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Exploring the Use of Artificial Intelligence in Enhancing Leaning English Language: Didactic Perspective

Case Study: Third year EFL students at Ghardaia University

Dissertation submitted to University of Ghardaia for obtaining the Master's degree in Didactics

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DEDICATION

Full of tears of happiness and joy, my graduated and praise goes to Allah. I dedicate this modest work to the Pearl of my life (my mother) and the source of power (my father) for their efforts and sacrifices along 30 years , all the words stand frozen when it comes to their estimation .

I dedicate this dissertation to the light and bright of my life husband Mohamed Ben aada and to my dears sisters and brothers that God blesses them.

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Thank you a lot .

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Dedication 2

I dedicate this humble work, from the depth of my heart to:

The sunshine of my life, my mother and my father

My sisters and brothers, who encouraged me throughout this whole work.

To my friends and to all those who helped me to achieve this work.

I dedicate this modest dissertation.

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ABSTRACT:

This study delves into the utilization of Artificial Intelligence (AI) for enhancing the learning of the English language, focusing on the didactic perspective. Specifically, it examines the case of third-year English as a Foreign Language (EFL) students at Ghardaia University. The abstract provides an overview of the research's scope, methodology, findings, and implications. Through a comprehensive review of literature and a qualitative case study approach, the research explores the integration of AI-driven tools and applications into language learning processes. It investigates the effectiveness of AI in providing personalized learning experiences, facilitating language acquisition, and addressing the unique needs of EFL students. The findings reveal insights into the potential benefits, challenges, and pedagogical implications of employing AI in English language education. The study concludes by discussing the broader implications of the study for language educators, curriculum designers, and educational policymakers in harnessing AI to enhance English language learning outcomes.

Keywords: Artificial Intelligence, Didactic Perspective, EFL Learning, Integration of AI-driven tools

LIST OF ABBREVIATION

EFL	English as a Foreign Language
AI	Artificial Intelligence

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General Introduction

Introduction

In the ever-evolving landscape of education, the integration of technology has become imperative for fostering innovative and effective learning environments. One notable advancement in this realm is the incorporation of Artificial Intelligence (AI) to enhance the process of learning English as a second language. English, being a global lingua franca, holds significant importance in communication, education, and professional development. Leveraging the capabilities of AI in language learning not only addresses the challenges learners face but also opens up new avenues for personalized and adaptive learning experiences.

Traditional language learning methods often encounter limitations in providing individualized support, immediate feedback, and dynamic content adaptation. Artificial Intelligence, with its ability to analyze vast amounts of data, understand natural language, and adapt to individual learning styles, offers a transformative approach to learning English. This integration of AI technologies holds the potential to revolutionize language education by providing tailored, interactive, and engaging experiences that cater to the diverse needs of learners.

This exploration delves into the multifaceted ways in which AI is enhancing the learning of the English language. From intelligent language tutors and automated feedback systems to immersive language experiences powered by virtual reality, AI is reshaping the landscape of language acquisition. Additionally, the utilization of machine learning algorithms facilitates the

identification of specific learning patterns, allowing educators to develop targeted interventions and support strategies.

As we navigate the intersection of AI and English language learning, it is essential to consider the ethical implications, potential biases, and the need for a balanced approach that combines the strengths of technology with the guidance of human educators. This exploration aims to unravel the evolving landscape of AI in language education, showcasing its potential to empower learners, bridge linguistic gaps, and foster a global community of proficient English speakers.

1. Background of the Study

The global significance of the English language cannot be overstated, with over 508 million speakers worldwide. In today's interconnected world, proficiency in both English and technology is essential for anyone aspiring to be part of the global community. Regarding the importance of mastering English, Burchfield asserts that any literate and educated individual worldwide is at a disadvantage if they lack proficiency in the language (Burchfield, 1998, p.14).

In recent times, various innovative systems have been introduced to enhance English learning. There has been a shift in the perspective on language acquisition, moving away from a traditional approach of teachers transmitting rules to learners. Instead, the emphasis is now on a more dynamic process where learners take increased responsibility for their own learning.

Computational creativity, particularly in the realm of Artificial Intelligence (AI), has garnered significant attention for its advancements (Cheng & Day, 2014). Numerous AI technologies have been employed to foster creativity in computers. Rahman (2009, p. 343) explains that AI involves the creation of software with capabilities like knowledge filtering and autonomous functions, such as computation or search processes for students. The development of AI aims to produce "intelligent" devices that emulate human brain functions, seen in computer systems (online platforms) and automated machines (robots). AI is interchangeably referred to as

Machine Intelligence (Mehrotra, 2019), embodying the concept of machines demonstrating intelligence akin to human cognitive abilities.

In practical terms, AI involves imbuing machines with human-like intelligence for effective task execution. Mehrotra (2019) defines AI as a computer science technology exploring the analysis and development of intelligent machines and applications. It delves into the science of enabling machines to think and behave intelligently, simulating human-like cognitive functions. The crux of AI technology lies in achieving intelligence. Whitby (2009) suggests that AI studies intelligent behaviours in humans, animals, and machines, seeking ways to replicate and integrate these behaviours into artificial systems.

2. Statement of the Problem

Traditional English language learning methods lack personalization, timely feedback, and struggle to meet diverse learning needs, hindering effective proficiency development. Additionally, resource constraints and ethical considerations in AI applications pose challenges. This study addresses these issues, exploring how AI can revolutionize language education, providing personalized, inclusive, and engaging experiences for learners.. Therefore, the problem that this research seeks to address is: **What is the impact of Artificial Intelligence on learning English language?** Specifically, the research will seek to investigate the relationship between AI and leaning English language. The findings of this research will be valuable to educators and policymakers, as they seek to improve students' English language by optimizing AI applications.

3. Aims of the study

Throughout this paper, we are aiming to find the role of artificial intelligence in enhancing learning English language of EFL learners.

This study designs to:

1. Address resource constraints in language education
2. Examine the AI applications to enhance students’ learning English process.

3. Offer possible solutions that may help EFL teachers to provide learners with AI materials in schools and universities.
4. Identify the most effective artificial intelligence uses.
5. Evaluate the Efficacy of AI in Personalized Learning.

This current research carried out to highlight the need of EFL learners with the use of Artificial Intelligence by proposing feasible pedagogical techniques to enhance their learning process.

4. Research questions

A lot of researches show that there is a great effectiveness for the use of Artificial Intelligence to enhance learning English process of EFL learners.

Bearing all this in mind, the study tries to find answers to the following questions:

1. In what ways can AI-driven feedback mechanisms be implemented to provide timely and constructive assessments for English language learners, aiding in error correction and language skill reinforcement?
2. How do classroom factors, such as instructional practices and assessment methods influence students' AI implementation and English language learning?
3. To what extent AI ameliorates and develop students' English language learning capacities?

5. Research hypotheses

According to what we have read while preparing for this study, we hypothesized that

1. English language learners who receive AI-driven feedback demonstrate a significant improvement in language proficiency compared to those without such feedback.
2. Classroom factors, including instructional practices and assessment methods, do not significantly influence students' perception and utilization of AI in English language learning.

3. Students who engage with AI-driven tools exhibit a significant improvement in English language learning capacities compared to those relying solely on traditional methods.

6. Method

In order to examine the above-mentioned hypotheses, we employ the descriptive method, thus we select more 30 students that may represent the sample of the study that has been selected randomly. We have decided to use a questionnaire as research tools that can be helpful in collecting data. The participants of this study are the third year students of department of English at Ghardaia University.

7. Structure of the study

The present study is composed of two chapters. In chapter one, we have presented the general introduction with all of its components in addition to the literature review of the Artificial Intelligence committed by EFL learners, as well as to the link between AI and students' learning English process. The Second chapter deals with the methodology, the data gathering tools and the method used besides data analyses and interpretation, it contains a detailed analysis of students' questionnaire as well as the discussion of the results.

Conclusion

In conclusion, the exploration of Artificial Intelligence (AI) in enhancing English language learning underscores its transformative potential in addressing longstanding challenges and shaping the future of language education. The study delved into the multifaceted dimensions of AI, examining its role in providing personalized learning experiences, timely feedback mechanisms, and adaptive resources. Through the lens of ethical considerations and the influence of classroom factors, the research aimed to offer a comprehensive understanding of AI's impact on English language proficiency development.

Chapter 1

Literature Review

Introduction

In today's digital age, artificial intelligence (AI) is revolutionizing education, particularly in the realm of language learning. With English proficiency increasingly vital in a globalized world, the integration of AI offers exciting opportunities to enhance learning experiences. From personalized tutoring systems to immersive language platforms, AI-driven solutions promise to cater to diverse learner needs, democratize access to high-quality instruction, and optimize teaching methodologies. However, ethical considerations regarding data privacy and algorithmic bias must be addressed. In this exploration, we delve into the transformative potential of AI in English language learning, examining current trends and implications for learners and educators alike.

Section One: Technology in Education

1. Overview of Technology

According to MAN (2012), technology encompasses the practical application of knowledge within a specific field, involving the utilization of technical methods, procedures, or information to perform tasks. This definition extends beyond mere hardware and instruments to include structured interactions with humans, machines, and the environment. In simpler terms, technology can be understood as the application of knowledge in a particular area, aided by either humans or machines.

1.1. Educational Technology

Numerous researchers have defined teaching as the act of imparting information and aiding learners in acquiring knowledge across various subjects, involving careful planning and implementation. Learning, conversely, involves the deliberate acquisition of knowledge, skills, or improvements in existing abilities, occurring within the educational process.

Educational technology encompasses a range of materials aimed at enhancing learning experiences and rendering teaching more engaging. It streamlines the learning process by employing appropriate technological tools and resources. As described by Ely (1972, 36), educational technology is concerned with facilitating human learning, encompassing the development, organization, and utilization of learning resources (Robinson et al., 2008).

E-learning, as defined by Asta (2010), involves the integration of technological tools like computers and digital technologies within educational environments. Technology caters to learners' visual and auditory needs. Educational technology takes into account three key elements: students' skill levels, teachers' motivation and training, and the institution's goals. With the adoption of this modern instructional approach, schools are

now interconnected through the internet. For instance, video conferencing enables students to engage with global perspectives from within the classroom (Nomass, 2013).

2. Integrating Technology in Education

The evolution of new technologies over the last two decades has sparked a lot of discussion in the field of education. Technology has introduced additional elements to the character of English as a Foreign Language in particular (EFL). However, in the sphere of language teaching, the subject of its incorporation in the language classroom is still a great topic to be tackled.

The use of technology in the classroom has been found to have numerous benefits. For example, it can increase student engagement and motivation, improve information retention, and enhance critical thinking and problem-solving skills (Maich & Muirhead, 2019). Additionally, technology can be used to provide personalized learning experiences for students, allowing them to learn at their own pace and in a way that is tailored to their individual needs (Papert, 1980).

Despite the potential benefits of technology in the classroom, some researchers have expressed concerns about its impact. For example, some argue that the overreliance on technology can lead to a lack of critical thinking skills and inhibit the development of social skills (Turkle, 2011). Others have expressed concerns about the digital device, with some students lacking access to technology or the skills needed to use it effectively (Warschauer, 2003).

To assist English language students in improving their learning skills, a variety of technology tools are used. English language learning websites, Computer-Assisted Language Learning applications, presentation software, electronic dictionaries, chatting and email messaging systems, CD-players, and learning video clips are among the resources worth mentioning. (Nomass, 2013, 114)

Furthermore, Balias et al (2013) stated that in today's world, there are quick changes in a variety of disciplines. Because the technology revolution forces educators to search for appropriate technologies for the educational system, the educational system has developed and the style of teaching has changed as a result of these developments. As a result, technological resources are used in modern schooling. It provides a variety of tools for sharing information. The teacher is regarded as a mentor to his students. This promotes their independence. Individual characteristics and requirements of learners are taken into account in modern education. As a result, people have more opportunity to improve their skills.

While the use of technology in the classroom can provide numerous benefits, it is important to carefully consider its implementation and use to ensure that it supports learning and does not hinder it. By taking a balanced approach and leveraging technology in a thoughtful and intentional way, educators can create engaging and effective learning experiences that prepare students for success in the modern world.

