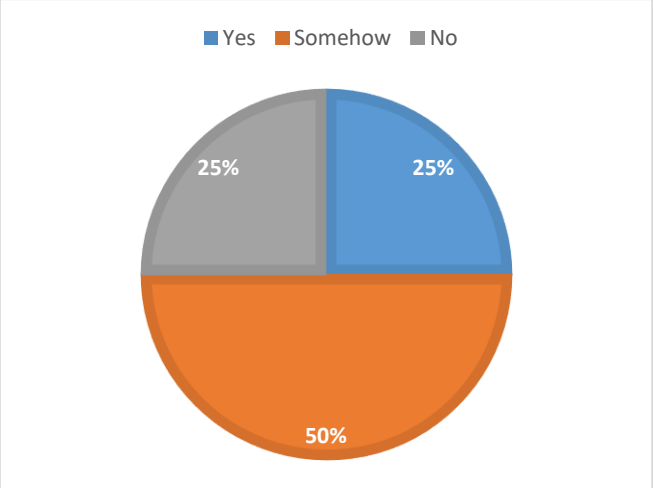

Figure 21 Teachers opinions about the effectiveness of AI-powered tools in enhencing langugae skills

Table 16 Teachers opinions about the effectiveness of AI-powered tools in enhancing langugae skills

Option	Frequency	Percentage
Yes	**2**	**25%**
Somehow	**4**	**50%**
No	**2**	**25%**
Total	**8**	**100%**

The figure results indicate varied perceptions among teachers regarding the effectiveness of AI-powered tools in enhancing language skills. A quarter of the respondents (25%) believe that AI-powered tools significantly help in enhancing language skills. Another quarter of the respondents do not believe that AI-powered tools effectively enhance language skills. Half of the respondents (50%) believe that AI-powered tools help to some extent in enhancing language skills.

Follow up Question: what skills can be best improved by using AI-powered tools?

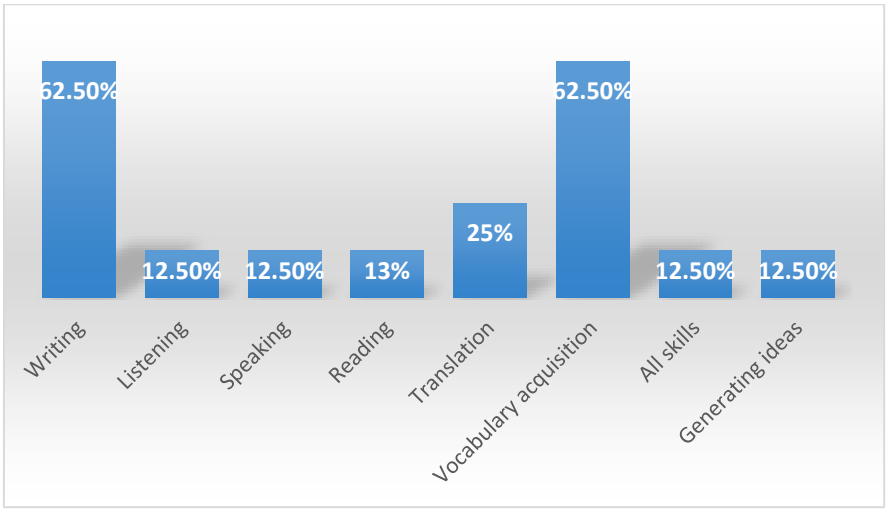

Figure 22 Teachers opinions about skills best improved by using AI-powered tools

The data displayed in the above figure demonstrates the teachers' responses about the most improved skills by using AI-powered tools. The data highlights that a significant majority of teachers perceive AI-powered tools as particularly effective in enhancing writing and vocabulary acquisition skills. The highest percentage (62.5%) selected both writing and vocabulary acquisition skills. In addition, (25%) represent the teachers who respond that AI tools could be beneficial for translation. (12.5%) indicated that listening is the most improved skill, the same percentage selected speaking, all skills, and generating ideas, too. listening, speaking, all skills, and generating ideas. (13%) chose the reading skill. In conclusion, there is a broad recognition among educators of the diverse benefits of AI tools in language learning, with a pronounced emphasis on writing and vocabulary acquisition.

Item 6 In your opinion which of the following AI–powered language learning tools is helpful to improve listening and speaking skills?

