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**Faculty of Letters and Languages
Department of English**

**Integration of Artificial Intelligence Tools to Enhance the
Reading Skill in an EMI Context at Tlemcen University**

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the Requirements for Master's Degree in Didactics of Foreign Languages

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Declaration

We hereby declare that this submission is our own work and that, it contains no material previously published or written by another person nor material which has been accepted for the qualification of any other degree or diploma of a university or other institution. We also certify that the present work contains no plagiarism and is the result of our own investigation, except where otherwise stated.

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Date: 11/ 06/ 2024

Dedications

We want to thank us for believing in us, and thank all our beloved ones, our parents, siblings, and all our supportive surrounding and a special thanks to our supervisor Dr. Youcef Messaoudi

We love you!

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Abstract

In the world of language education, the English language has become one of the most used languages worldwide. As it is a global language, English is used in different contexts such as medicine, technology, business, education, and culture. In Algeria, English as a Medium of Instruction has been recently adopted. The purpose of this study was to explore the effectiveness of integrating Artificial Intelligence in improving reading skill in an English as a Medium of Instruction context. To reach this study, experimental research was conducted in the Computer Science Department at Aboubakr Belkaid University (Tlemcen) depending on a variety of resources and research instruments to gather data. Both a students' test and an instructors' interview were used. These research instruments results were evaluated both quantitatively and qualitatively. The findings demonstrated that the integration of Artificial Intelligence tools in an English as a Medium of Instruction environment enhanced grammar and overall reading comprehension, but decreased science vocabulary scores. Benefits like real-time feedback, more student engagement, and customised learning were emphasised by teachers in their interviews. But there were also drawbacks mentioned, like large class sizes, time constraints, and the potential for overreliance on Artificial Intelligence. In general, Artificial Intelligence techniques can improve reading comprehension in English as a Medium of Instruction settings, but cautious application is required when evaluating the advantages and disadvantages. In conclusion, integrating Artificial Intelligence tools in an English as a Medium of Instruction context in Algeria enhances grammar and reading comprehension but requires careful implementation to address challenges such as vocabulary decline, large class sizes, and potential overreliance on Artificial Intelligence.

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Key to Acronyms/ Abbreviations

EFL	English as a Foreign Language
ELT	English Language Teaching
EMI	English as a Medium of Instruction
AI	Artificial Intelligence
ELF	English as a Lingua Franca
NLP	Natural Language Processing
L1	First Language
CEIL	Intensive Language Education Center
3Rs	Reading, wRiting, aRethmatic
ICT	Information and Communication Technologies

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General Introduction

The rise of bilingual and multilingual education is proof that, during the past 20 years or more, English instruction for young learners has experienced remarkable expansion on a global scale. The globe has grown economically and scientifically so swiftly that there is a greater need for English as a second language. Both nationally and internationally, new initiatives have been launched to improve foreign language training. Algeria on July 2023 declared the legal decision to use English as the primary medium of instruction in its universities (see Appendix F).

The Algerian education system has recently adopted English as a Medium of Instruction (EMI) in universities, a trend that is gaining popularity worldwide. EMI involves using English as the primary language of instruction for non-native English speakers (Dearden, 2014). On the other hand, the increasing availability of Artificial Intelligence (AI) technologies has opened up new possibilities for education. However, the integration of AI in education has sparked various opinions in society and the educational system. While AI has shown promise in improving language learning outcomes, many European college students struggle with reading in English. Research has identified two main challenges: unfamiliar vocabulary and slow reading speed (Hellekjær, 2009, as cited in Alkhateeb & Alhawsawi, 2023). Therefore, this study aims to investigate the integration of AI tools and their impact on reading skill in the EMI context.

Therefore, two main variables are going to be tackled in relation to teaching scientific subjects in the Algerian university which are: EMI and AI tools integration. Strictly speaking, the primary objective of this research will be the examination of the impact of integrating AI technologies in EMI approach on Computer Sciences students' reading skill in Algeria, taking the University of Tlemcen as a case study. To attain such objective, the investigators seek to tackle the following two research questions:

- **Q1:** How can teachers invest AI tools to develop reading skills among Computer Sciences students?

- **Q2:** What are the possible challenges expected to check among these students using AI-based tools to enhance their reading skills?

The hypotheses suggested for the above mentioned questions are as follows:

- **H1:** AI tools allow to improve students' engagement, provide personalised learning experiences, and offer real-time feedback in order to develop their reading skill.
- **H2:** Using AI-based tools to enhance reading skills will yield positive benefits for students in terms of reading comprehension, vocabulary acquisition, and motivation, while also presenting potential challenges related to overreliance, personalised learning limitations, and ethical considerations.

In order to fulfil the earlier objectives, the researchers opted for an experimental study. Two research instruments were used to test the research hypotheses and provide answers to the research questions in order to guarantee accurate data collection through triangulation. These tools come in the form of an interview and a test. The interview is targeted to the teachers from the Department of Computer Science at Tlemcen University. While the test is a pre-test and post-test that targets the First Year Engineering students in Computer Science.

To efficiently gather insights from various instruments and data sources, a mixed-methods approach is adopted. Quantitative data will be collected before and after the intervention to measure students' reading performance through the tests. Additionally, qualitative data will be gathered through interviews to gather insights about teachers' perceptions and experiences.

The following investigation anticipates that integrating AI technologies within the EMI context will positively impact students' reading skill. The findings are expected to provide empirical evidence on the effectiveness of this combined approach. Moreover, understanding students and teachers' perceptions and experiences will contribute to the successful implementation of AI technologies in the Computer Sciences in EMI context.

This research proposal addresses the growing need to explore innovative approaches to language teaching and learning. By combining the EMI approach and AI technologies, this study aims to contribute to the understanding of how these two elements can be effectively integrated to enhance students' English reading skill in the Algerian context. In this vein, the findings of this research can provide valuable insights and practical recommendations for educators seeking to benefit AI tools to improve their students' reading skill.