3. Modern Technology Vs Traditional Technology

Over time, teaching methodologies have evolved from traditional methods, which relied on tools like chalkboards, to the integration of educational technologies such as computers. This evolution has led to distinct differences between traditional and modern education, each possessing unique characteristics. In traditional education, the focus is primarily on the teacher rather than the students. Teachers maintain full control over lessons, often dominating the discussion, while students play a passive role with limited opportunities for active participation. They mainly receive information passively. Additionally, traditional education tends to prioritize rote memorization over the development of critical thinking skills (Balias et al., 2013, pp. 129-132).

To enhance the learning abilities of English language students, a range of technological tools are employed. These include English language learning websites, Computer-Assisted Language Learning (CALL) applications, presentation software, electronic dictionaries, chat and email messaging systems, CD players, and instructional video clips (Nomass, 2013, p. 114).

Moreover, Balias et al. (2013) highlighted the rapid changes occurring across various fields in today's world. The technological revolution has compelled educators to seek suitable technologies for the educational system, thereby evolving the educational landscape and transforming teaching methodologies. Consequently, modern schooling incorporates technological resources, offering diverse tools for information dissemination. Teachers are viewed as mentors to their students, fostering independence among learners. Modern education prioritizes individual learner characteristics and needs, providing greater opportunities for skill enhancement.

4. Forms of Technology Based- Learning

In today's rapidly evolving digital era, technology has become an integral part of our lives, transforming the way we learn, work, and interact. Traditional educational paradigms are being reshaped by the advent of technology-based learning, offering unprecedented opportunities for engaging, personalized, and accessible education. This exciting shift has given rise to a myriad of innovative approaches and tools that harness the power of technology to enhance the learning experience.

4.1. Information and Communication Technologies (ICTs)

ICT has advanced significantly during the past few decades. This transformation has had a significant impact on teaching and how we learn, as well as how we live and comprehend the world. Twenty years ago, there were still blackboards, cassette players, calculators, and only very basic internet connectivity in the classroom. Although there are

now numerous alternatives available to instructors and students when using technology in the classroom. Academic equipment and tools are materials like interactive whiteboards, projectors, tablets, smartphone applications, and many more internet resources that are widely used in today's schools (Ioana Lorena Dumitrean, 2017/2018).

Language and learning/teaching contexts can now be reorganised thanks to information and communication technology (ICT). Today's ICT has provided new problems and alternative techniques for teachers and language learners alike. The accountability for learning tasks has transferred from teachers to students, which has resulted in a significant transformation of teachers' responsibilities. The overall conclusion is in support of the idea that technology can create chances for effective teaching and learning environments. (Hermans, Tondeur, Van Broak, and Valcke, 2008).

4.2. Computer Assisted Language Learning (CALL)

Computer assisted language learning (CALL) refers to the use of technology to facilitate language acquisition and learning (Levy & Stockwell, 2006). CALL has become a popular area of research, with numerous scholars examining the potential benefits of incorporating technology into language learning (e.g., Warschauer & Healey, 1998). According to Warschauer (2010), CALL can improve students' language proficiency, motivation, and autonomy. Healey and Warschauer (2010) argue that CALL can also promote intercultural communication, as technology enables students to connect with people from different cultural backgrounds and to access authentic materials from around the world.

One of the key features of CALL is its ability to provide immediate feedback to learners (Levy & Stockwell, 2006). This feedback can be in the form of corrective feedback on grammar and vocabulary, or in the form of feedback on pronunciation or speaking fluency (Chapelle, 2001). The use of CALL can also provide learners with

opportunities to engage in collaborative learning, as students can work together on language tasks using online forums, chat rooms, and video conferencing (Kern & Warschauer, 2000).

CALL has been used in a variety of language learning contexts, including both formal and informal settings. In formal settings, CALL has been used in language classrooms as a supplement to traditional teaching methods (Egbert, Paulus, & Nakamichi, 2002). In informal settings, learners can access language learning materials and activities on the internet, or use language learning apps on their mobile devices (Stockwell, 2010).

CALL is an area of research that explores the potential benefits of using technology to support language learning. Scholars have demonstrated that CALL can improve language proficiency, motivation, autonomy, and intercultural communication. The use of immediate feedback, collaborative learning, and access to authentic materials are key features of CALL that have contributed to its growing popularity in both formal and informal language learning contexts.

4.2.1. Internet

Nowadays, internet yields nearly limitless materials on specialised or profession-based subjects. Websites that are simple to use can assist students in locating pertinent, real-world task-based materials. In this situation, the learner's position as the text supplier is crucial since exposure to real materials can make daily learning and teaching tasks more engaging and inspiring. The internet offers real resources for enhancing one's reading, writing, speaking, and listening abilities both in and out of the classroom.

Technologies are great for reading original documents. "In contrast to newspapers and other printed materials, such as textbooks, which quickly become outdated, the internet is constantly updated, more visually stimulating, and interactive, encouraging a more active approach to reading as opposed to a passive one," writes Berardo (2006). Online

authentic resources offer instructional value because they keep pupils updated about what is happening in the world. Guariento and Morley (2001) also claimed that "extracting information from a real text in a new/different language can be extremely motivating, increasing students' motivation for learning by exposing them to "actual" language."

4.2.2. Emails

Email, short for electronic mail, is a digital communication method that allows individuals to exchange messages and files over the internet. It is one of the most widely used and accessible forms of online communication. Email enables users to send and receive messages, documents, images, and other digital content to one or multiple recipients, regardless of their location and time zone.

4.2.3. Social Computing

Social computing refers to the intersection of social behavior and computational systems, where individuals interact, collaborate, and create content through digital platforms and technologies. It encompasses the study and application of computer systems that enable and support social interactions, communication, and information sharing among individuals or groups. Social computing leverages the power of social networks, online communities, and social media platforms to facilitate collaboration, knowledge exchange, and collective intelligence.

6. Advantages and Disadvantages of Educational Technology

In contemporary educational settings, integrating technology into the classroom has become essential for both teachers and students, particularly in foreign language learning. Consequently, English as a Foreign Language (EFL) instructors must adapt their teaching methodologies to engage students effectively. However, as noted by Riasati, Allahyar & Tan (2012), while technology offers numerous benefits, it also presents certain drawbacks.

The effective utilization of technology can significantly aid foreign language learners in developing linguistic skills, fostering positive learning attitudes, and enhancing self-instruction tactics and self-confidence through various communicative and interactive activities (Lai & Kritsonis, 2006). According to Dudeney and Hockly (2008), technology plays a crucial role in the EFL classroom by providing innovative avenues for language practice and validating student performance. Moreover, Barani, Mazandarani, and Rezaie (2010) assert that utilizing media exposes students to diverse input sources, enriching their language learning experience beyond reliance on the teacher's dialect or idiolect.

Nevertheless, Abunowara (2016) highlights drawbacks for teachers when incorporating technology in the EFL classroom, such as the time and effort required to acquire real materials, continuously learn new technologies, and adapt to changing software programs effectively. Additionally, some students may lack access to technology (Kruse, 2001b; as cited in O'Donoghue et al., 2004). Therefore, Lai and Kritsonis (2006) argue that both teachers and students should possess basic technological understanding before integrating technology into language teaching and learning practices.

Despite the benefits and challenges associated with technology use, EFL teachers must recognize its necessity to cater to digital natives effectively (Merç, 2015).

7. Learning Approaches and their Relation to the Use of Technology

Various teaching approaches have emerged over time, each focusing on different aspects of foreign language instruction. The grammar translation approach, prevalent in the eighteenth and nineteenth centuries, prioritizes the grammar and vocabulary translation of the target language, often neglecting speaking skills in favor of reading and writing proficiency. In contrast, the direct approach, developed in the 1960s as a response to the grammar translation method, emphasizes speaking over reading and writing. In this

method, the use of the native language is minimized, and listening comprehension takes precedence (Zainuddin et al., 2011).

Another teaching approach stemming from the direct method is the audio-lingual method, which places a strong emphasis on developing listening and speaking skills. Notably, language laboratories are often integral to this approach. Through immediate repetition of phrases upon hearing them, the audio-lingual method centers on extensive repetition to facilitate quick comprehension and communication in the target language (Zainuddin et al., 2011).

Section Two: Artificial Intelligence in EFL Teaching and Learning

1. General Concept of Artificial Intelligence and its Development

The term "artificial intelligence" was coined by John McCarthy in 1956, marking a pivotal moment when researchers sought to unify diverse concepts related to thinking machines. McCarthy chose the term for its neutrality, aiming to encompass various approaches such as cybernetics, automata theory, and complex information processing. The proposal for the conference suggested that machines could simulate any aspect of intelligence with precise description (Marr, 2018).

Artificial intelligence encompasses a broad interdisciplinary field spanning computer science, psychology, philosophy, linguistics, and mathematics. There exist multiple definitions reflecting diverse perspectives. Dictionary definitions emphasize AI as a sub-field of computer science focusing on machines imitating human intelligence (Merriam-Webster).

Definitions of AI vary based on the intended goals of AI systems. These goals typically fall into three categories: replicating human-like thinking (strong AI), achieving functional outcomes without replicating human reasoning (weak AI), and using human reasoning as a model without necessarily replicating it entirely (Marr, 2018).

Amazon defines AI as a field dedicated to solving cognitive problems associated with human intelligence, such as learning, problem-solving, and pattern recognition. Machine learning (ML) is pivotal for Amazon's operations, enabling business growth, improved customer experience, and logistical optimization (Marr, 2018).

Google AI prioritizes machine and deep learning to develop smarter technology across various domains, from translations to healthcare, with the aim of enhancing smartphone capabilities. Facebook AI Research focuses on advancing machine intelligence technologies to facilitate better communication methods. IBM's AI initiatives encompass

three key areas: AI Engineering, AI Tech, and AI Science, aimed at building scalable AI models and tools, exploring core AI capabilities, and pushing the boundaries of AI research (Marr, 2018, p.132).

2. The Connotation of Artificial Intelligence

The utilization of computers for analyzing natural language represents a convergence of linguistics and computer science, commonly referred to as "computational linguistics" or "natural language processing" in academic circles. Conceptually, natural language processing can be likened to the combination of linguistic categories with computational models, where linguistic categories entail linguistic concepts and standards defined by linguists, such as words, parts of speech, grammar, semantic roles, and text structure. These categories form the basis for most natural language processing tasks (Radwan, 2017, p.96).

Given the inherent vagueness and complexity of language rules, formulating unified rules poses a significant challenge. The rule-based approach, rooted in rationality, historically limited natural language understanding research to small-scale experimental stages. However, with the advent of large-scale corpora and the widespread adoption of statistical machine learning methods, the statistical approach has alleviated the burden of manual rule preparation and demonstrated superior model generation capabilities.

The pursuit of simulating human language intelligence has gradually shifted towards practical applications. Professor Yu Shiwen contends that natural language understanding has perennially captivated researchers in artificial intelligence science. Consequently, to effectively apply artificial intelligence technology, it is crucial to explore the interplay between natural language systems and computer language systems, as well as the conversion between the two. The basic application model of artificial intelligence technology in natural language understanding is illustrated in Figure 1.