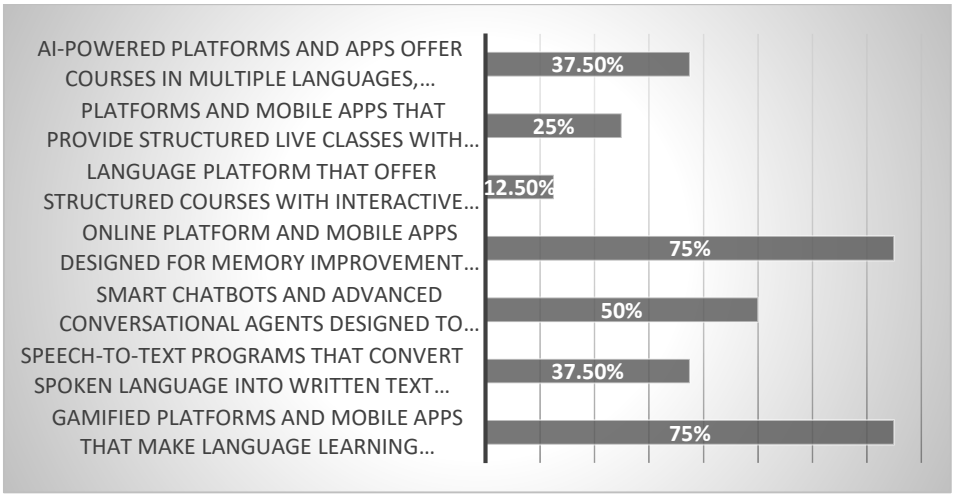

Figure 23 Teachers opinions about the effective AI-powered tools for improving listening and speaking skills

The figure provides information about teachers opinions of what AI-powered tools might be helpful in enhancing listening and speaking students' skills. The largest group of teachers, comprising (75%), considers gamified platforms and mobile apps that make the language learning experience like a game with points, levels, rewards, and competitions (e.g. Dualingo …) and online platforms and mobile apps designed for memory improvement by spaced repetition techniques and audio-video exercises for vocabulary and grammar practice. (e.g.Memrise …) are helpful. The next most prevalent option is smart chatbots and advanced conversational agents designed to allow interactive and personalized dialogues by simulating human-like conversations. (e.g.ChatGPT, Replika…) with a percentage of (50%).Additionally, (37.5%) of the participants reported that AI-powered platforms and apps that offer courses in multiple languages, tailored to different proficiency levels, provide interactive lessons and real-time conversation practice (e.g.Mondly, FluantU, ElsaSpeak, Lingochamp....) and speech-to-text programs that convert spoken language into written text (e.g.Google Speech-to-Text, Text-to-Speech, Speech Notes, Otter.ai, …) are the most effective tools to improve listening and speaking. platforms and mobile apps that provide structured live classes with a focus on real-

time interaction and contextual learning. (e.g.Lingoda…,) was selected by (25%) of the teachers. A small percentage of teachers (12.5%) perceive language platforms that offer structured courses with interactive dialogues and real-life scenarios for practical conversation practice (e.g.Rosetta Stone, Babbel…) as beneficial to the improvement of listening and speaking skills. that indicates the advantages that AI-powered tools offer for enhancing listening and speaking skills.

Follow up Question: which of the following AI-powered tools you think is helpful for enhancing English language writing skills ?

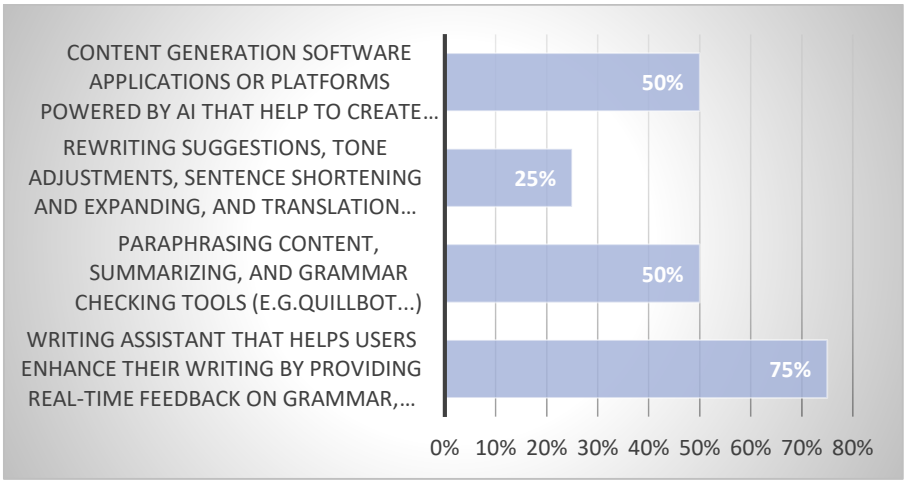

Figure 24 Teachers views on which AI-powered tools are helpful for enhancing writing skills

The figure above illustrates teachers' views on which AI-powered tools are helpful for enhancing students' writing skills. The largest group, consisting of (75%) of teachers, believes that writing assistants that help users enhance their writing by providing real-time feedback on grammar, punctuation, spelling, style, and plagiarism detection (e.g.Grammarly…) are the most helpful. The second most selected choice, with (50%) of teachers, is content generation software applications or platforms powered by AI that help to create written content across various formats and purposes. (e.g.GenAI, Copi.AI, DeepL…) as well as paraphrasing content,

summarizing, and grammar checking tools (e.g.Quillbot….) A smaller percentage, (25%) of teachers consider that rewriting suggestions, tone adjustments, sentence shortening and expanding, and translation capabilities. (e.g.Wordtune…) tend to be good options. The significant percentage values content generation tools powered by AI and other tools that have the same functions indicating a preference for versatile tools that support various aspects of the writing process.