As to the organisation of the current work, it will be divided into two chapters. The theoretical background, which explores different variables of EMI all around the world and its impact on the educational system in addition to the AI literacy and reading skill will be dealt with in the first chapter. Yet, the second chapter will focus on the research methods including the analysis and discussion of the findings and results. This chapter ends with a detailed general conclusion that highlights the most significant findings and implications of the research.

Chapter One: Literature Review on EMI and AI

1.1 Introduction

In recent time, English as a medium of instruction has become a topic of great interest for researchers in the field of education due to its impact on students' achievement. With the advent of Artificial intelligence, the field of English as a medium of instruction has been constantly evolving ties. This chapter will first deal with some concepts of EMI definition, and its significance since EMI is a new concept in the Algerian universities. Secondly, this literature review will shed light on the benefits and challenges of AI and AI tools. Finally, the reading skill which is considered as a science with its definition, purpose, and types.

The Ministry of Higher Education in Algeria has decided to generalise the use of the English language in scientific research. Starting from the new academic year in 2023/2024, teachers have been prepared to teach in English. This move is expected to enhance the competitiveness of Algerian students in the global job market and establish Algeria as a center of academic excellence in the region.

The use of English as a Medium of Instruction, EMI for short, in Algerian Universities basically includes first-year students in different majors (sometimes only some modules in the major), such as: Biology (Tlemcen University), Computer Sciences (Tlemcen University), Law (Ouargla university), Political Sciences (Ouargla university).

One of the challenges that arises in implementing EMI is the limited English proficiency of both students and instructors. This situation can lead to a decrease in motivation, and can also limit the teacher's ability to effectively communicate course content. Additionally, code-switching - which often involves the use of local dominant languages or foreign languages such as French - can further impede the learning process.

Many researchers mention that AI tools can be used to improve language proficiency. "Artificial intelligence or (AI) is a technology where machines can learn and understand logic like humans. This technology is said to be able to help simplify

human life which is very complex.” Teachers who don’t use AI will be replaced by teachers who use AI since nowadays Artificial Intelligence has become an important element in daily life and things are getting increasingly advanced in the future. These AI tools can be integrated into both teaching and learning to enhance the reading skill among students.

1.2 EMI Defined

EMI is an approach used to teach subject content in English. EMI has been defined in different ways by different researchers, such as “the use of the English language to teach academic subjects in countries or jurisdictions where the first language (L1) of the majority of the population is not English.” (Dearden, 2015, p.2). Similarly, English as a medium of instruction is “a strategic decision to improve quality of education, alumni employment, publications, international academic exchange, etc., all of which contribute to the institution’s international profile” (Tsou & Kao, 2017, p. 4 as cited in Elkhayma, 2022, p. 159).

The concept has typically been applied to address the issue of teaching subject material in English to student populations in colonial settings, where other dominant languages are accessible. As observed:

The flourishing of scholarly interest in EMI inadvertently conveys the impression that the use of English as a teaching medium in non-Anglophone contexts is a comparatively recent phenomenon and thus tends to overlook, or at least downplay, the long (and admittedly under-researched) history of English-medium teaching in schools and universities in post-colonial Africa and Asia.

EMI does not only mean changing or switching the language of instruction to English. One other key definition, EMI was defined as “curricula using English as a medium of instruction for basic and advanced courses to improve students’ academic

English” (Taguchi, 2014, p.89, as cited in McKinley and Rose, 2022, p.1-2). In contrast, EMI was seen as a situation where students are taught academic content in a language that is not their first language, and that language is used as the primary medium of instruction (Cummins & Davison, 2007, as cited in Ouarniki, 2023, p.177).

Furthermore, due to the significance of English around the world and since it is the world’s first language, for many researchers, English is a dominant language and a “tool for global mobility, a gatekeeper to knowledge, a prerequisite to career success” (Galloway & Kriukow, 2019, p. 137 as cited in Elkhayma, 2022, p. 159). Yet, EMI is “teaching subjects using the English language without explicit language learning aims and usually in a country where English is not spoken by a majority of the people.” (Madhavan, 2016 as cited in Al Zumor, 2019, p. 75) English as a Medium of Instruction is becoming a fashion in countries where English is not the first language to publish works in English to enhance the proficiency level of teachers and students and raise the value of education in that country.

1.2.1. EMI and its Significance for Higher Education

Over the last few decades, there has been a consistent trend toward the globalisation and commercialisation of higher education, resulting in extensive use of English as a teaching medium in universities worldwide. EMI is seen as a passport to success, a way of opening doors and providing golden opportunities for both staff and students (Dearden, 2017). From this point, in higher education, the role of English is growing simultaneously and caused the rise of English as a medium of instruction in countries where English is not the first language such as Algeria.

“EMI improves university rankings, economic growth, and knowledge access, and it enhances graduates’ employability and English competence” (Dearden, 2015; Jawhar *et al.*, 2022; Macaro, 2018 as cited in Alkhateeb & Alhawsawi, 2023, p. 111). Nowadays, Algerian universities are claimed to have not given enough consideration

about EMI so numerous programs have been launched following the EMI trend (Coleman, 2010 as cited in Tamtam *et al.*, 2012).

For higher education, policymakers and higher authorities will keep an eye open for the importance of EMI in enhancing the status of English in Higher education. In addition, “greater job prospects, opportunities to study abroad, increased rankings of the institution, increasing opportunities for student mobility, and miraculous improvement in student’s language proficiency” (Rose, p. 130 as cited in Hillman *et al.*, 2023, p. 1).

Therefore, using English as a medium of instruction enables people all over the world to communicate, read and share ideas and information in a common language especially in the field of education, as it could bring potential benefits not only to students but also to educational institutions in Algeria. EMI programs offer an immediate way for college administrators to improve their global rankings, attracting more international students and elite faculty members.

1.2.2. Implementation of EMI in Algeria

On July 1st, 2023, the Minister of Higher Education and Scientific Research, Mr Kamel Baddari, highlighted the importance of teaching in English in universities. The Ministry of Higher Education and Scientific Research has instructed the preparation for adopting English as a language of instruction starting from the new academic year 2023-2024 and the training of pedagogical teams according to the module or subject.