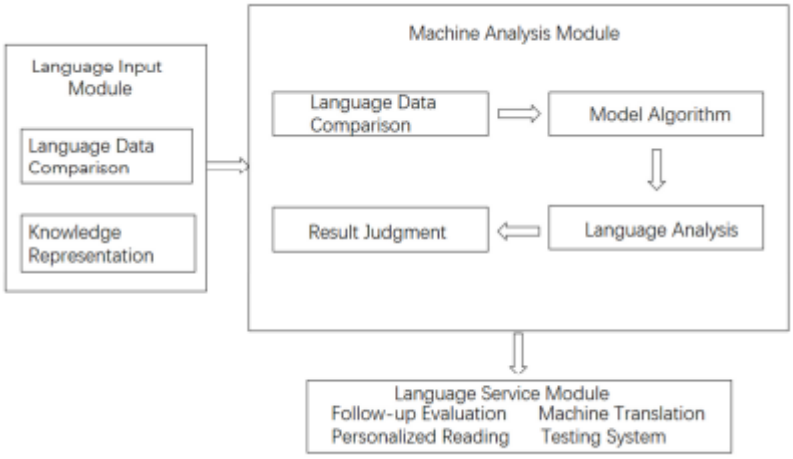


Figure 1: Application mode of artificial intelligence technology in natural language understanding (Radwan, 2017, p.102)

3. Artificial Intelligence and Education

The onset of the 21st century has ushered in significant transformations within the educational landscape, particularly in terms of learning inputs, processes, and outcomes. Intelligent machines, as manifestations of AI, play a pivotal role in reshaping the roles of schools, teachers, and learners. They are poised to revolutionize both traditional and virtual modes of interaction within educational settings. Teachers and students will increasingly engage with interactive machines to share educational experiences and achieve desired objectives. These intelligent machines will offer interactive educational platforms capable of engaging students in discussions and responding to their queries and reactions. They are expected to address longstanding challenges in traditional classrooms, such as maintaining attention, fostering motivation, accommodating individual learner differences, and supporting those with special needs. Moreover, by providing feedback, enhancing student achievement levels, and cultivating positive attitudes towards teaching and learning, these machines will offer solutions to the issue of interaction in large classrooms. The integration of AI applications into the teaching and learning process is projected to have a direct and positive impact on these aspects of education (Dickson, 2017).

According to Al-Gayyar (2013), AI applications encompass a diverse array of intelligent educational systems, with online electronic learning systems being particularly significant. These systems represent a culmination of various AI technologies, including Intelligent Tutoring Systems, Internet activation, hypermedia activation, and distance E-education (pp. 503-504). Muhammad (2014) enumerates several AI applications, including electronic neural networks, hybrid systems, developmental algorithms, electronic auto-copying, adaptive electronic platforms, bio-robots, Nano-technology, chemical and organic systems, and advanced control systems (p. 18).

Contemporary studies emphasize the expanding array of AI applications in education, encompassing programmed learning and other advanced open-source technologies. The significance of these AI applications lies in their capacity to cater to individual learners' needs and skills, align with their educational preferences, and monitor their progress. These applications offer tailored learning tracks suitable for learners of varying levels, thereby enhancing motivation and addressing issues of attention. They provide feedback on student achievement levels, identifying areas of strength and weakness in scientific content, and ensure comprehensive mastery of each subject before progressing to more advanced topics. The integration of scientific content is facilitated through problem-solving tasks, allowing students to work at their own pace while instructors provide guidance and feedback. AI tutoring systems, equipped with automatic advisory programs, support self-study skills, potentially replacing instructors (Kamuka, 2015).

In the realm of teaching English as a foreign language, emphasis is placed on developing communicative competence, encompassing listening, speaking, reading, writing, text production, and comprehension. This process centers on communication as both a goal and a process, necessitating the use of traditional and digital communication

strategies. AI applications, including simulation and communication programs, play a crucial role in simulating real-life communication scenarios in English, providing practical language skill training, and offering educational games. AI-based communication tools aid in designing exercises for accurate pronunciation practice, image and situation description, listening comprehension, and guided pronunciation practice. These programs facilitate language skill development and offer feedback for guidance, incorporating language drills to ensure proficiency levels are achieved (Barnes-Hawkins, 2016).

4. Advantages of Artificial Intelligence Technology in Education

At the moment, China has embarked on the development of artificial intelligence resource platforms across various sectors, with companies like Baidu focusing on autonomous driving and Alibaba's commitment to city brain and transportation, which significantly impacts human life. Additionally, artificial intelligence technology has made significant strides in the field of education and learning (Senthil et al., 2019).

The benefits of artificial intelligence in education are evident in its ability to enhance convenience and personalization. AI technology facilitates learning by providing convenient methods and access to resources, allowing learning to occur anytime and anywhere. When students encounter difficulties in homework, they can quickly find solutions through internet searches. Moreover, AI-based virtual reality technology enhances teaching scenarios and methods by providing students with immersive experiences, aiding their understanding of complex concepts (Kamuka, 2015).

Furthermore, artificial intelligence enables personalized education and learning experiences. Through pre-class big data analysis, teachers can diagnose students' learning needs, status, and provide personalized learning plans. In-class interactions between teachers and students are enhanced through AI tools, facilitating real-time and comprehensive communication. AI systems also enable teachers to promptly identify

learning difficulties and provide targeted feedback, while students can use intelligent platforms for personalized review and extracurricular learning (El-Hosnony, 2020).

Lastly, artificial intelligence contributes to improving the quality of learning by automating repetitive tasks and fostering innovative learning approaches. Learners can focus on creative learning and developing innovative and reflective abilities, as AI tools handle basic memorization tasks and repetitive assignments. Additionally, AI expert systems model knowledge and expertise from various domains, while automating labor-intensive projects, thereby freeing humans from mundane tasks (Elhoseny, 2017).

5. The Link between AI and Students' Learning Process

5.1. English Understanding Functions:

During English input learning, artificial intelligence tools serve as natural language understanding and processing systems, facilitating interactive listening training and follow-up exercises for students. These tools employ voice recognition to analyze students' audio input in natural language form and provide timely feedback akin to a teacher. This technical solution addresses issues like intonation and pitch, minimizing errors and negative inhibition commonly experienced in English learning.

5.2. English Reading Functions:

In the realm of English reading and vocabulary enhancement, artificial intelligence learning tools, akin to the Mint Reading APP, emulate the role of a teacher. By assessing individual students' vocabulary, text comprehension, reading preferences, and habits, these tools intelligently offer reading materials tailored to each student's English learning foundation and interests. This personalized approach ensures students' English learning progresses scientifically and effectively, significantly enhancing their interest and proficiency.

5.3. English Translation Functions:

Regarding English translation output, intelligent machine translation technology, a vital branch of artificial intelligence, has witnessed significant advancements. However, despite progress, the current quality of machine translation remains immature. To enhance translation quality effectively, structural language issues must be analyzed, surpassing mere program design improvements. While machine translation quality may not surpass human capabilities in language recognition and logical reconstruction in the short term, English learners should embrace machine translation tools' speed, richness, and comparability to enhance translation outcomes.

5.4. English Teaching Functions:

In addition to enhancing classroom teaching effectiveness, artificial intelligence monitoring technology tracks and records students' expressions and behaviors via facial recognition systems. Analyzing data on students' attention, concentration levels, and emotional states, teachers can identify teaching points and difficulties, adjusting content and methods accordingly to enhance teaching quality.

5.5. English Testing Functions:

Artificial intelligence software employs intelligent recognition and natural language processing technologies in English teaching tests, including test proposition, listening and speaking assessments, test paper review, and examination room arrangements. Intelligent marking systems accurately review and score students' subjective questions, utilizing data models that surpass human capabilities in assessing sentence grammar similarity. (Elhoseny, 2017, p.76)

6. The Impact of AI on Students' English Language Enhancement

The integration of Artificial Intelligence (AI) into educational settings has gained momentum in recent years, offering innovative solutions to enhance learning

outcomes across various subjects, including language learning (Brown, 2020). In particular, English language enhancement stands to benefit significantly from the capabilities of AI-driven tools and technologies. This article examines the ways in which AI is reshaping English language learning and the implications of its integration for learners, educators, and educational institutions.

AI-driven language learning platforms leverage advanced algorithms and natural language processing (NLP) techniques to provide personalized learning experiences tailored to individual learners' needs and proficiency levels (Smith & Jones, 2021). These platforms offer interactive exercises, language practice activities, and real-time feedback mechanisms that help learners improve their English language skills in a dynamic and engaging manner. Moreover, AI-powered virtual tutors and chatbots provide students with opportunities for conversational practice, vocabulary expansion, and grammar correction, facilitating immersive language learning experiences beyond the confines of traditional classroom settings (Wang & Chen, 2018).

Despite the potential benefits of AI in English language enhancement, ethical considerations loom large in the integration of AI-driven tools into educational environments (Johnson, 2019). Concerns regarding data privacy, algorithmic bias, and the perpetuation of cultural stereotypes raise important questions about the ethical use of AI in language learning. Educational institutions must prioritize transparency, accountability, and equity in the development and implementation of AI-driven language learning solutions to mitigate these ethical challenges and ensure that all learners have access to inclusive and culturally responsive educational experiences.

As AI continues to revolutionize the field of education, its impact on English language enhancement holds both promise and complexity. While AI-driven tools offer innovative opportunities for personalized learning and skill development, they also raise

ethical considerations that demand careful attention (Zhao & Liu, 2022). By navigating these challenges thoughtfully and proactively, educators and policymakers can harness the potential of AI to foster equitable and effective English language learning experiences for all learners.

Conclusion

The integration of artificial intelligence (AI) technology into English language education offers a myriad of benefits across various learning stages. From facilitating understanding through natural language processing to personalized reading recommendations and improved translation tools, AI enhances learning efficiency and effectiveness. Moreover, AI-driven monitoring systems aid teachers in identifying teaching points and adjusting methods to optimize learning outcomes. Additionally, AI-enabled testing tools provide more accurate and efficient assessment methods, enhancing the overall quality of English language education. As AI continues to advance, its role in education will likely expand, revolutionizing the learning experience and fostering greater proficiency and engagement among learners. Therefore, embracing AI in English language education represents a significant step forward in addressing the evolving needs and challenges of modern education.

Chapter 2

Methods, Results and Discussion

Section One: Methodology

Introduction

This chapter attempts to shed light on the practical part of this study. It is divided into two sections. The first section of this chapter describes the research methodology, participants, research instruments, setting, and procedures. Using a quantitative method, data were collected through a questionnaire for students. The second section is devoted to the analysis and interpretation of the data collected from the already mentioned tools, followed by a discussion of the results.

1. Research Design

Our study used a quantitative method research design in order to identify Students' Perceptions towards the Use of Artificial Intelligence in Enhancing Leaning English Language among Third-year EFL students at the English department of Ghardaia University. We employed a quantitative method to collect and analyze varied but relevant data for the study, therefore a quantitative method was used (students' questionnaire). We observed and analyzed the students' attitudes towards the Artificial Intelligence and its effect on students' learning English Language achievement without the researchers' least intervention. Finally, we analyzed and validated the research findings.

2. Research methodology

The current study has opted for the quantitative descriptive method. It aims to describe two variables; Artificial Intelligence as the independent variable and its effects in Enhancing Leaning English Language as the dependent variable. The chapter will be devoted to the description of the methodological procedure that has been used which is the questionnaire.

A questionnaire is designed for students who are thought to be in a good position for gathering the relevant data to our research. In accordance to our topic « Exploring the Use of Artificial Intelligence in Enhancing Leaning English Language: Didactic Perspective**».** Our primary goal is to validate the research hypothesis and answer its questions. A descriptive design assists us in identifying and solving difficulties in contemporary practice, the purpose of the research, the sample underinvestigation, the time available, and the type of the data obtained.

3. Participants

The case study seems to be the examination of the target situation where conducting a research. Robert (1994) identifies it as "an empirical inquiry that investigates a contemporary phenomenon within its real life context, particularly when the boundaries between phenomenon and context are not clearly evident."

This study's population consists of 30 EFL third-year students from Ghardaia University. The students sample consisted of seven (07) males and (23) females who were randomly chosen from a population of 135 third year L.M.D students in which most of the teachers' sample was chosen based on specific criteria. Though, from this population, we have selected thirty students. The objective of our choice of this level is that their manipulation with the technology in their learning process.

To ensure the validity of the study, students were ignorant of the concept and the goal of the study which centers upon the learning English language and the use of Artificial Intelligence of EFL learners; and to stimulate them to answer the questionnaire and contribute to our study. Unquestionably, these students will provide valuable insights about some effective information that can be used to contribute to the students' achievement in English using Artificial Intelligence. The questionnaire was distributed in a

delightful environment; but unfortunately, some students were not cooperative or responsive.