Item 7 Which of the following AI-powered translation tool (s) could be helpful?

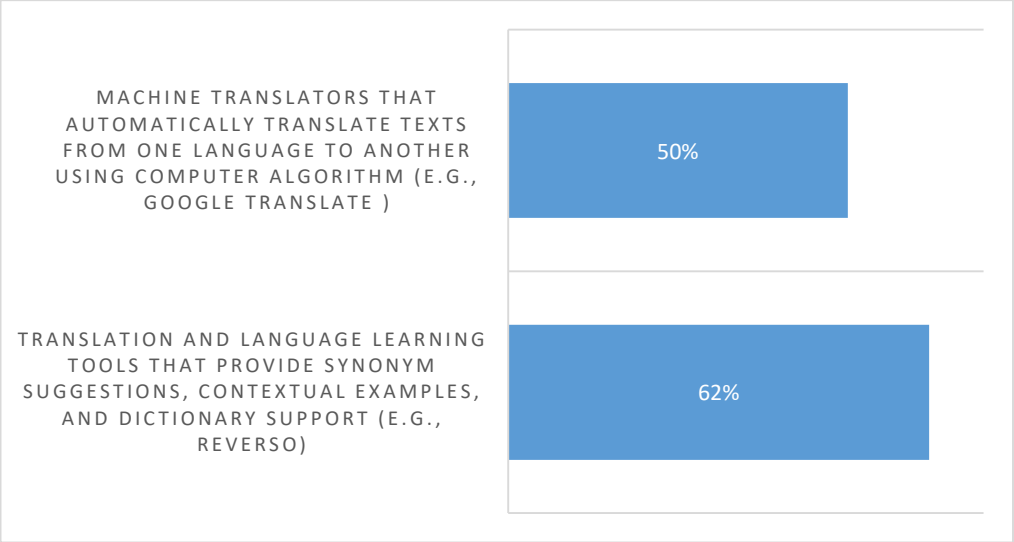

Figure 25 Teachers perspectives on the helpful Ai-powered tools for improving translation skills

As shown above, the figure represents the AI-powered translation tools that teachers believe are useful. On one hand, (62%) of teachers find translation and language learning tools that provide synonym suggestions, contextual examples, and dictionary support (e.g., Reverso) to be helpful. On the other hand, machine translators that automatically translate texts from one language to another using computer algorithm (e.g., Google Translate), as a choice, has a (50%) of the choices. Teachers like both types of AI translation tools, but they prefer ones that offer

extra help with learning, like giving examples and explaining words. This shows that teachers value tools that not only translate but also help students understand and use new words better.

Item8 Do you suggest any specific English language learning AI-powered tool (s) for your students?

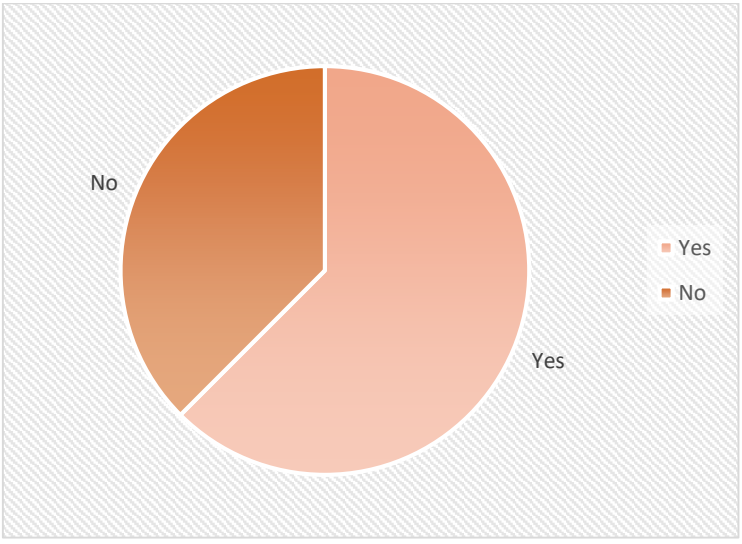

Figure 26 Teachers tendency of suggesting AI-powered language learning tools for students

Based on the results of the figure about whether teachers suggest any specific AI-powered tools for their students or not. The data show that (62%) of the participants, which is the biggest percentage, tend to suggest AI-powered tools for their students. Meanwhile, (38%) of teachers tend to refuse to suggest these tools. This indicate a growing acceptance and adoption of AI-powered technology in educational settings.

Follow up Question: Mention the AI-powered tools you recommend for your students.