Around 64,000 teachers have been trained, with 28,000 receiving in-person language instruction and 36,000 participating in remote learning. The Ministry aimed to promote English language proficiency and has established targets to provide training to 80% of science and technology professors while ensuring 100% proficiency for professors of Humanities, Social Sciences, and Medical Science. It gave professors the chance to enroll in the Bachelor of English Language at universities, as well as enrolling in Intensive Language Education Centers (CEILs) and the distance education platform

launched by the Ministry for doctoral students and professors to learn the English language (Boutheldji, 2023).

Since English has been the most widely used language for published research and articles globally, and its continued dominance in the scientific community, this initiative seeks to enhance professors' competencies, elevate the country's global reputation, and reclassify Algerian Universities.

No one in Algeria denies the importance of the English language, but its official use is relatively restricted. It is predominantly utilized for educational purposes within English language departments in public universities. In certain cases, English is employed as the medium of instruction. Nevertheless, in public higher education establishments centered around Engineering, Science, and Technology, French is the primary language used for instruction, with English being used sparingly.

The promotion of English in Algerian higher education was perceived positively because it is regarded as a “de-colonial option” (Jacob, 2020). Jacob’s work reported that Algerian students believe that English should be adopted as an instrumental medium, in an attempt to get rid of French linguistic heritage.

1.2.3 Motivation for Adopting EMI

The rapid trend toward globalisation has led to an educational transformation in the medium of instruction. English as a Medium of Instruction has become a dominant force in higher education over the past 25 years, implemented at national, institutional, and individual university levels. Proponents of EMI cite its ability to develop international communication skills, enhance multilingualism, respond to globalisation, facilitate postgraduate studies, and attract international students as key justifications for its widespread adoption (Al Zumor, 2019).

Policy makers and researchers presented several arguments to support the switch and the main ones were highlighted in three main points. The first is the role that English now plays within the geopolitical framework worldwide. It has become almost the sole

contact language for trade, commerce, diplomacy, and scholarship (Kirkpatrick, 2010 as cited in Al Zumor, 2019). The second one is the growth of higher education in the world in general and Asia in particular where obviously “you can see the hunger for learning” (Pie News, 2015 as cited in Al Zumor, 2019, p. 75). The last argument stems from the policy actions of the governments in several Asian countries in relation to internationalisation (Al Zumor, 2019).

Acknowledging the challenges faced by learners with limited L2 proficiency, contemporary research increasingly emphasises the linguistic and cognitive demands imposed by the transition in the medium of instruction. The most common hurdle is the inadequate or low English language command among students and instructors in non-native speaking venues (Galloway *et al.*, 2017 as cited in Elkhayma, 2022).

In the words:

“ELF settings are by nature challenging settings for all speakers involved, and without opportunities to negotiate meaning, there is an increased risk of disturbance in communication. It is, therefore, highly recommended that lecturers in lingua franca settings create as many opportunities as possible for the deployment of pragmatic strategies through which they can increase interactivity in lectures”. (Bjorkman, 2011, p.196 as cited Morell, 2020, p. 58)

By examining pragmatic techniques that help both learners and instructors, they can gain valuable insights on how to develop curriculum and teacher training programs. Understanding the complexities of ELF communication will enable them to create better learning experiences for all participants.

1.3 Artificial Intelligence (AI)

Artificial Intelligence (AI) is a rapidly growing field that has transformed the way we live, work, and interact with each other. From virtual assistants like Siri and Alexa to self-driving cars, AI-powered healthcare diagnostics, and personalised product recommendations, AI has the potential to revolutionise numerous industries and aspects of our lives. With its ability to process vast amounts of data, learn from patterns, and make decisions autonomously, AI is being applied in areas such as natural language processing, computer vision, and robotics. As AI continues to advance, it is expected to have a profound impact on the economy, society, and education.

1.3.1. AI Defined

A new trend has invaded the 21st century. A new phenomenon has appeared in the humans' lives. Artificial Intelligence can be viewed from different perspectives, as it can be defined differently. AI helps machines behave like people. The Turing Test is when we cannot tell if machine or human answers are given. Intelligence means knowing stuff and solving hard problems with lots of related info (Hunt, 1986). Whereas from a research perspective, "artificial intelligence is the study of how to make computers do things which, at the moment, people do better." (Rich & Knight, 1991, p.3 as cited in Hunt, 1986, p. 2)

Over the past four decades, the definition of AI has undergone significant changes. What was once limited to mechanical devices has now expanded to encompass advanced software systems that can analyse data, recognize patterns, and make informed decisions. AI now plays a crucial role in various industries, including healthcare, finance, and transportation, and has the potential to revolutionize our lives in numerous ways. "Artificial Intelligence is the mechanical simulation system of collecting knowledge and information and processing intelligence of the universe: (collating and interpreting) and

disseminating it to the eligible in the form of actionable intelligence.” (Dean R & D Desh, 2014, p. 5).

AI frameworks evolve from artificial narrow intelligence (ANI) to artificial general intelligence (AGI) and finally to artificial super intelligence (ASI), which can surpass human capabilities. The transition from ANI to AGI involves a wide range of intellectual tasks, while AGI to ASI represents a significant leap in intelligence and decision-making based on vast amounts of data. ASI has the potential to revolutionise industries and transform the way we live and work.

The concept of ANI is defined by its ability to perform specific tasks with proficiency:

“**ANI:** This type of intelligence refers to intelligent systems that do specific tasks. For example, an agent with capabilities such as face recognition and games playing. These agents are programmed to do tasks and cannot detect and formulate unknown tasks in a self-organized manner. We do not expect to see self-awareness in these agents.”

The notion of AGI is complex and varies among AI researchers, but it is generally understood to signify systems with cognitive capabilities on par with humans, as explained:

“**AGI:** The concept of this type of intelligence does not refer to a unique thing in the mind of all leading scientists of AI. Most researchers use AGI for those agents whose intelligence is equivalent to human agents. **AGI** can be equivalent to HLI (human-level intelligence).”