4. Research Instruments

According to Pahoo (1997, 59), "a research instrument is a tool used to collect data. An instrument is a tool designed to measure knowledge, attitude and skills."

To carry out this research work, a questionnaire was used:

4.1. Students' Questionnaire

4.1.1. Aim of the questionnaire

This questionnaire is primarily intended to diagnose and assess student's evaluation of their English Language Learning using Artificial Intelligence as well as their awareness of their use in classroom, besides whether they believe that this tool is effective for improving their English language learning achievement or not.

4.1.2. Description of the Questionnaire

The questionnaire is targeted for third-year LMD students at the department of English of Ghardaia University. It consists of 15 questions, and most of them are Close-ended questions which limit the respondents to choose yes/no answers. A multiple-choice question is another type of close-ended inquiry in which the respondents' responses are limited to one of several options. The questionnaire is divided into three separate sections. The first section consists of three general information questions that aim at collecting data about student's age, and the module they prefer to study.

The second section contains questions that have a relation with their attitude toward technologies in general. The last section in the questionnaire was about the use of Artificial Intelligence in learning English language.

4.1.3. Selection of the population:

The questionnaire is administered to thirty (30) students of third year LMD at the

University of Ghardaia University at the English Department, during the academic year 2023/2024 during translation session under the teacher's control. The population contains 135 students divided into five (05) groups. The choice of this population was simply because third year students are freshmen and have knowledge when it comes to technology and their studies concerning the English language learning.

4.1.4. Identification of the sample:

The main idea in the present study is to confirm the stated hypothesis involving the use of Artificial Intelligence on enhancing English Language learning among LMD learner's achievement. In order to achieve our aim, thirty (30) students were chosen randomly. Thus, the data collection obtained will help us in the validity of our research.

5. Research Procedures

Data has been collected in an appropriate manner in order to accomplish the study's objective and answer the research questions. As previously stated in our methodology, the researchers employed a compatible research design, so the first data collecting tool that has been employed was the questionnaires handed to students. The students were chosen at random from two class of 60, but only 30 (07 males and 23 females) responded to the questionnaire which took 5 to 7 minutes depending on their capacities. They were somehow not helpful and not immediately responded to our request; however they did so in a noisy environment, making it difficult to concentrate on the questions. All in all it was a successful tool which really helped us to identify some errors they made and the reasons behind them.

The data gathered from the instruments were analyzed through the use of two different computer programs: the first is the "SPSS" which stands for the ''Statistical Package for Social Sciences," and the second is Microsoft Office Excel 2007.

Section two: Analysis of Student's Questionnaire

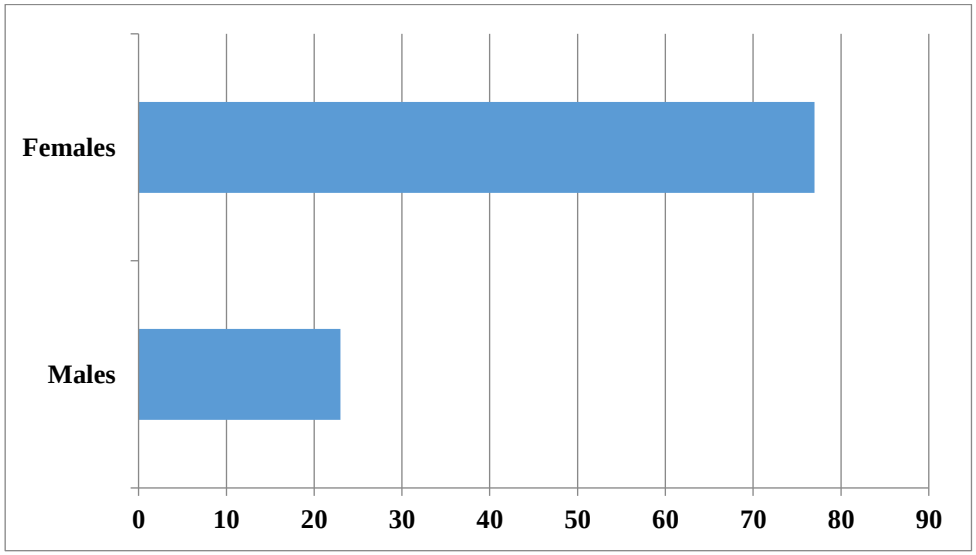
Section One: Background Information

1/2/ Students Gender and Age

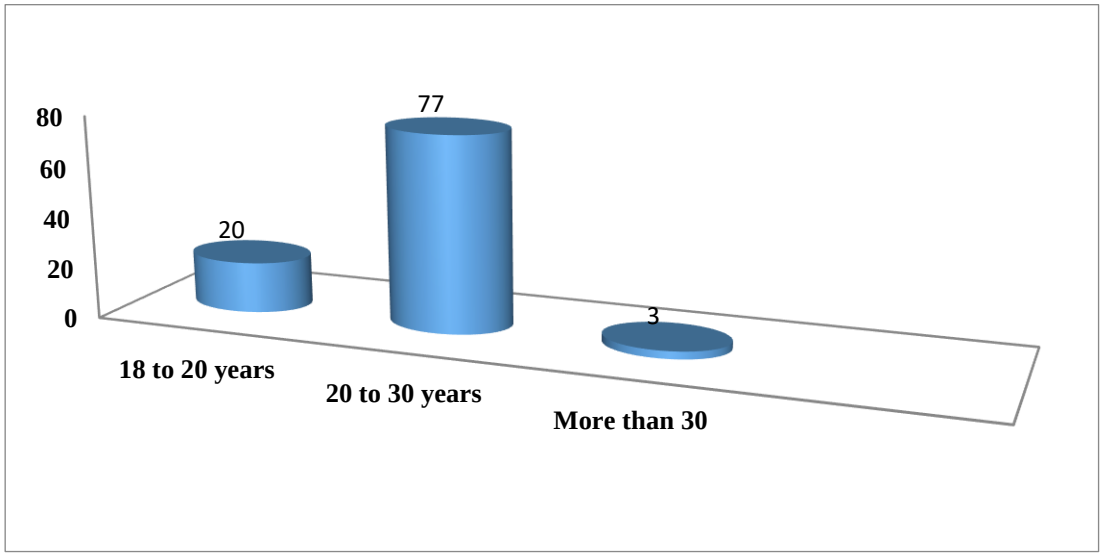
Gender	Frequency	Percentage (%)
Male	**07**	**23**
Female	**23**	**77**
Age		
18 to 20	**06**	**20**
20 to 30	**23**	**77**
More than 30	**01**	**3**

Table 01: Showing Students' Gender and Age

Out of the 30 respondents as shown from table (1), 07(23%) were males while 23(77%) were females. This was an indication that female students dominated relatively in the study. As well as, students of 20 to 30 years old dominated the study with 23(88%), and of 18 to 20 years with 6 (20%) in which the ones of more than 30 years with 01(3%) as shown in table (1) above.



Graph 02: Showing Students' Gender



Graph 03: Showing students' age

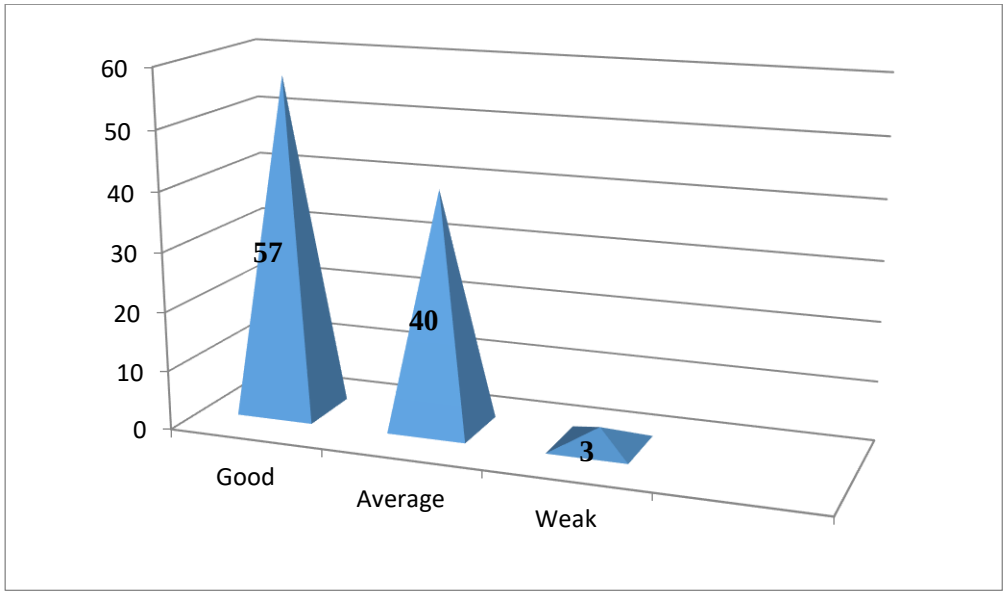
Q3: How do you consider your level in English?

Choices	Frequency	Percentage (%)
Good	**17**	**57**
Average	**12**	**40**

Weak	**01**	**3**

Table 02: Showing Students' Level in English

We can observe that 17(57%) of students have a good level in English, while the rest of them 12(40%) claimed that they have an average level , whereas only one student said that he has a weak level as shown in table (2).



Graph 04: Students' Level in English

Section Two: Students' Attitude Towards Technologies

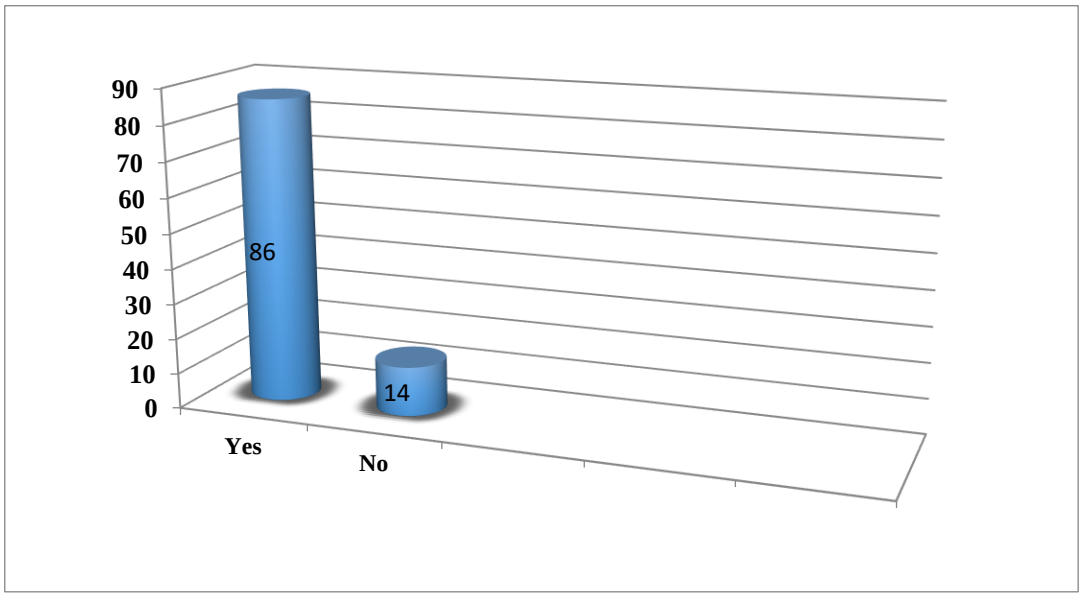
Q1. Do you use technologies in studying the English Language?

Choices	Frequency	Percentage (%)
Yes	**26**	**86**
No	**4**	**14**

Table 03: Students' perception about their Use of Technologies

We district the students to answer this close ended question about if use technologies. In which 26(86%) said that they use it, i.e. the learning of is based on the use

of technologies and around 4(14%) said that they do not use this technique. That is to say, that learning English is associated with the use of technologies.