The teachers' suggestions were as follows:

- "I recommend writing assistants, gamified apps, and chatbots."

- "Not a specific app, but all TTS (text to speech) and ASR (automatic speech recognition) tools are useful, and an application that includes both functions is even better."
- "Tools for correcting grammar and writing in general."
- QuillBot: Paraphrases text to improve writing and understanding.
- Grammarly: Checks grammar, spelling, and style to enhance writing quality.
- Bing: Provides search results and information to support learning and research.

The teachers' suggestions align with our previous findings; specific AI-powered tools that both teachers and research have found effective, such as (Grammarly, QuillBot, gamified apps and chatbots….).

Item 9 What benefits do you think AI tools bring to language learning ?

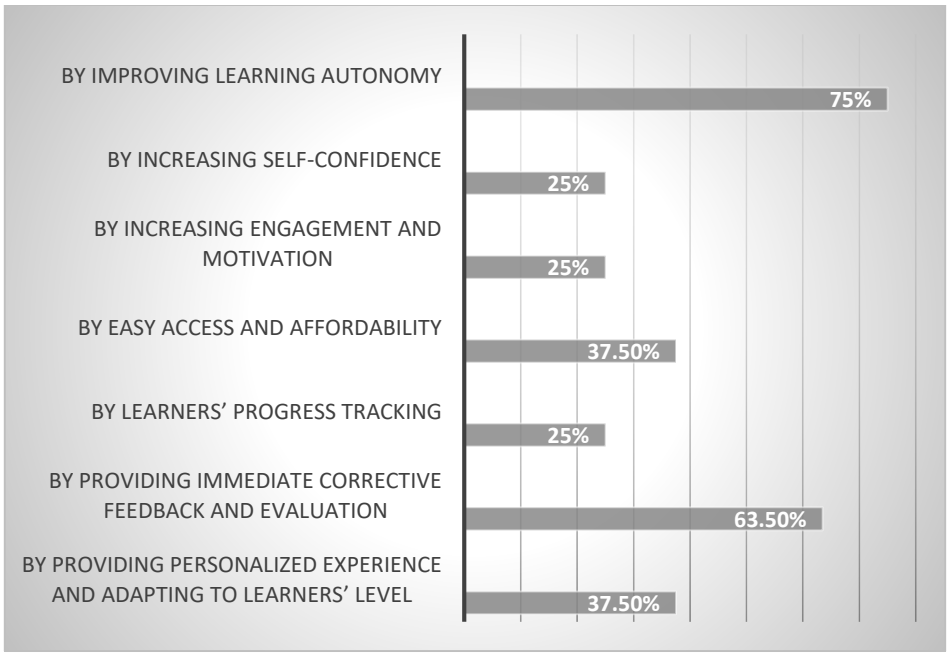

Figure 27Advantages of AI-powered tools for language learning

Based on the findings presented in the figure, it is evident that teachers perceive several benefits of AI tools in language learning. The majority (75%) highlight the enhancement of learning autonomy as a significant advantage. Additionally, (63.5%) emphasize the value of

immediate corrective feedback and evaluation. Meanwhile, (37.5%) of teachers stress the importance of easy access and affordability, along with the benefits of personalized learning experiences that adapt to learners' levels. Moreover, (25%) of respondents identify benefits such as increased self-confidence, higher engagement and motivation, and effective tracking of learners' progress. These results highlight the advantages of AI- tools that help in language learning by meeting different educational requirements.

Item 10 What is your overall impression of AI-powered tools for English language learning?

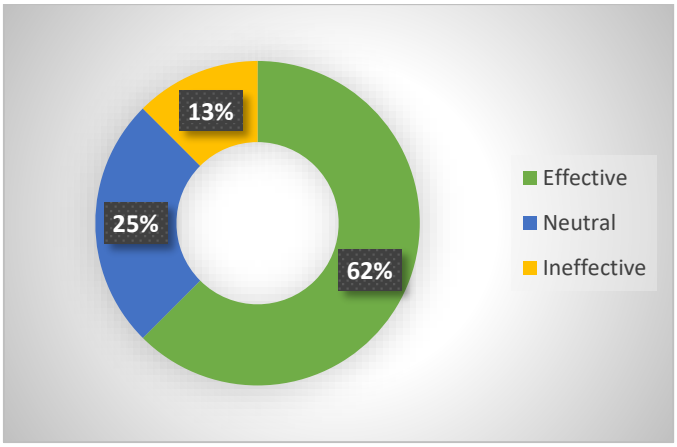

Figure 28 Teachers impression of AI-powered tools for English language learning

Table 17 Teachers impression of AI-powered tools for English langugae learning

Option	Frequency	Percentage
Effective	**5**	**62%**
Neutral	**2**	**25%**
Ineffective	**1**	**13%**
Total	**8**	**100%**

According to the results of this figure, (62%) of respondents have a positive attitude towards AI-powered tools for English language learning, declaring that AI-powered tools are

effective. Whereas (25%) indicate their positions as neutral. (13%) disagree with the effectiveness of AI tools. The majority of positive responses indicate a promising acceptance of AI-powered tools among teachers for enhancing English language learning. However, the presence of neutral and negative viewpoints highlights the importance of addressing concerns and focusing on the capabilities and benefits of AI-powered tools in education.