Three types of superintelligence have been identified: Speed ASI, Collective ASI, and Quality ASI.

ASI: Bostrom introduced three types of super intelligence: Speed ASI, collective ASI, and quality ASI. Speed ASI refers to an agent faster than a human, collective ASI refers to decision-making capabilities similar to a group of humans, and quality ASI refers to an agent that can do work that humans cannot.” (Saghiri *et al.*, 2022, p. 2)

Pokrivcakova has mentioned three groups that may define AI. One group of definitions sees *AI as machines, computers, or computer systems*: that imitate cognitive functions that are normally associated with the human mind, such as learning and problem-solving (Russell & Norvig, 2010 as cited in Nguyen *et al.*, 2023). Another group of definitions considers *AI as a specific set of skills* of computers, e.g., AI as “computers which perform cognitive tasks, usually associated with human minds, particularly learning and problem-solving” (Baker & Smith, 2019, p. 10 as cited in Pokrivcakova, 2019, p. 137). The last group of definitions sees AI in a much broader context, *as a science*, e.g., “artificial intelligence (AI) is a science and a set of computational technologies that are inspired by—but typically operate quite differently from—the ways people use their nervous systems and bodies to sense, learn, reason, and take action.” (Stone *et al.*, 2016 as cited in Pokrivcakova, 2019, p. 137).

Artificial Intelligence goes beyond its traditional computer science roots in the educational domain, emphasising personalised learning and augmenting educators' capabilities. Where some other key definitions can be mentioned, AI has been defined from two facets. AI as a field and a theory. From one facet, AI is “the field of computer science dedicated to solving cognitive problems commonly associated with human intelligence, such as learning, problem-solving, and pattern recognition.” (Chassignol *et al.*, 2018, p. 17). From the other facet, AI is “the theory and development of computer systems able to perform tasks normally requiring human intelligence, such as visual perception, speech recognition, decision-making, and translation between languages.” (Chassignol *et al.*, 2018, p. 17).

Artificial intelligence as defined by various sources, pertains to the advancement of machines to some degree of intelligence, enabling them to perform tasks that are comparable to human capabilities, such as cognitive abilities, learning, decision-making, and adaptability to the environment. Therefore, certain principles and features are important in AI. From this definition, AI is the ability of machines to display some level of intelligence and execute a wide range of functions and capabilities that require human-like abilities is a fundamental characteristic of AI.

1.3.2. AI Literacy

In a world replete with information, literacy has risen above its conventional definition of reading and writing. In the 1970s, the ability to decipher text, i.e., know the letters functionally, in addition to understanding and comprehending their meaning, was called literacy (Taber, 1987 as cited in Yi, 2021). The term "literacy" is derived from the Latin root "*Littera*," which means the ability to read and write letters (Yi, 2021). Gradually, the concept of literacy began changing. It shifted from language literacy, or as it is known, literacy competence, which refers to Reading, wRiting, aRithmetic (3 Rs), to media literacy. Visual literacy was clarified by Debes (1968, 1969), then television literacy (Johnson, 1977; Salomon, 1982 as cited in Yi, 2021), and after the invention of computers, Computer literacy (Hahn, 2020 as cited in Yi, 2021) emerged, which by itself has transformed into digital literacy (Gilster, 1997 as cited in Yi, 2021). The evolution of literacy from traditional reading and writing skills to encompassing various forms of media and digital technologies reflects the dynamic nature of human communication and information processing in our rapidly advancing world (Yi, 2021).

The development and purpose of different eras have influenced the change in literacy theories. In the 2000s', a new perspective argued that literacy should consider social phenomena instead of merely focusing on literal education. Barton mentions (2001) that this constitutes the New Literacy Studies (Gee, 1990 as cited in Yi, 2021). New Literacy regards social practice as an important purpose of literacy. Therefore, critical thinking is performed through literacy, meaning that literacy is not simply a functional dimension but a component of social participation (Street, 2003 as cited in Yi, 2021). Multiliteracy is a new concept that encompasses principles such as situated practice, overt instruction, critical framing, and transformed practice in literacy education (The New London Group, 1996 as cited in Yi, 2021).

Technology literacy has developed into computer and Information and Communication Technologies (ICT) literacy with the aim of fostering individual

abilities to use technology for social communication and participation (Davies, 2011 as cited in Yi, 2021). Developing proficiency in AI necessitates a comprehensive understanding of functional, social, and technical literacy abilities (Figure 1.1).

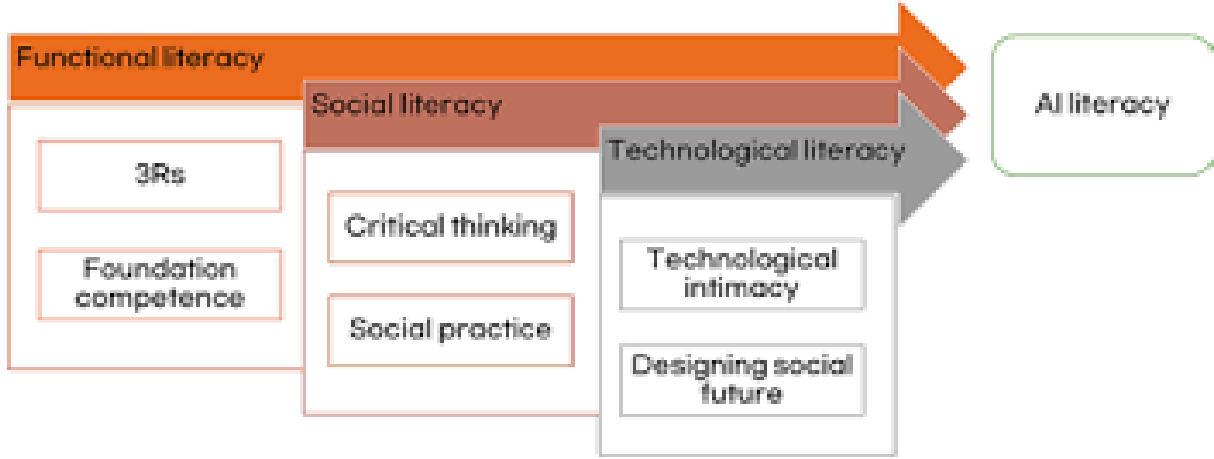


Figure 1.1 Foundation of AI Literacy (Yi, 2021)