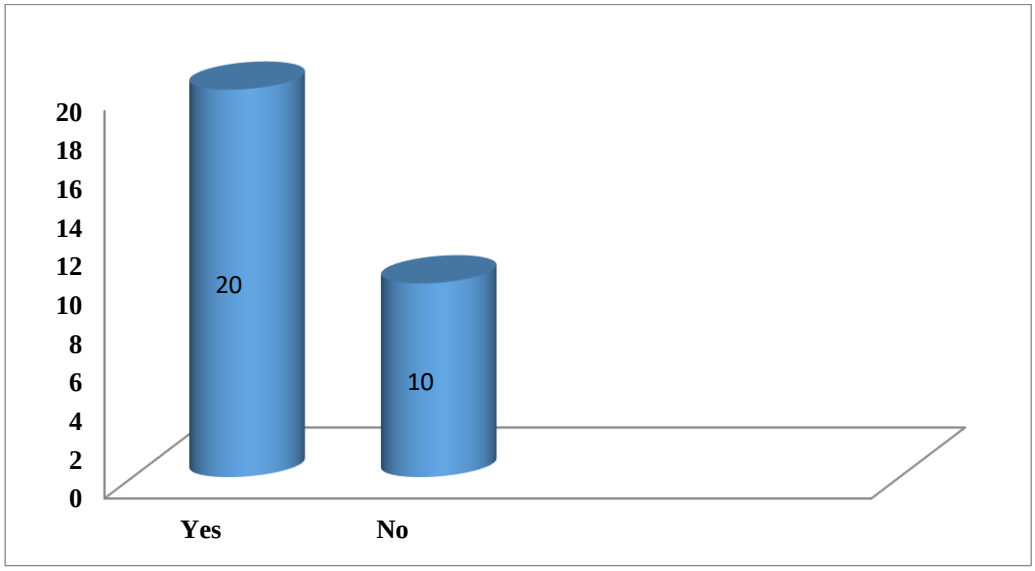
Graph 05: Students' perception about their Use of Technologies

Q2. Do your teachers employ technologies in teaching?

Choices	Frequency	Percentage (%)
Yes	**20**	**67**
No	**10**	**33**

Table 04: Students' views about the teachers' use of technologies

Students are asked to give their views about the teachers' use of technologies, in which 20(67%) agreed that the teacher uses this pedagogy while 10(33%) said that they do not. as shown in table (4). According to that, we may say that students are going hand-in-hand with this pedagogy.



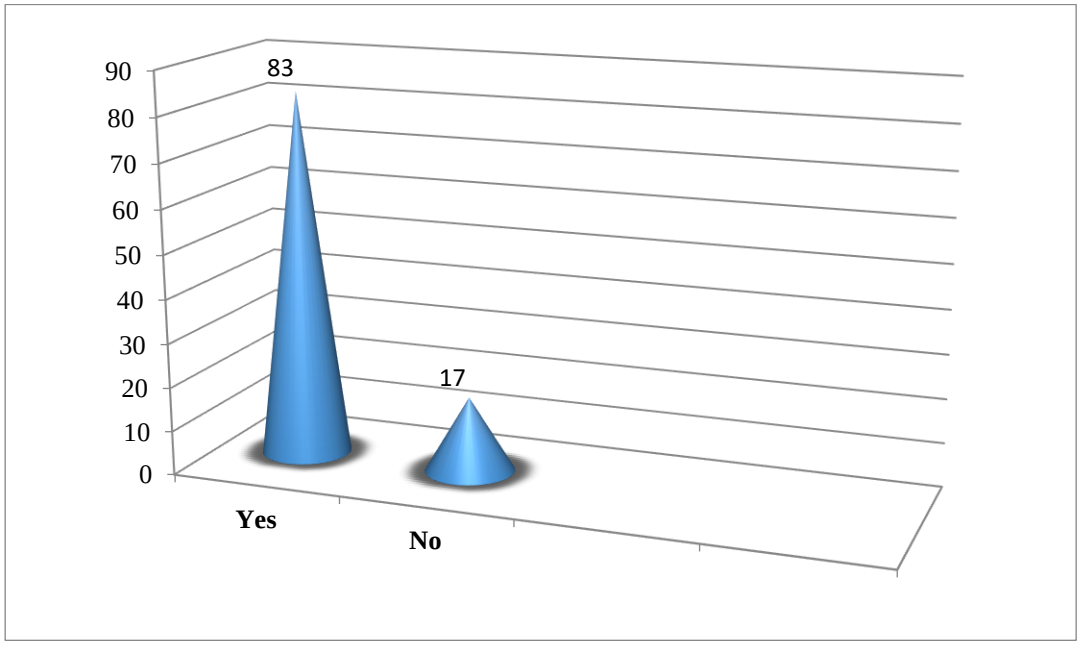
Graph 06: Students' views about the teachers' use of technologies

Q3. Do you find it useful?

Choices	Frequency	Percentage (%)
Yes	**25**	**83**
No	**5**	**17**

Table 05: Students' Perception towards the Utility of technologies

When asking the students if they find technologies useful or no, the majority of the respondents, 25(83%) from a total of (100 %) of the learners expressed their joy of using technology whereas two (05) informants, representing the percentage of (17 %) said that they did not. The students justify their choices by claiming that this it helps to improve the learning strategies, gathering much information in a short period of time. The following figure illustrates their answers:



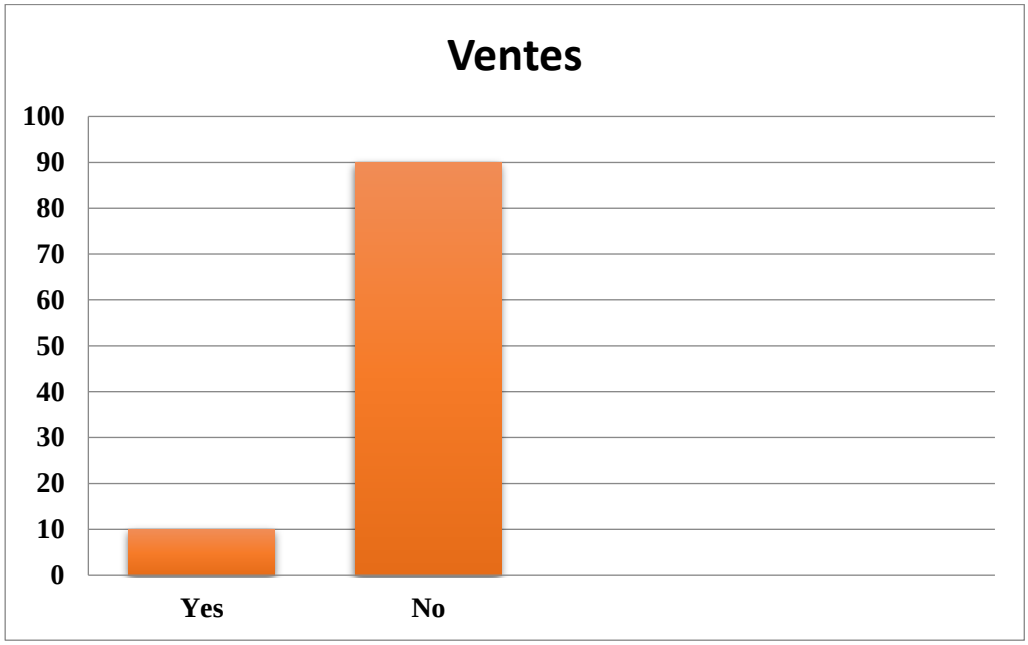
Graph 07: Students' Perception towards the Utility of technologies

Q4. Do you think that the English department is equipped with enough technological materials?

Choices	Frequency	Percentage (%)
Yes	**3**	**10**
No	**27**	**90**

Table 06: Students' Views about Assessing the Technological Resources in the English Department

When the students were asked whether their English department was equipped with enough technological materials, the majority of them (27), representing the percentage of (90 %), stated that it was not. and three (3) respondents, representing the percentage of (10 %), said that the English department was equipped with enough technological materials. Their answers are illustrated in the following figure:



Graph 08: Students' Views about Assessing the Technological Resources in the English Department

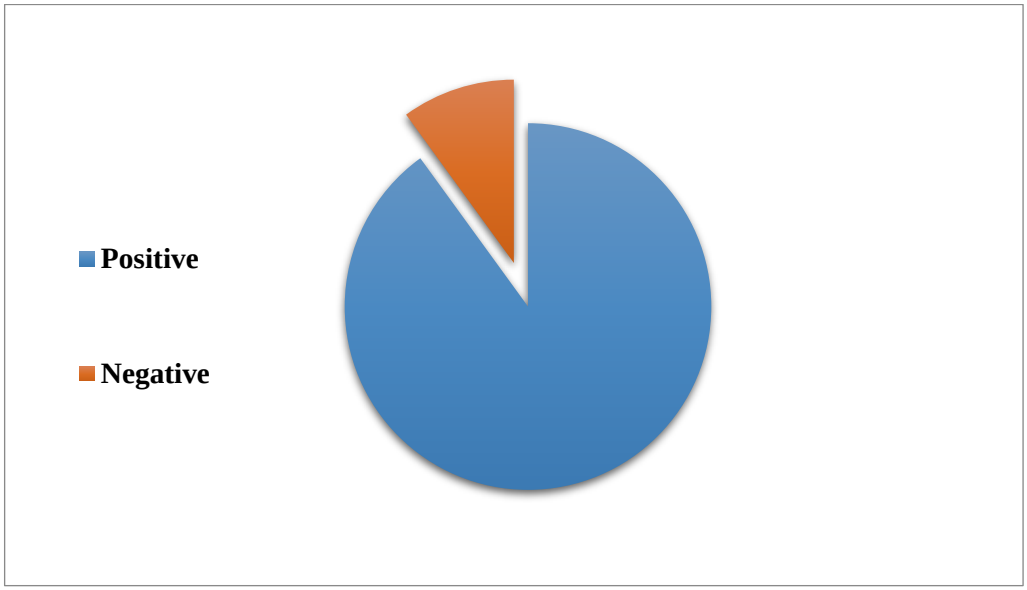
Q5. How do you evaluate the use of technologies in teaching learning process?

Choices	Frequency	Percentage (%)
Positive	**27**	**90**
Negative	**3**	**10**

Table 07: Students' Attitudes about the Usage of Technologies

Through this table, we have noticed that the majority of the students have been answered by positive 27(90%), while the rest of them 3(10%) said that the use of technology is negative. Consequently, while the highest percentage is opted for positive, we cannot deny that the the use of educational technology is beneficial for the students' learning process. Some of the students claimed that it facilitates the study with avoiding time consuming.

Therefore, one can notice that most of the respondents feel that the use of educational technology has positive effects.



Graph 09: Students' Attitudes about the Usage of Technologies

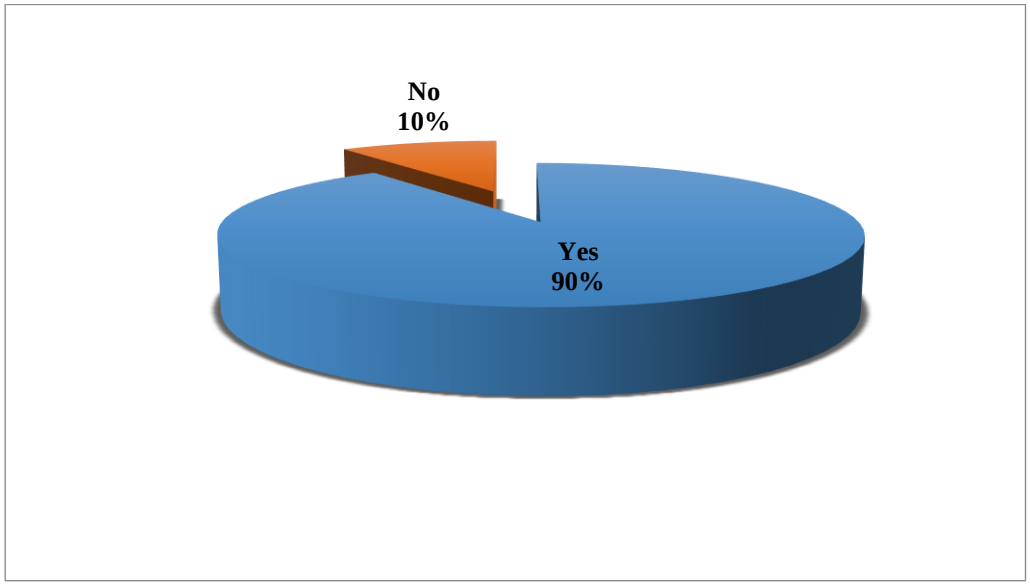
Section Three: Students' Attitudes Towards Artificial Intelligence in English Language Learning

Q6. Have you ever heard of the term Artificial Intelligence?