Follow up Question: explain why

Teachers exhibit a diverse range of opinions regarding AI-powered tools for English language learning. Some consider these tools effective, while others view them as ineffective. The majority, however, are neutral. As a result, teachers' explanations vary depending on their individual perspectives. We can divide teachers explanations depends on their attitudes toward the use of AI-powered tools for English language learning:

Effective:

- Learners are motivated by technology; they are already on their phones all the time. AI technology is engaging and can be very helpful.
- They improve and boost learning in addition to rise motivation
- If well -used, these tools can provide an effective opportunity to improve learners' abilities in different skills.
- Improving language skills / immediate feedback

Neutral:

- AI tools are double edged. Some students use them to do homework without any efforts from their part. Moreover, AI outcomes may not be so accurate since it is based on large data that contain unauthentic information in some cases

- They should be used carefully. These tools are devoted to assist learning not to use them as the sole tools to generate ideas and delete students' authorship

Ineffective:

- Some tools are more distracting than useful and in some apps, what the student acquires when using them are technical skills and sometimes none of them are directly related to language. In addition, the design and functioning of the applications can be demotivating and plainly uninteresting to keep the student engaged and willing to keep using them or even compete the training or course integrated.
- AI-powered tools are not beneficial at all. They are used in cheating and plagiarism

Teachers have diverse opinions about AI tools used for teaching English. Some teachers believe AI-powered tools are beneficial for several reasons such as Engagement and Motivation; they think that students' use of AI-powered tools is driven by their interest for technology to make learning more interesting. In addition, these tools can give instant feedback and adapt to each student's needs, making learning more effective. Furthermore, AI helps students practice listening, speaking, reading, and writing in interactive ways. Other teachers have neutral perspectives because they see both good and bad sides to AI-powered. They worry about students using AI-powered tools too much and its content not always being accurate. They suggest using AI-powered tools as a supplement, not a replacement, to traditional teaching methods. This way, students can still put effort into their work. Some teachers think AI-powered tools are not helpful since they find some tools more distracting than useful. They are worry that students might focus more on technical skills than learning English in an appropriate way. They are concerned that AI can make cheating and plagiarism easier, which affects negatively the quality and honesty of learning.

Teachers' varied opinions show that AI-powered tools role in teaching English is complex. While some see benefits in engagement and learning, others warn about misuse and AI-powered tools limits. It is important to understand these different views to use AI-powered tools effectively in education, balancing its benefits and challenges.

3.4 Discussion and interpretation of the teachers' Questionnaire

The analysis of the teachers' questionnaire states many general points, such as teachers' gender, years of experience, and various particular points, including familiarity with AI-powered tools for language learning, the extent of familiarity, the most helpful AI-powered tools for enhancing language skills (listening , reading, …..), and a range of AI-tools recommended by teachers. In addition, the answers submitted elucidate how students use AI-powered tools and what those tools offer for the language learning process from teachers' points of view. The teachers' answers and attitudes towards the effectiveness and usability of AI-powered tools were diversified. According to teachers' responses on the questionnaires, the analysis shows that the sample of teachers contains more (75%). In addition, the varying responses to how many years of experience teachers have indicate a wide range of teaching experience among the teachers (from 1 to more than 20 years of experience). The majority of teachers are familiar with AI-powered tools for English language learning. With varying degrees of familiarity. A wide range of teachers (87%) declare that they notice their students' use of AI-powered tools to learn the English language. Teachers agreed on the effectiveness of using AI-powered tools to improve language skills. The data show that writing and vocabulary acquisition are the most improved skills by using those tools. The skills of translation, reading, speaking, listening, and all the other language skills are also improved by AI-powered tools, but in a lesser degree than writing, vocabulary acquisition, and generating ideas. According to the teachers, we notice that smart chatbots and advanced conversational agents, in addition to gamified platforms and mobile and speech-to-text programs, also online platforms and mobile

apps designed for memory improvement. As well as AI-powered platforms and apps that offer courses in multiple languages, platforms and mobile apps that provide structured live classes and language platforms that offer structured courses work largely to improve the students' skills of listening and speaking. The same goes for writing and translation skills improvement. Teachers believe that all the provided options are helpful in improving these skills. That is why there are great possibilities for teachers to suggest these tools. To suggest those tools for their students. To add to that, the data show that it is evident that teachers perceive several benefits of AI-powered tools in language learning, including the enhancement of learning autonomy, immediate corrective feedback and evaluation, easy access, and affordability. The great majority of teachers hold positive impressions about the use of AI-powered tools for English language learning; they think they are helpful because they make the learning process more interesting, give quick feedback, and adapt to each student's needs, but still, a percentage of teachers who are neutral see both the good and bad sides and suggest using AI-powered tools alongside traditional methods. Some teachers who hold a negative impression do not find them useful, worrying that they can distract students, make them too dependent on technology, and encourage cheating. Finally, according to the results of the teachers' answers to the questionnaire, AI-powered tools are generally well received, with many teachers recognizing their potential to enhance the language learning process.