Definitions of AI literacy are currently lacking, as AI literacy is included in extended digital literacy or data literacy discussions. AI literacy is defined as an individual's ability to critically evaluate, use, and effectively communicate with AI (Long & Magerko, 2020 as cited in Yi, 2021). Another definition that saw AI literacy as the ability to realise and utilise AI by understanding its concepts and usage (Aoun, 2017 as cited in Yi, 2021). AI literacy is an individual's ability to not only utilise AI, but to also critically recognise changing cultures. Furthermore, based on the basis of understanding AI, AI literacy allows the individual to design their own life. In other words, AI literacy is the basic ability to become a subjective human in the AI era.” (Kong *et al.*, 2021, as cited in Yi, 2021). In the 21st century, proficiency in digital technology is crucial due to the implications of the digital divide on information inequality and the emergence of political and social challenges resulting from digital expansion (Selwyn, 2004 as cited in Yi, 2021). Nowadays, AI technology emerges and becomes an essential skill to play critical roles across disciplines and industries (Ng *et al.*, 2021; Touretzky *et al.*, 2019, as cited in Ng *et al.*, 2021).

AI literacy was defined as the ability to understand the basic techniques and concepts behind AI in different products and services (Burgsteiner *et al.*, 2016 &

Kandlhofer *et al.*, 2016 as cited in Ng *et al.*, 2021). Seymour Papert's "Mindstorms" explores his ideas on education, influenced by Piaget, emphasising active knowledge construction through hands-on activities. Papert and colleagues created computer environments for students to solve math problems, using AI concepts to encourage students to reflect on their learning. He believed understanding machines could enhance understanding of one's own learning:

“AI is concerned with extending the capacity of machines to perform functions that would be considered intelligent if performed by people. Its goal is to construct machines, and, in doing so, it can be thought of as a branch of advanced engineering. But in order to construct such machines, it is usually necessary to reflect not only on the nature of machines but on the nature of the intelligent functions to be performed” (Papert, 2020, p. 176 as cited in Stolpe & Hallström, 2024, p. 2).

From another perspective, Artificial Intelligence is the capability of a machine to imitate intelligent human behaviour (Merriam-Webster Dictionary). Transitioning to the definition by UNESCO, AI refers to machines that imitate some aspects of “human intelligence, such as perception, learning, reasoning, problem-solving, language interaction, and creative work” (Miao & Shiohira, 2022, p. 9 as cited in Stolpe & Hallström, 2024, p. 3). Furthermore, AI system was defined as “a machine-based system that can, for a given set of human-defined objectives, make predictions, recommendations, or decisions influencing real or virtual environments” (The Organisation for Economic Co-operation and Development, p. 23). Lastly, university students’ conceptualisation of AI Literacy considers AI literacy as a competence for everyday life, a prerequisite for future success in the labour market, part of the competence structure, and a composite structure (Stolpe & Hallström, 2024).

1.3.3. Application of AI in Teaching/ Learning

The use of technology in all fields has become essential, especially in the field of education, technology has gained a lot of importance toward using it in the teaching-learning process. The integration of technology in language teaching and learning has become a commanding option for a more effective teaching and learning process. Hence, “there is a drastic change in the traditional teaching method with the introduction of technology in the classroom because technology opens a window of learning opportunities.” (Shafie et.al, 2019, as cited in Pragasam & Sulaiman, 2023, p. 325). Moreover, different forms of these technologies are used in various educational contexts, such as the use of personalised applications for learning and assessment and information systems that help handle administrative and management tasks in schools (Al Braiki et al., 2020; Schiff, 2022; UNESCO, 2021a, as cited in Chan, 2023).

Basic changes have come in classes beside the teaching methods because chalk and talk teaching method is not sufficient to effectively teach English (Susikaran, 2013 as cited in Ahmadi & Guilan University, 2018). Therefore, “As an additional support system, AI will play a critical function for both students and teachers of the English language.” (Gawate, 2019 as cited in Fitria, 2021, p. 215)

AI is characterised as the use of AI systems for teaching/learning English to improve the processes of organising, arranging, and selecting content (Mukhallafi, 2020, as cited in Fitria, 2021). Additionally, in English Language Teaching (ELT), artificial intelligence acts as a tool for improving English teaching (Li, 2017, as cited in Fitria, 2021).

AI technology in education has proven to be a valuable tool for educators. It helps identify weaknesses in specific subjects or topics, provides easily shareable reports, and offers personalised learning experiences for individual students, ultimately enhancing academic success and job market readiness (Fahimirad, 2018). Furthermore, teachers should model the use of technology to support the curriculum so that learners can increase the true use of technology in learning their language skills (Costley, 2014;

Murphy, DePasquale, & McNamara, 2003 as cited in Ahmadi & Guilan University, 2018).

However, some argue that generative AI has the potential to revolutionize education and enhance the learning experience for students. For example, some experts suggest that generative AI could be used to provide personalised feedback and support to students, helping them to identify areas of weakness and improve their skills in an adaptive manner (Kasneci *et al.*, 2023; Sinhaliz *et al.*, 2023 as cited in Chan, 2023). AI can detect areas where course material may be lacking, tailor lessons to students' needs, and assist with tasks such as homework assignments, ultimately improving overall learning outcomes. These capabilities represent a ground-breaking solution to the obstacles faced by educators, paving the way for more streamlined and impactful educational experiences for students (Fahimirad, 2018)

In higher education, the paradigm of integrating AI with mobile teaching and learning (m-learning) is becoming increasingly popular (Pedro *et al.*, 2018). AI in its more advanced form is reviving the possibility for autonomous learning (Rieland, 2017 as cited in N & Kumar, 2023). Artificial Intelligence in English Language Teaching (ELT) is the most realistic way English language teachers can use it (Ribeiro, 2020 as cited in Fitria, 2021).