Choices	Frequency	Percentage (%)
Yes	**27**	**90**
No	**3**	**10**

Table 08: Students' Exploring the Concept of Artificial Intelligence

The survey data indicates that a majority of respondents, constituting 67%, have heard of the term "Artificial Intelligence" (AI), while 33% reported not being familiar with it. This distribution suggests a moderate to high level of awareness of AI within the surveyed population. Overall, the analysis suggests a noteworthy level of awareness of AI within the surveyed population, with potential opportunities for further education and outreach efforts to bridge any knowledge gaps and ensure broader understanding and engagement with AI-related topics.



Graph 10: Students' Exploring the Concept of Artificial Intelligence

Q7. Have you ever used AI-driven tools or applications for learning English?

Choices	Frequency	Percentage (%)
Yes	**22**	**73**
No	**08**	**27**

Table 09: Exploring the Use of AI-driven Tools for Learning English

The survey results indicate a notable embrace of AI-driven tools for learning English, with 73% of respondents acknowledging their use of such applications. This widespread adoption underscores the perceived benefits these tools offer, including personalized learning experiences and interactive features. However, 27% of participants reported not having utilized AI-driven tools, suggesting potential barriers or preferences for traditional learning methods. Nonetheless, the prevalence of AI-driven tools underscores their growing significance in modern language education, prompting educators to consider their

integration into curriculum design to enhance learning outcomes and meet the diverse needs of learners.. The informants' responses are summarized in the following figure :

Graph 11: Exploring the Use of AI-driven Tools for Learning English

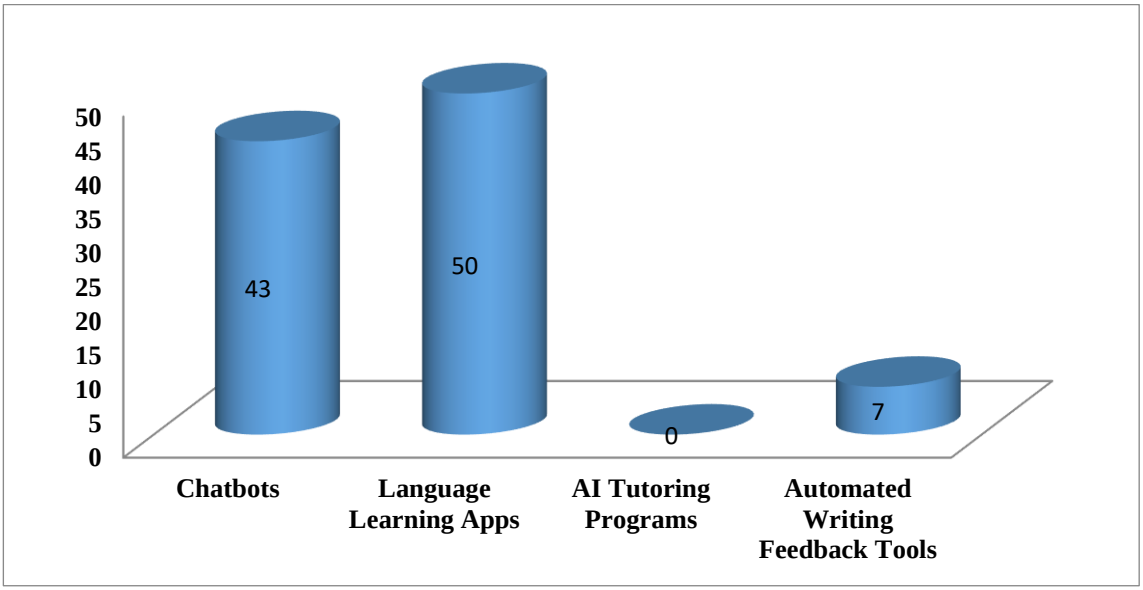
Q8. If yes, which AI-driven tools or applications have you used? (Select all that apply)

Choices	Frequency	Percentage (%)
Chatbots	**13**	**43**
Language Learning Apps	**15**	**50**
AI Tutoring Programs	**00**	**00**
Automated Writing Feedback Tools	**02**	**7**

Table 10: Students' views about tools usage

The analysis of students' views on AI-driven tools usage reveals a diverse landscape of adoption. Language Learning Apps are the most popular, utilized by 15 out of 30 respondents, representing 50% of the sample. Chatbots follow closely behind, with 13 respondents, constituting 43% of the sample. Surprisingly, AI Tutoring Programs show no

reported usage, indicating a 0% adoption rate among the surveyed students. Automated Writing Feedback Tools have a smaller but notable presence, with 2 respondents, accounting for 7% of the sample. This data suggests a strong interest in language learning apps and chatbots, while also highlighting potential areas for growth and improvement in AI tutoring programs and automated writing feedback tools.



Graph 12: Students' views about tools usage

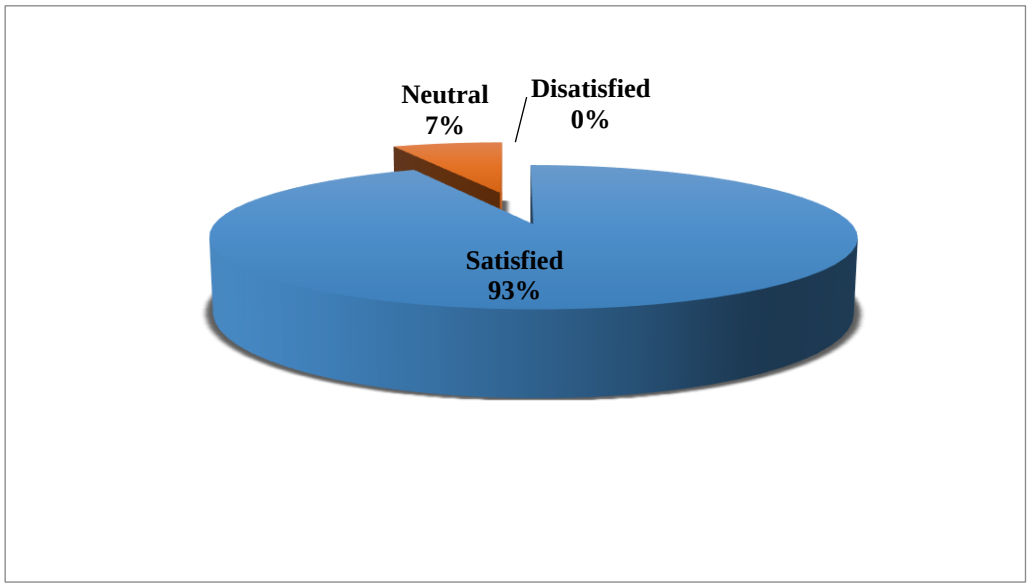
Q9. How satisfied are you with the AI-driven tools you have used for learning English??

Choices	Frequency	Percentage (%)
Satisfied	**28**	**93**
Neutral	**02**	**7**
Disatisfied	**00**	**00**

Table 11: Students' Satisfaction with AI-Driven Tools for Learning English

The analysis of students' satisfaction with AI-driven tools for learning English indicates overwhelmingly positive feedback. Among the respondents, 28 out of 30 reported

being satisfied, constituting a high satisfaction rate of 93%. Only 2 respondents reported feeling neutral about their experience, representing a mere 7% of the sample. Notably, no respondents expressed dissatisfaction with the AI-driven tools, suggesting a strong overall endorsement of these tools for English learning purposes. This data reflects a high level of effectiveness and user satisfaction with AI-driven tools in facilitating English language learning among the surveyed students. The following pie chart gives an idea about the different responses of the informants:



Graph 13: Students' Satisfaction with AI-Driven Tools for Learning English

Q10. To what extent do you believe AI-driven feedback helps in improving your English language skills?

Choices	Frequency	Percentage (%)
Yes	**20**	**67**
No	**10**	**33**

Table 12: The Impact of AI-Driven Feedback on English Language Skills Improvement

The analysis of students' beliefs regarding the impact of AI-driven feedback on improving English language skills reveals a mixed perspective. Among the respondents, 20 out of 30 (67%) believe that AI-driven feedback contributes to enhancing their English language skills. However, 10 respondents (33%) hold the opposing view, indicating skepticism or a lack of confidence in the effectiveness of AI-driven feedback for this purpose. This data suggests that while a majority of students perceive AI-driven feedback as beneficial for improving English language skills, there is a notable portion who remain unconvinced. Further investigation may be needed to understand the factors influencing these differing perceptions and to enhance the efficacy of AI-driven feedback tools in language learning contexts. The following figure illustrates their answers:

Graph 14: The Impact of AI-Driven Feedback on English Language Skills Improvement

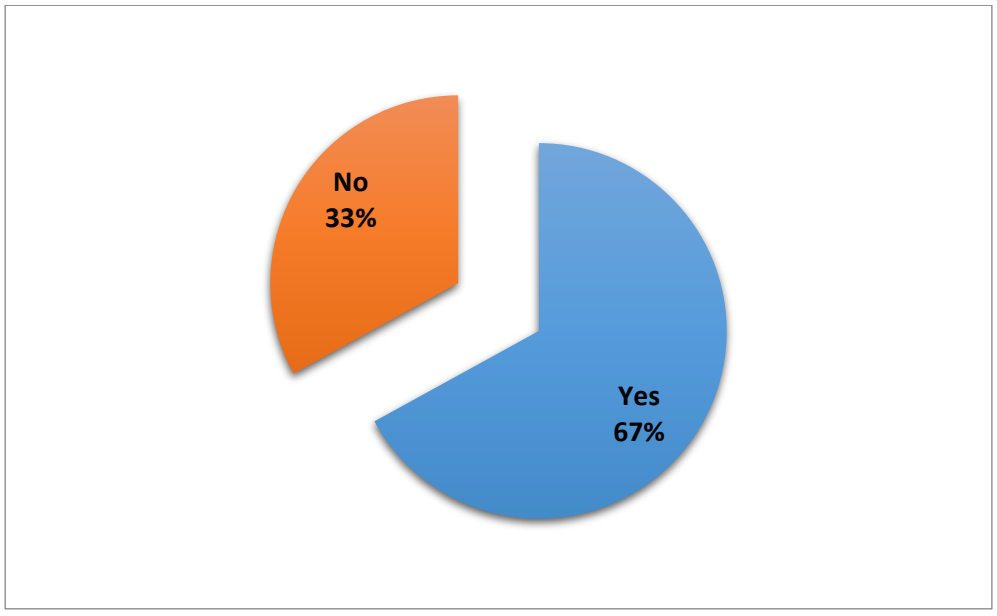
Q11. Do you think AI-driven feedback is more beneficial than traditional methods for language learning?