Conclusion

In conclusion, this chapter aimed to analyze, present, and discuss the data obtained from the questionnaire administered to L2 English language students and the interviews conducted with English language teachers at the University of Mohamed Khider – Biskra. The primary objective of the questionnaire was to explore how students utilize AI-powered tools in their English language learning process and how these tools aid in enhancing their skills for more effective learning. Additionally, the questionnaire sought to capture students' attitudes towards

AI-powered tools. On the other hand, the purpose of the teachers' interviews was to gain a deeper understanding of their perspectives on students' use of AI-powered tools. The analysis of the teachers' questionnaire reveals that educators, who vary in gender, experience, and familiarity with AI tools, generally view these tools as effective for enhancing language skills. They particularly value AI for improving writing, vocabulary acquisition, and generating ideas, while also recognizing benefits in translation, reading, speaking, and listening. Popular AI tools among teachers include smart chatbots, conversational agents, gamified platforms, and mobile apps, appreciated for their ability to enhance learning autonomy, provide immediate feedback, and offer accessibility and affordability. Despite some concerns about distraction, dependency, and cheating, the majority of teachers hold positive views about AI tools. Meanwhile, the questionnaire results among second-year EFL learners show diverse motivation levels, with most students (96%) being highly or normally motivated, and a significant portion (80%) perceiving their English proficiency as intermediate. Students' engagement with AI tools for listening and speaking supports their positive experiences, emphasizing AI's role in personalizing learning, improving skills, and providing immediate feedback. These findings highlight the potential and importance of integrating AI technologies into English language education, as both teachers and students recognize their benefits in enhancing language learning.

General Conclusion

General conclusion

The present study investigates how EFL students utilize AI-powered tools to enhance their English language learning, focusing on second-year students at Mohamed Kheider University of Biskra. Additionally, it examines the efficiency of these tools in improving students' language skills. The primary aim is to gather perspectives from both students and teachers on the effectiveness of AI-powered tools in enhancing English language learning. The study explains and demonstrates this concept within the context of English language education, aiming to provide valuable insights into the relationship between AI and English language learning. Ultimately, the goal is to highlight the potential benefits of integrating AI-powered tools into English language education.

To achieve these aims, a descriptive approach using mixed methods of data collection was chosen. One of the tools is a questionnaire administered to second-year EFL learners (N=25) at the UMKB English department. Additionally, another questionnaire was conducted with teachers (N=8) at the same department.

The findings indicate that both students and teachers recognize and support the effectiveness and usability of AI-powered tools and the potential for incorporating them into the language learning process. Nevertheless, unfortunately, teachers still have a neutral or negative attitude towards those tools. Moreover, the results of this study indicate that learning based on AI-powered tools offers the most essential requirements for a more effective and productive learning process. Such as personalized experience and adaptation to learners' levels through progress tracking, providing immediate corrective feedback and evaluation, easy access and affordability, and increasing each student's motivation, self-confidence, and autonomy.

Pedagogical Implications and Recommendations

Future pedagogical implications and recommendations for exploring students and teachers' perceptions of the use of AI-powered tools in English language learning include:

- Incorporate AI-powered tools into the English language curriculum to enhance learning outcomes. This can involve using these tools for activities such as grammar exercises, vocabulary building, and pronunciation practice.
- Encourage further experimental research into the efficacy of AI-powered tools in language teaching to gather data on student performance, enabling teachers to make informed decisions and tailor their instructional strategies accordingly.
- Address ethical concerns related to the use of AI, to build trust and ensure the use of technology in education.

Limitations of the Study

- Administering the questionnaire to teachers was encountered with certain limitations.
- Pre-existing biases and attitudes towards technology in general may affect teachers' perceptions of AI tools, regardless of their actual performance or usefulness.
- The implementation of AI-powered tools can differ greatly across various learning environments, which may affect the consistency and comparability of the collected data.

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Appendices

Appendix A

Students' Questionnaire

Dear student

This survey explores the use of AI powered tools to enhance English language learning for L2 students. It seeks to examine your experience with these tools and your perspectives and views on their effectiveness in language learning. Please, tick (✓) the appropriate answer, and write a full statement when necessary. Keep in mind that your answers will remain anonymous and they will be used for research purposes only.

Thank you for taking the time to share your thoughts and experiences.