“Artificial Intelligence (AI) is believed to be able to help humans learn better and achieve educational goals more effectively. So, it's not surprising that currently many AI-based innovations and breakthroughs are being and will be applied to support the learning process to make it more practical and effective.” (Fitria, 2021, p. 135). This is why, “the students also can learn according to their needs without encountering difficulties.” (Fitria, 2021). In addition to that, “AI can be used to enhance student learning by providing personalised, real-time feedback and adapting to individual learning styles (Atlas, 2023; Chan & Hu, 2023; Luckin, 2017 as cited in Chan, 2023).

“As we shape AI-enhanced edtech around research-based principles, a key goal must be to strengthen and support learning for those who have experienced unfavourable circumstances for learning, such as caused by the COVID-19 pandemic or by broader

inequities” (Cardona *et al.*, p.18). Yet, developing an AI education for university is important to prepare students for the future (Aoun, 2017 as cited in Chan, 2023). Furthermore, AI systems support online learning and teaching by enabling personalised student learning, automating routine tasks for instructors, and facilitating adaptive assessments (Seo *et al.*, 2021, as cited in Patty, 2024). However, the enormous potential of AI in language learning also brings forth challenges, including concerns related to privacy, information security, and teachers' preparation (Woo & Choi, 2021 as cited in Patty, 2024)

There is a philosophical difference between *Weak AI* and *Strong AI*, according to early tendencies in AI research. Strong AI is the idea that AI should be used to create systems that can understand people. Alternatively, it was considered weak to let systems operate without understanding the intricacies of human thought (Marr, 2022 as cited in N & Kumar, 2023). Different platforms and applications of AI as an instructional tool are discussed and highlighted in the various articles evaluated.

Moreover, specific programs or applications that use AI to enhance student learning have been identified. One significant application of AI in enhancing students' learning is the customisation and personalisation of curriculum and content in line with the learners needs, abilities, and capabilities (Mikropoulos & Natsis, 2011 as cited in Chen *et al.*, 2020).

Some platforms will foster the customisation and personalisation of content and in so doing foster the uptake and retention of information, which improves the learning experience of the learner. Chatbots have greatly boosted the quantity and complexity of learner language production, according to empirical studies on the integration of AI technology into Foreign Language (FL) learning (Golonka *et al.*, 2014; Zhang & Zou, 2020 as cited in N & Kumar, 2023). Moreover, Text or speech-enhanced chat is how AI systems engage with their users, and voice interaction has made tremendous progress over the past three years (Nordrum, 2017, N & Kumar, 2023).

Furthermore, an application such as *Knewton* makes real-time recommendations for students premised on deciphered learning style as adduced by the technology using

machine learning algorithms and subsequently customises course materials or content to the learners' needs (Chassignol *et al.*, 2018, as cited in Chen *et al.*, 2020). Other programs, such as Grammarly, Ecree, PaperRater, and TurnItIn among others, which leverage AI also provide instructors with the functionalities to perform different administrative functions, including plagiarism checking, rating, and grading, and providing students with feedback on improvement areas. AI has significantly reduced the paperwork and workload on instructors, particularly in the performance of various administrative functions, thereby enabling them to focus on their core mandate, instruction, and dissemination of content and materials in line with the curriculum in place at the institution or nationally (Chassignol *et al.*, 2018, Sharma *et al.*, 2019 as cited in Chen *et al.*, 2020). Such advancements empower language learners by providing access to a wealth of language resources and creating authentic platforms for communication in their target language (Ji *et al.*, 2023 as cited in Patty, 2024).

1.3.4 AI: Friend or Foe

In the realm of education, the integration of artificial intelligence has sparked a contentious debate over whether this technology is a friend or foe to the learning environment. Unquestionably, AI plays an important role in general education and higher education (Edtech, 2020 as cited in Cacco, 2023). Considering the influence of AI on learning and teaching in higher education, it is clear that AI will affect higher education in various ways, primarily focusing on enrollment and curriculum (Taneri, 2020 as cited in Cacco, 2023). Therefore, AI is not only about its superficial effect but about radical changes in the teaching and learning process in depth (Chin, 2018 as cited in Cacco, 2023).

The use of AI as an instructional tool has significantly impacted education by enhancing effectiveness and efficiency, and the quality of the work done by instructors can be assessed through the various publications that have been reviewed and analysed (Chen *et al.*, 2020). In the educational contexts, other than the general risks brought by

the use of AI, concerns are primarily centered on issues such as what changes can AI bring to the design of assessment and curriculum, equalities and universality in accessing these technologies, redefinition of teachers' role, and the lack of technological infrastructure for emerging economies (Pelletier *et al.*, 2022; Popenici & Kerr, 2017; Swiecki *et al.*, 2022; TEQSA, 2023; UNESCO, 2021a as cited in Chan, 2023).

Again, AI makes personalised learning possible. Personalised learning has numerous positive impact which includes improved learning outcomes and increased student engagement (Chen *et al.*, 2021). In other words, AI can be used to create personalised learning paths for students based on their individual needs and preferences. AI-powered chatbots can be used to provide students with immediate answers to their questions and support them outside of class hours. These chatbots can provide timely and effective support to students, and thereby causing retention and increased student satisfaction (Liu *et al.*, 2020 as cited in Chen *et al.*, 2021). Singh and Singh (2021) were more detailed in their contribution by showing several applications of AI in educational management. Some of these applications include:

- Personalised learning: AI can be used to create personalised learning experiences for students by analysing their strengths, weaknesses, and learning styles.
- Assessment and grading: AI can automate the assessment and grading process, saving time and providing objective evaluation.
- Student support: AI-powered chatbots can provide 24/7 support to students, answering questions and providing guidance.
- Predictive analytics: AI can analyse student data to predict their performance, identify at-risk students, and recommend interventions.
- Curriculum design: AI can be used to analyse data on student performance and feedback to optimise curriculum design and delivery.
- Teacher support: AI can assist teachers in tasks such as grading, lesson planning, and feedback provision. (Igbokwe, 2023, p. 301)

Therefore, the complex, varying roles of AI education, from learning paths individualised to automatic evaluation and predictive analytics to transform teaching and

learning itself hence improving student engagement, satisfaction, and academic outcomes.