Choices	Frequency	Percentage (%)
Yes	**20**	**67**

No	**10**	**33**

Table 13: Comparing the Benefits of AI-Driven Feedback and Traditional Methods in Language Learning

The analysis of students' opinions on the comparative benefits of AI-driven feedback and traditional methods for language learning indicates a divided perspective. Among the respondents, 20 out of 30 (67%) believe that AI-driven feedback is more beneficial than traditional methods. However, 10 respondents (33%) hold the opposite view, suggesting that traditional methods may still hold value or be preferred by some individuals. This data highlights the ongoing debate surrounding the efficacy and preference for AI-driven feedback versus traditional approaches in language learning. Further research and exploration are warranted to better understand the factors influencing these differing opinions and to optimize the integration of AI-driven feedback within language learning contexts as shown in table(12)



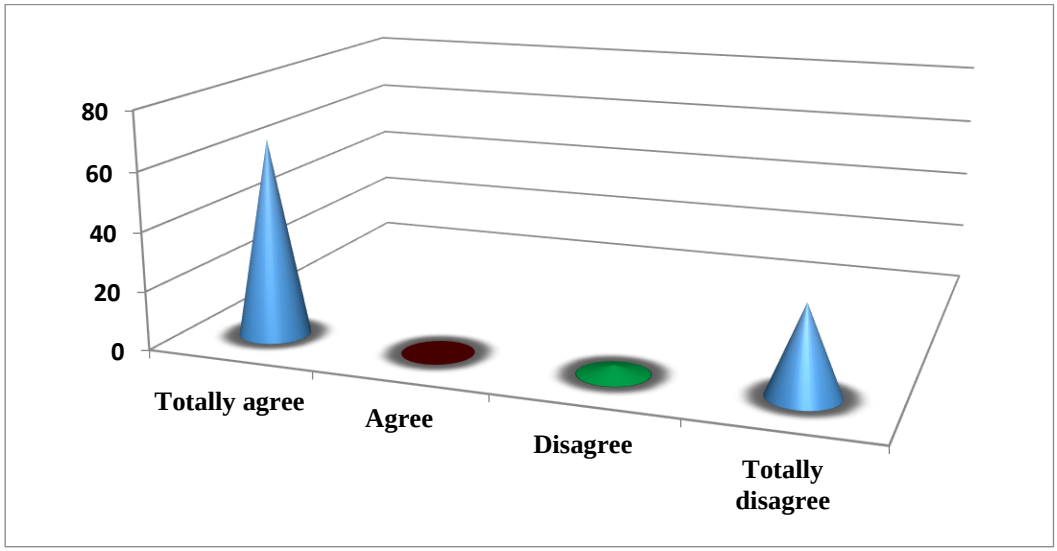
Graph 15: Comparing the Benefits of AI-Driven Feedback and Traditional Methods in Language Learning

Q12. In your opinion, should educational institutions integrate AI more extensively into English language classrooms?

Choices	Frequency	Percentage (%)
Totally agree	**20**	**67**
Agree	**00**	**00**
Disagree	**01**	**3**
Totally disagree	**09**	**30**

Table 14: Advocating for Extensive Integration of AI in English Language Classrooms

The analysis of students' opinions regarding the extensive integration of AI in English language classrooms presents a range of perspectives. A majority of respondents, comprising 20 out of 30 (67%), express total agreement with this proposition, indicating strong support for the widespread incorporation of AI in English language education. Conversely, a smaller portion, represented by 9 respondents (30%), totally disagree with this idea, suggesting skepticism or reservations about the extensive use of AI in the classroom. Only one respondent (3%) disagrees without complete opposition. Overall, while there is significant support for integrating AI extensively, there are also notable concerns or dissenting voices within the surveyed population. Further exploration of these viewpoints could provide valuable insights into the potential benefits and challenges of integrating AI in English language classrooms. Their answers are shown in the table below:



Graph 16: Advocating for Extensive Integration of AI in English Language Classrooms

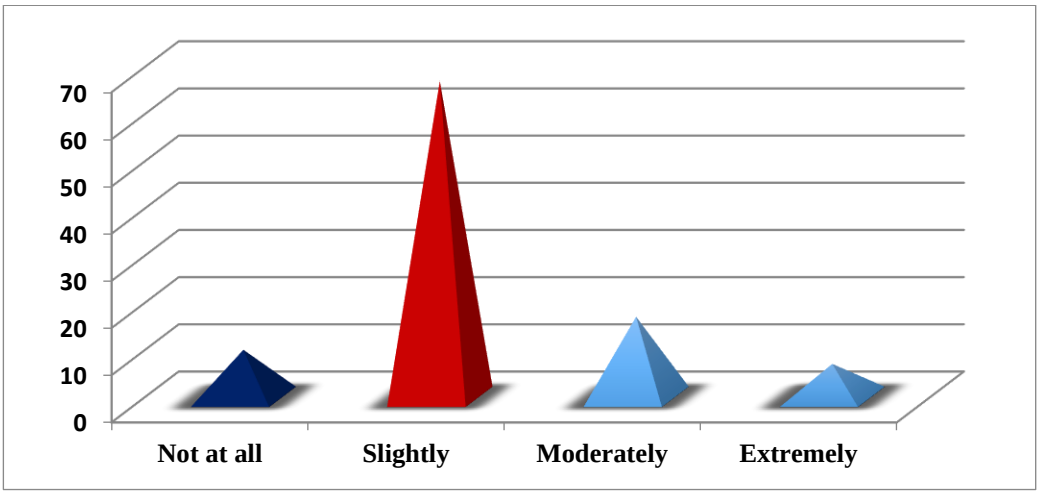
Q13. To what extent do you believe AI has ameliorated your English language learning capacities?

Choices	Frequency	Percentage (%)
Not at all	**3**	**10**
Slightly	**20**	**67**
Moderately	**5**	**17**
Extremely	**2**	**7**

Table 15: The Impact of AI on English Language Learning Capacities

The analysis of students' perceptions regarding the impact of AI on their English language learning capacities reveals varying degrees of influence. Among the respondents, 3 out of 30 (10%) indicate that AI has not ameliorated their English language learning capacities at all. The majority, represented by 20 respondents (67%), feel that AI has had a slight impact on their learning capacities. Additionally, 5 respondents (17%) report a moderate improvement, while 2 respondents (7%) attribute an extreme enhancement to AI in their language learning journey. This data suggests that while AI has made some

contribution to improving English language learning capacities for a significant portion of the respondents, the extent of this impact varies, with most perceiving only a slight influence.



Graph 17: The Impact of AI on English Language Learning Capacities

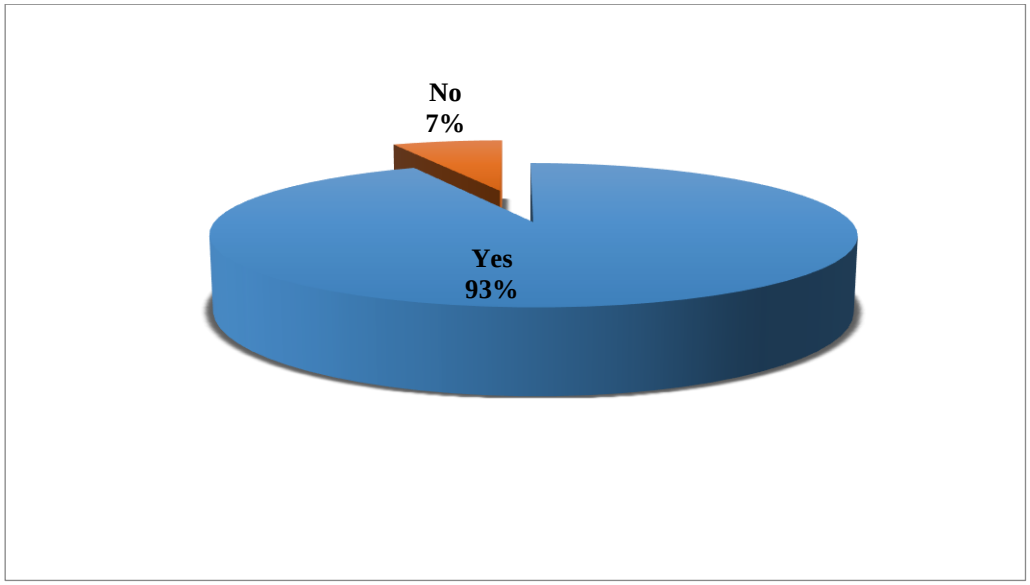
Q14. Have you encountered any challenges or concerns regarding the ethical use of AI in English language learning?

Choices	Frequency	Percentage (%)
Yes	**28**	**93**
No	**02**	**7**

Table 16: Exploring Ethical Challenges in AI's Role in English Language Learning

The analysis of responses regarding challenges or concerns regarding the ethical use of AI in English language learning indicates a high level of awareness and engagement with this issue among the surveyed individuals. The majority of respondents, comprising 28 out of 30 (93%), report encountering challenges or expressing concerns about the ethical use of AI in this context. This suggests that there are significant considerations surrounding the ethical implications of integrating AI into English language learning environments. Only a small minority of respondents, 2 out of 30 (7%), indicate that they

have not encountered any challenges or concerns, highlighting a potentially nuanced and multifaceted landscape of opinions and experiences regarding the ethical use of AI in English language education. Further exploration of these challenges and concerns could provide valuable insights for educators and policymakers aiming to navigate the ethical dimensions of AI integration in educational settings. The following pie chart gives an idea about the different responses of the informants:



Graph 18: Exploring Ethical Challenges in AI's Role in English Language Learning

Conclusion

This section is about gathering data, the types and the objective of using technologies, and the opinion of the students.

To conclude our research, we may say that the results of our questionnaire gave us an image about the variety of AI tools used by the teacher to enhance their learning English language process.

Section three: Discussion

Students' Questionnaire

The high frequency of respondents expressing challenges or concerns regarding the ethical use of AI in English language learning underscores the complexity surrounding the integration of AI technology in educational contexts. These concerns may stem from various factors, including issues related to data privacy, algorithmic bias, and the potential for AI systems to reinforce stereotypes or cultural biases in language instruction. Additionally, there may be apprehension about the implications of relying too heavily on AI-driven tools, such as the loss of human interaction and the depersonalization of the learning experience.

One significant ethical concern is the potential for AI algorithms to perpetuate inequalities in language learning outcomes. If AI systems are not designed and trained with diverse datasets that represent various linguistic backgrounds and cultural contexts, they may inadvertently favor certain groups while disadvantaging others. This can exacerbate existing disparities in access to quality language education and contribute to digital divides.

Moreover, the collection and use of student data by AI systems raise important privacy and security considerations. Educational institutions must ensure transparent data practices and obtain informed consent from students regarding the use of their personal information. Safeguards should also be in place to protect sensitive data from breaches or misuse.

Despite these challenges, AI technology also holds promise for enhancing English language learning by providing personalized and adaptive instruction, facilitating language practice through chatbots and virtual tutors, and offering immediate feedback on language proficiency. However, to realize these benefits ethically, it is essential for stakeholders,

including educators, policymakers, technologists, and learners, to engage in ongoing dialogue and collaboration to address ethical concerns and ensure that AI-driven solutions prioritize fairness, transparency, accountability, and inclusivity in English language education. This may involve implementing ethical guidelines and standards for AI use in education, investing in teacher training and professional development to support effective integration of AI tools in the classroom, and fostering critical digital literacy skills among students to empower them to navigate AI-driven learning environments responsibly. Ultimately, by addressing ethical considerations thoughtfully and proactively, educational institutions can harness the potential of AI to support equitable and effective English language learning for all students.

Conclusion

The purpose of this chapter is to give an overview of the research design and data analysis. It was about the goals of this research project. It was also concerned with explaining the research instruments and methods of data analysis. Its goal was to analyze the data and convey the findings. In fact, the use of AI for EFL learning, according to the results of the students' questionnaire. However, every student should understand how to use technologies so that he or she does not encounter any difficulties when doing so. As a result, technologies (AI) has a favorable impact on students English language learning, but it does not replace conventional education.

General Conclusion

The utilization of Artificial Intelligence (AI) in enhancing English language learning, particularly from a didactic perspective, presents promising opportunities and challenges. Through an exploration of AI-driven tools and applications, this study has shed light on the potential benefits of personalized learning experiences, language acquisition facilitation, and tailored support for English as a Foreign Language (EFL) students. However, it has also highlighted the complexities and limitations associated with AI integration, including concerns regarding privacy, technological accessibility, and pedagogical alignment. Despite these challenges, the findings underscore the transformative potential of AI in revolutionizing language education and fostering inclusive learning environments.

Recommendations:

Based on the insights gained from this study, several recommendations can be made to maximize the benefits of AI in English language learning:

- Continued Research: Encourage further research to deepen our understanding of the effectiveness and impact of AI-driven tools on language learning outcomes, particularly in diverse educational contexts.
- Professional Development: Provide ongoing training and professional development opportunities for language educators to familiarize themselves with AI technologies and pedagogical strategies that harness their potential effectively.
- Ethical Considerations: Prioritize ethical considerations in the development and deployment of AI-driven language learning tools, ensuring transparency, fairness, and respect for learner privacy and autonomy.