Section one: general information

1. **Age**:

   Under 20☐

   Above 20☐

2. **Gender:**

   Male☐

   Female ☐

3. **Level of proficiency in English language**

   Advanced ☐

   Intermediate☐

   Beginner☐

4. **Motivation level for learning English language**:

   High ☐

   Normal ☐

Low☐

Section two: AI-powered tools

5.a- Are you familiar with artificial intelligence powered tools for language learning?

Yes ☐

No ☐

b- If yes, to what extant are you familiar with them:

1 Familiar☐

2 Somehow familiar☐

3 Slightly familiar☐

4 Unfamiliar☐

6. Do you use AI-powered tools?

Yes ☐

No ☐

7.How often do you use them?

Always☐

Often☐

Sometimes☐

Rarely☐

Never☐

8.Which of the following AI–powered language learning tools do you use to improve listening and speaking skills? You can choose more than one option.

- Gamified platforms and mobile apps that make language learning experience like a game with points, levels, rewards, and competitions (e.g. Dualingo …)☐
- Speech-to-text programs that convert spoken language into written text (e.g.Google speech-to-text, text-to-speech, Speechnotes,Otter.ai …)☐
- Smart chatbots and advanced conversational agents designed to allow interactive and personalized dialogues by simulating human-like conversations. (e.g. ChatGPT, Replika…)☐
- Online platform and mobile apps designed for memory improvement by spaced repetition techniques and audio-video exercises for vocabulary and grammar practice. (e.g.Memrise …) ☐
- Language platform that offer structured courses with interactive dialogues and real-life scenario for practical conversation practice (e.g. Rosetta stone, Babbel…)☐
- Platforms and mobile apps that Provide structured live classes with a focus on real-time interaction and contextual learning. (e.g. Lingoda…,)☐
- AI-powered platforms and apps that offer courses in multiple languages, tailored to different proficiency levels provides interactive lessons and real-time conversation practice (e.g.Mondly, Fluant u, Elsa speak, Lingochamp....)☐

9.Which AI tools do you currently use for improving your English language writing skills?

You can choose more than one option

- Writing assistants that help users enhance their writing by providing real-time feedback on grammar, punctuation, spelling, style and plagiarism detection (e.g.Grammarly…)☐
- Paraphrasing content, summarizing, and grammar checking tools (e.g.Quillbot...) ☐
- Rewriting suggestions, tone adjustments, sentence shortening and expanding, and translation capabilities. (e.g. Wordtune…) ☐
- Content generation software applications or platforms powered by AI that help to create written content across various formats and purposes. (e.g.GenAI, Copi.AI, DeepL…) ☐

10. **Which of the following AI tools have you tried to improve your translation skills in English? You can choose more than one option**

- Translation and language learning tools that provide synonym suggestions contextual examples and dictionary support (e.g.Reverso…). ☐
- Machine translators which offer automatic translation of texts from one language to another using computer algorithms. (e.g.Google translate...) ☐

11.Do you think AI –powered tools are helpful?

Agree ☐

Somehow agree ☐

Slightly agree ☐

Neutral ☐

Disagree ☐

12. **What skill do you think is the most improved by using AI tools? You can choose more than one option**

Writing ☐

Listening ☐

Speaking ☐

Reading ☐

Translation ☐

Vocabulary acquisition ☐

13.In what way using AI tools could be helpful in language learning? You can choose more than one option

By providing personalized experience and adapting tolearners' level ☐

By providing immediate corrective feedback and evaluation ☐

By learners' progress tracking ☐

By easy access and affordability. ☐

By increasing engagement and motivation ☐

By increasing self-confidence ☐

By improving learning autonomy ☐

14. aAs a L2 student, what is your attitude towards using AI-powered tools for English language learning?

Positive ☐

Neutral ☐

Negative ☐

b can you explain why ?

……..

Appendix B

Teachers' Questionnaire

Greetings, esteemed teachers

This interview serves as a data-gathering tool in my endeavor to complete my Master 2 thesis, focusing on the attitudes of both teachers and learners towards the utilization of AI tools in language learning contexts. Your perspectives as experienced teachers hold immense significance. Thank you for your invaluable contribution to this academic pursuit.

Warm regards.

Section one: General information

1.Gender

Male ☐

Female ☐

2. Years of experience…….

Section tow: AI-powered tools

3.aAre you familiar with AI powered tools for language learning?

Yes ☐

No ☐

b. **If yes, how familiar are you with them**?

1 Familiar ☐

2 Somehow familiar ☐

3 Slightly familiar ☐

4 Unfamiliar ☐

4. Do you notice your students using AI-powered tools?

Yes ☐

No ☐

5. aIn your experience, do AI-powered tools help in enhancing language learningskills?

Yes ☐

Somehow ☐

No ☐

b. If yes, what skills can be best improved by using AI-powered tools? You can choose more than one option

Writing ☐

Listening ☐

Speaking ☐

Reading ☐

Translation ☐

Vocabulary acquisition ☐

Others ……

6. In your opinion which of the following AI–powered language learning tools is helpful to improve listening and speaking skills? You can choose more than one option.