1.3.5 Ethics of Using AI

To advocate the responsible and proper management of AI technologies, the center of focus for most national policies on AI has fallen on the discussion of ethics, which deals with “the standards of right and wrong, acceptable and not acceptable” (Hogehout, 2021, p. 11 as cited in Chan, 2023, p. 4). A proliferation of studies has revealed the emergence of contrasting ethical themes relating to general AI and AIED (AI in Education), most of which are associated with the liability of data across settings, such as in higher education (Zawacki-Richter *et al.*, 2019 as cited in Nguyen *et al.*, 2023).

On one hand, the difficulty of laying down a universal definition of ethical principles becomes a hindrance for certain countries in formulating policies on the use of AI (Dexe & Franke, 2020 as cited in Chan, 2023). On the other hand, as AI can weave into the fabrics of everyday human activities, the resulting wide coverage of policy areas ranging from governance to education and even to environment makes it a challenging task for government to establish specific policies on AI usage (UNESCO, 2021b as cited in Chan, 2023).

The use of AI technologies has raised different issues of concern (Chan & Tsi, 2023; Chan & Zhou, 2023 as cited in Chan, 2023). Furthermore, the framework for the ethical use of AI, which proposed the 5 core principles of “beneficence, non-maleficence, autonomy, justice and explicability”, is referred to by most national policies on AI as a foundation to further develop on (Floridi, 2021 as cited in Chan, 2023, p. 4). Despite identifying multiple issues of concern in the educational contexts, policies on AI in education are mostly generic and implicit because of the lack of concrete evidence of implementing AI technologies (UNESCO, 2021a as cited in Chan, 2023).

1.4. Reading Skill

This part is divided into five sub-titles:

1.4.1. Definition of Reading

“Reading is a must and we read when we open our eyes, do our routines and on the way to work until we get home to bed” (Mahriza, 2017, p. 87). But what does reading mean? Reading comprehension can be described as a complex and complicated process, in which the reader engages with a text in order to obtain meaning and understanding from it. Comprehension is achieved by employing the reader’s cognitive processes and metacognitive skills to understand the text’s meaning (Kintsch, 2002 as cited in Yapp *et al.*, 2023). As it was once said:

“We all know what reading is. And many of us have suffered, at some time or the other, from the type of bore who stops any argument or discussion with ‘Ah, it depends on what you mean...’. So it is with some reluctance that we begin this part with an attempt to define reading, to say what we mean by the term. Our excuse is that people do use the term in different ways, and that while this may be permissible when everybody is conscious of the differences, on occasions it can cause real confusion and difficulty” (Urquhart & Weir, 1998, p.13 as cited in Bouklata, 2016, p. 8).

Reading Skill is one of the language skills to enhance effective communication, and a process to decode the text effectively (Kumar, 2023). In other words, reading is the process of constructing meaning from written texts, it is a complex skill requiring the coordination of a number of interrelated sources of information” (Anderson 2015 as cited in Mahriza, 2017, p. 86).

From another perspective, reading was defined as the ability to interpret information from printed texts coherently (Grabe & Stoller, 2019 as cited in Trung, 2023). Educators are working to define reading by focusing on essential skills. Despite differing views, there is agreement on vocalising written words. Further consensus is expected as educators explore additional reading tasks like filing tax forms (Landers,

1979). Reading also the basic for understanding any subject matter even learning mathematics, science and other subjects are based on the ability to comprehend each chapter and its instructions (Mahriza, 2017).

Reading is the process of constructing meaning from written texts, it is a complex skill requiring the coordination of a number of interrelated sources of information (Anderson 2015 as cited in Mahriza, 2017). In other sources, reading has been defined as a process that is performed and used by readers to get the message, which would be submitted by the author through the medium of words / written language (Henry Guntur Tarigan, 1986, p.7 as cited in Mahriza, 2017). Moreover, reading is a “mental, or cognitive, process which involves a reader in trying to follow and respond to a message from a writer who is in distant in space and time” (Florence, 1995, p.1 as cited in Bouklata, 2016, p.8).

All in all, reading is considered as the process in which there is a combination of the text and the reader’s own background knowledge to build meaning (Nunan, 2003, Trung, 2023). It can be concluded that reading is a process to convey the message through written language that can give a piece of information to the reader (Mahriza, 2017).

1.4.2. Importance of Reading

Reading is a basic life skill. It is a cornerstone for a child's success in school and, indeed, throughout life. Without the ability to read well, opportunities for personal fulfilment and job success inevitably will be lost (Anderson *et al*, 1985 as cited in Küçüköğlü, 2013). Despite its importance, reading is one of the most challenging areas in the education system (Küçüköğlü, 2013). Reading skill is the abilities required for skillful reading, such as discerning main ideas, understanding sequence, noticing specific details, making inferences, making comparisons, and making predictions in second and foreign language instruction, particularly with adults (Richards & Schmidt, 2002 as cited in Ismail *et al.*, 2017).

Reading is very important since it can enhance students' general language skills in English; assisting students to think in English, enlarging students' English vocabulary, improving their writing, and it can be a good way to obtain about new ideas, facts and experiences (Mickulecky & Jeffries, 2004 as cited in Ismail *et al.*, 2017). In addition, Reading is an important activity in life with which one can update his/her knowledge. As it is an important tool for academic success (Ismail *et al.*, 2017).