- Accessibility: Address barriers to technological accessibility and digital literacy to ensure equitable access to AI-driven language learning resources for all learners, regardless of socioeconomic background or geographic location.
- Pedagogical Integration: Integrate AI-driven tools seamlessly into language learning curricula, aligning them with established pedagogical principles and instructional objectives to enhance learner engagement and achievement.
- Collaboration and Partnerships: Foster collaboration between educators, researchers, developers, and policymakers to co-create innovative AI solutions tailored to the needs of language learners and educators.

By embracing these recommendations, stakeholders can harness the transformative potential of AI to revolutionize English language education and empower learners to thrive in an increasingly interconnected and multilingual world.

BIBLIOGRAPHY

- Abunowara, A. M. (2016). Using technology in EFL/ESL classroom. International Journal of Humanities and Cultural Studies (IJHCS), 1(2), 7-23
- Al-Gayyar, G. A. N. M. (2013). Employing Artificial Intelligence for building educational websites is a prelude to the development of electronic university learning. Future of Arabic Education: The Arab Center for Education and Development, 20 (82), 501-510
- Barani, G., Mazandarani, O., & Rezaie, S. H. S. (2010). The effect of application of picture into picture audiovisual aids on vocabulary learning of young Iranian ELF learners. Procedia-Social and Behavioral Sciences, 2(2), 5362-5369.
- Barnes-Hawkins, C. (2016). English language learners' perspectives of the communicative language approach. Available at https://scholarworks.waldenu.edu/cgi/viewcontent.cgi?article=3623&context=dissertations&httpsredir=1&referer
- Belias, D. (2013). Traditional Teaching Methods vs Teaching Through the Application of Information and Communication Technologies in the Accounting Field: Quo Vadis?. European Scientific Journal, 9 (28). 129-132.
- Berardo, S. A. (2006). The Use of Authentic Materials in the Teaching of Reading. The Reading Matrox, 6(2).

- Brown, J. (2020). The Role of Artificial Intelligence in Language Learning: A Review of the Current Landscape. Journal of Educational Technology, 45(2), 217-230.
- Chapelle, C. A. (2001). Computer applications in second language acquisition: Foundations for teaching, testing, and research. Cambridge: Cambridge University Press.
- Dickson, B. (2017). How Artificial Intelligence is Shaping the Future of Education. PC Magazine, 105-115. Retrieved from https://www.pcmag.com/news/how-artificial-intelligence-is- shaping-the-future-of-education
- Dudeney, G., & Hockly, N. (2008). How to Teach English with Technology. London: Longman.
- Egbert, J., Paulus, T. M., & Nakamichi, Y. (2002). The impact of CALL instruction on classroom computer use: A foundation for rethinking technology in teacher education. Language Learning & Technology, 6(3), 108-126.
- El-Hasnony. I & Sherif, B . (2020). Improved Feature Selection Model for Big Data Analytics, IEEE Access, Vol 8, No 1, PP: 66989-67004
- Elhoseny, M & Shehab, A. (2017). Optimizing Robot Path in Dynamic Environments Using Genetic Algorithm and Bezier Curve, Journal of Intelligent & Fuzzy Systems, vol. 33, no. 4, pp. 2305-2316, IOS-Press
- Guariento, W., Morley, J. (2001). Text and Task Authenticity in the EFL classroom. ELT Journal, 55(4), pp.347-353.
- Johnson, A. L. (2019). Ethical Considerations in AI-Driven Language Learning Platforms: Balancing Innovation and Responsibility. International Journal of Applied Linguistics, 36(3), 321-335.
- Kamuka, E. E. D. I. (2015). Artificial Intelligence in programmed Education. The Arab Institution for Scientific Counsel and Development of Human Resources, 49(1), 84-96

- Lai, Ch., & Kritsonis, W. (2006). The advantages and disadvantages of computer technology in second language acquisition. National Journal for Publishing and Mentoring Doctoral Student Research, 3(1). 1-6.
- Levy, M., & Stockwell, G. (2006). CALL dimensions: Options and issues in computer-assisted language learning. Mahwah, NJ: Lawrence Erlbaum Associates.
- Maich, K., & Muirhead, W. (2019). Technology and the Future of the Classroom. Canadian Journal of Learning and Technology/La revue canadienne de l'apprentissage et de la technologie, 45(1).
- Marr, B. (2018). The Key Definitions Of Artificial Intelligence (AI) That Explain Its Importance. Available at https://bernardmarr.com/the-key-definitions-of-artificial-intelligence-ai-that- explain-its-importance/.
- McCarthy, J., Minsky, M., Rochester, N. & Shanno, C. (2006). A Proposal for the Dartmouth Summer Research Project on Artificial Intelligence. Al Magazine, 27 (4), 12-14.
- Merç, A. (2015). Using technology in the classroom: A study with Turkish pre-service EFL teachers. Turkish Online Journal of Educational Technology-TOJET, 14(2), 229-240.
- Merriam-Webster: Dictionary. Available at https://www.merriam-webster.com/dictionary/artificial%20intelligence.
- Muhammad, N. S. E. (2014). Motivation applications in artificial intelligence. Unpublished M. A. thesis. Al-Neelain University, Khartoum
- Nomass, B. B. (2013). The impact of using technology in teaching English as a second language. English Language and Literature Studies, 3(1), 111-116.
- Papert, S. (1980). Mindstorms: Children, Computers, and Powerful Ideas. Basic Books.

- Riasati, M. J., Allahyar, N., & Tan, K. E. (2012). Technology in language education: Benefits and barriers. Journal of Education and Practice, 3(5), 25-30.
- Senthil, R & Elhoseny, M. Shankar. (2019). An Enhanced Whale Optimization Algorithm for Vehicular Communication Networks, International Journal of Communication Systems, In Press.
- Smith, R. E., & Jones, M. K. (2021). Enhancing English Language Learning Through AI: Opportunities and Challenges. Language Teaching Research Quarterly, 28(4), 489-502.
- Stockwell, G. (2010). Using mobile phones for vocabulary activities: Examining the effect of the platform. Language Learning & Technology, 14(2), 95-110.
- Turkle, S. (2011). Alone Together: Why We Expect More from Technology and Less from Each Other. Basic Books.
- Wang, L., & Chen, H. (2018). Leveraging AI for English Language Enhancement: A Case Study of AI-Driven Tutoring Systems in Higher Education. Educational Technology & Society, 21(3), 176-189.
- Warschauer, M. (2003). Demystifying the Digital Divide. Scientific American, 289(2), 42-47.
- Warschauer, M., & Healey, D. (1998). Computers and language learning: An overview. Language Teaching, 31(2), 57-71.
- Warschauer, M., & Matuchniak, T. (2010). New technology and digital worlds: Analyzing evidence of equity in access, use, and outcomes. Review of Research in Education, 34(1), 179-225.
- Zainuddin, H., Yahya, N., Morales-Jones, C. & Ariza, E. N. W. (2011). Fundamentals of Teaching English to Speakers of Other Languages in K-12 Mainstream Classrooms. (3rd Ed). Iowa-USA: Kendall Hunt Publishing. Call section new.PDF (dcu.ie) retrieved from: https://www.computing.dcu.ie/.06/03/2024.11.57

- Zhao, Y., & Liu, Q. (2022). Exploring the Impact of AI on English Language Learning: Insights from Student Perspectives. Language Education & Technology, 39(1), 45-58.

APPENDICES

APPENDIX A

Students' Questionnaire

People's **D**emocratic **R**epublic of **A**lgeria

Ministry of **H**igher **E**ducation and **S**cientific **R**esearch

University of **G**hardaia

Faculty of **L**etters **a**nd **L**anguages

Department of **E**nglish

Dear Students

This questionnaire is an attempt for gathering information needed for the accomplishment of a master dissertation. It aims at Exploring the Use of Artificial Intelligence in Enhancing Leaning English Language: Didactic Perspective.

Your answers are highly important for the validity of the research being undertaken. You are kindly requested to answer the following questionnaire carefully.

Please ☑ tick the appropriate box and add suitable comments in full sentences whenever necessary.

Section One: General Information

Gender: 1- Male ☐

2- Female ☐

Age: a- 18 to 20 ☐

b- 20 to 30 ☐

d- More than 30 ☐

How do you consider your level in English?

Good ☐ Average ☐ Weak ☐

Section Two: Students' Attitude Towards Technologies

1. Do you use technologies in studying the English Language?

Yes ☐ No ☐

2. Do your teachers employ technologies in teaching?

Yes ☐ No ☐

3. Do you find it useful?

Yes ☐ No ☐

Justify:……
……
…….

4. Do you think that your English department is equipped with enough technological materials?

Yes ☐ No ☐

5. How do you evaluate the use of technologies in teaching learning process?

Positive ☐ Negative ☐

Explain:……
……
…….

Section Two: Students' Attitude towards Artificial Intelligence in English Language Learning

6. Have you ever heard of the term Artificial Intelligence?

Yes ☐ No ☐

7. Have you ever used AI-driven tools or applications for learning English?

Yes ☐ No ☐

8. If yes, which AI-driven tools or applications have you used? (Select all that apply)

a. Chatbots ☐
b. Language Learning Apps ☐
c. AI Tutoring Programs ☐
d. Automated Writing Feedback Tools ☐
e. Other (please specify)…….
……

9. How satisfied are you with the AI-driven tools you have used for learning English?

Satisfied ☐ Neutral ☐ Dissatisfied ☐

10. To what extent do you believe AI-driven feedback helps in improving your English language skills?

Not at all ☐ Slightly ☐ Moderately ☐ Extremely ☐

11. Do you think AI-driven feedback is more beneficial than traditional methods for language learning?

Yes ☐ No ☐

Explain:……
……
……

12. In your opinion, should educational institutions integrate AI more extensively into English language classrooms?

- Totally agree ☐
- Agree ☐
- Disagree ☐
- Totally disagree ☐

13. To what extent do you believe AI has ameliorated your English language learning capacities?

Not at all ☐ Slightly ☐ Moderately ☐ Extremely ☐

14. Have you encountered any challenges or concerns regarding the ethical use of AI in English language learning?

Yes ☐ No ☐

If yes, please briefly describe the challenges or concerns:

……

……

……

Thank you for your help and support

ملخص باللغة العربية:

تتناول هذه الدراسة استخدام الذكاء الاصطناعي (AI) في تعزيز تعلم اللغة الإنجليزية، من وجهة نظر التّعليمية. وتحاول تحديدًا تسليط الضوء على حالة طلبة السنة الثالثة ليسانس؛ تخصص اللغة الإنجليزية كلغة أجنبية في جامعة غرداية. ويقدم الملخص نظرة عامة حول نطاق البحث، ومنهجيته، والنتائج، والتداعيات. من خلال استعراض شامل للمراجع ونهج دراسة الحالة النوعية، يستكشف البحث التكامل بين الأدوات والتطبيقات التي يديرها الذكاء الاصطناعي في عمليات تعلم اللغات. كما أنّه يحقق في فعالية الذكاء الاصطناعي في توفير تجارب تعلم مخصصة، وتسهيل اكتساب اللغة، ومواجهة الاحتياجات الفريدة لطلاب اللغة الإنجليزية كلغة أجنبية. وتكشف النتائج من جهة أخرى رؤى حول الفوائد المحتملة والتحديات والتداعيات التربوية لاستخدام الذكاء الاصطناعي في تعلم اللغة الإنجليزية. تختتم الدراسة بمناقشة التداعيات الأوسع للدراسة على معلمي اللغة، ومصممي المناهج، وصناع السياسات التعليمية في استغلال الذكاء الاصطناعي لتعزيز نتائج تعلم اللغة الإنجليزية.

الكلمات المفتاحية: الذكاء الاصطناعي، منظور التعليمية، تعلم الإنجليزية كلغة أجنبية، استخدام أدوات وتطبيقات الذكاء الاصطناعي.