- Gamified platforms and mobile apps that make language learning experience like a game with points, levels, rewards, and competitions (e.g. Dualingo …) ☐
- Speech-to-text programs that convert spoken language into written text (e.g.Google speech-to-text, text-to-speech, Speechnotes, Otter.ai …) ☐
- Smart chatbots and advanced conversational agents designed to allow interactive and personalized dialogues by simulating human-like conversations. (e.g.ChatGPT, Replika…) ☐
- Online platform and mobile apps designed for memory improvement by spaced repetition techniques and audio-video exercises for vocabulary and grammar practice. (e.g.Memrise …) ☐
- Language platform that offer structured courses with interactive dialogues and real-life scenario for practical conversation practice (e.g.Rosetta stone, Babbel…) ☐
- Platforms and mobile apps that Provide structured live classes with a focus on real-time interaction and contextual learning. (e.g.Lingoda…,) ☐
- AI-powered platforms and apps offer courses in multiple languages, tailored to different proficiency levels provides interactive lessons and real-time conversation practice (e.g.Mondly, Fluant u, Elsa speak, Lingochamp....) ☐

7.Which of the following AI-powered tools you think is helpful for enhancing English language writing skills? You can choose more than one option

- Writing assistant that helps users enhance their writing by providing real-time feedback on grammar, punctuation, spelling, style and plagiarism detection (e.g.Grammarly…) ☐
- Paraphrasing content, summarizing, and grammar checking tools (e.g.Quillbot...) ☐
- Rewriting suggestions, tone adjustments, sentence shortening and expanding, and translation capabilities. (e.g.Wordtune…) ☐

- Content generation software applications or platforms powered by AI that help to create written content across various formats and purposes. (e.g.GenAI, Copi.AI, DeepL…) ☐

8. Which of the following AI-powered translation tool (s) could be helpful? You can choose more than one option

- Translation and language learning tools that provides synonym suggestions contextual examples and dictionary support (e.g.Reverso…). ☐
- Machine translators which offer automatic translation of texts from one language to another using computer algorithms. (e.g.Google translate...) ☐

9. aDo you suggest any specific English language learning AI-powered tools(s) for your students?

Yes ☐

No ☐

b. If yes, mention them

……..

10.What benefits do you think AI tools bring to language learning? You can choose more than one option.

By providing personalized experience and adapting to learners' level ☐

By providing immediate corrective feedback and evaluation ☐

By learners' progress tracking ☐

By easy access and affordability. ☐

By increasing engagement and motivation ☐

By increasing self-confidence ☐

By improving learning autonomy ☐

11. a. **What is your overall impression of AI tools for language learning?**

Effective ☐

Neutral ☐

Ineffective ☐

b. Can you explain why?

…….

الملخص:

تهدف هذه الدراسة الاطلاع على كيفية استخدام طلبة اللغة الإنجليزية كلغة أجنبية للأدوات المدعومة بالذكاء الاصطناعي لتطوير تعلمهم للغة الإنجليزية خصيصا طلبة السنة الثانية بجامعة محمد خيضر بولاية بسكرة. بالإضافة إلى ذلك تكشف هذه الدراسة فعالية الأدوات المدعومة بالذكاء الاصطناعي في تعلم الطلاب اللغة الإنجليزية وتطوير مهاراتهم اللغوية. تتمثل الأهداف الرئيسية لهذه الدراسة في جمع وجهات النظر لدى كل من الطلبة والمعلمين حول فعالية استخدام الأدوات المدعومة بالذكاء الاصطناعي في تعزيز تعلم اللغة الإنجليزية حيث يتم شرح الفكرة وتوضيحها في سياق اللغة الإنجليزية. أيضا تقديم رؤى قيمة للعلاقة بين الذكاء الاصطناعي وتعلم اللغة الإنجليزية مما يؤدي إلى تسليط الضوء على الفوائد المحتملة لدمج الذكاء الاصطناعي في تعلم اللغة الإنجليزية. لتحقيق الأهداف المقصودة من الدراسة اخترنا المنهج الوصفي الذي يتضمن استخدام أساليب مدمجة لجمع المعلومات، إحدى هذه الأدوات هي الاستبيان المقدم للطلبة والذي يستهدف متعلمي اللغة الإنجليزية في السنة الثانية (العدد:25). من ناحية أخرى تم تصميم مقابلة للمعلمين (العدد:8)، حققت النتائج الهدف المتمثل في إدراك كل من الطلبة والمعلمين لفعالية الذكاء الاصطناعي وإمكانية دمجه في عملية التعلم.

الكلمات المفتاحية: الذكاء الاصطناعي، تعلم اللغة الإنجليزية، الأدوات المدعومة بالذكاء الاصطناعي.