Reading is not just a pastime; it's a journey that broadens minds, enriches lives, and fuels imagination. So, the importance of reading can be drawn in different points:

- *Improves vocabulary:* reading helps expand vocabulary and language skills, benefiting both adults and children. Young readers benefit greatly from exposure to new words in context, enhancing their readiness for academic challenges
- *Enhance critical thinking:* reading can improve critical thinking skills by prompting readers to analyse and evaluate information. Additionally, it can foster creativity and empathy by connecting existing knowledge with new ideas. This encourages imaginative thinking and promotes a deeper understanding of the material being read.
- *Strengthen Writing skills:* proficiently written books improve writing skills, cultivate understanding of different perspectives, foster creativity and clarity of thought, and enhance memory retention. Varied writing influences and enriched vocabulary aid in developing strong writing abilities, allowing individuals to express themselves comprehensively and authentically.
- *Exercise the mind: i.e., improves analytical skills:* reading is an activity that not only improves analytical thinking skills by encouraging readers to predict outcomes and consider multiple perspectives, but also serves as a cognitive exercise that enhances mental acuity, memory retention, and focus. Reading stimulates the brain and promotes patience and a holistic cognitive approach, ultimately leading to a slower decline in memory function and improved focus for individuals who regularly engage in it

- *Builds confidence:* it is an essential activity that plays a crucial role in building confidence and shaping personalities, particularly in children. It enhances empathy, knowledge, and imagination while significantly reducing stress levels. Through the development of various skills and the cultivation of empathy and knowledge, reading fosters not only confidence, but also promotes inner calmness, improved health, and the ability to face life's challenges with resilience and a positive mindset.

Reading has a tremendous effect in fuelling all aspects of personality and enhancing linguistic prowess. In fact, it wouldn't be wrong to say that the entirety of human life depends on it. Whatever they grow up to become in their lives, no matter where they stand, reading has somehow shaped it. (Young Readers Foundation,2024)

1.4.3. Purpose of Reading

In order to be a good reader, learners should set a goal for their reading; therefore, good readers have a purpose for reading (Küçüköğlü, 2013). The goal of all readers should be to understand what they read (Teele, 2004, p. 92 as cited in Küçüköğlü, 2013). Therefore, the purpose of reading is to make the invisible layer, the underlying meaning, visible and clear (Küçüköğlü, 2013). Reading is an ability which is extremely important for students to enhance their insight in particularly in English language (Ismail *et al.*, 2017).

When examining the purposes of reading, seven primary motivations has been identified:

- 1) To obtain information for some purpose or because we are serious about some topic;
- 2) To obtain instructions on how to perform some tasks for our work or daily life (e.g., knowledge how an appliance works);
- 3) To act in a play, play a game, do a puzzle;
- 4) To keep in touch with friends by correspondence or to understand business letters;
- 5) To know when or where something will take place or what is available;

6) To know what is happening or has happened (as reported in newspapers, magazines, reports).

7) To have enjoyment or excitement (Rivers & Temperley, 1978 in Nunan; 1999 as cited in Ismail *et al.*, 2017, p. 4).

In contrast, two main reasons for reading have been mentioned:

- 1) Reading for pleasure; and
- 2) Reading for information (to find out something or to do something with the information you get) (Grellet, 1983 as cited in Ismail *et al.*, 2017).

When the topic of a passage is not of interest to students, their motivation to read is substantially lessened. Without this motivation, it is exceedingly difficult to meet one of the generally accepted aims of a reading program: to help get the learners to read in English on their own, outside the reading classroom (Ibid, p. 20 as cited in Bouguebs, 2018).

1.4.4. Types of Reading

Reading is not seeing the words or sentences, but some mental activities are necessary beyond seeing to be able to read, especially for reading by understanding. Reading is a perceptual activity, a process of thinking (Dokmen, 1994 as cited in Savaşkan, 2017). In order to fulfill a successful reading action, it is necessary to determine which type of reading practiced in a classroom environment is more efficient (Savaşkan, 2017). Though extensive and intensive are complementary programs, and postulates (Nutall, 1982, p. 23 as cited in Bouguebs, 2018), they differ in many aspects.

1.4.4.1. Intensive Reading

Reading for evaluation purposes, such as grades or influence from teachers, requires focus and effort. It serves as a measure of students' comprehension of the

material and is viewed as a mandatory task rather than a pleasurable one (Kumar, 2023). Therefore,

“Intensive approaches simply do not prepare students to use the language purposefully. Students spend too much time and energy trying to understand the individual words (that is, they have not developed a large sight vocabulary) and are unable to move beyond word-level analysis. Word-by-word processing inhibits the ability to see the conditions between and across ideas, to understand how the information is organised, to grasp the intention of the author” (Gilner & Morales, p. 14).

The reading process that students have to go through in college to accomplish requirements, in most cases, demands more focused attention and mindfulness. Yet, when the sole aim is focused on intricate word-level analysis, it can obstruct the development of the students' language comprehension of the surroundings and the details of the author, which would make them one-dimensional language users.

1.4.4.2. Extensive Reading

Extensive reading is a means to develop reading fluency, and reading fluency provides the foundation upon which learners can acquire specialized knowledge required for managing technical and academic situations (Gilner & Morales). Additionally, unless students are reading with fluency and confidence in the second language, they are unlikely to read broadly and deeply enough to achieve the mass of background knowledge on which speculative thinking depends” (Day & Bamford, 1998, p.45 as cited in Gilner & Morales). Extensive reading, then, calls for boosting students to read independently in the target language increasing the amount of materials for information and pleasure manifesting an enjoyment towards their readings (Bouguebs, 2018).

The main purpose of extensive reading is not to improve language skills. Instead, it aims to gather information from the given reading material. During extensive reading, the reader focuses on comprehending the overall meaning or idea presented in the

passage. This type of reading is commonly referred to as "reading for information" (Rexlin Jose & William Dharma Raja).

1.4.5. Enhancing Reading Skill Potential with AI Tools within EMI Context

Over the last few years, big progression has been made in artificial intelligence and natural language processing (NLP). These advancements open the possibility for the application of personalisation in learning platforms. Such platforms should care to address the particular needs of each student and should be designed around the different abilities of each student. They supplant classical instruction method by constructing machine learning algorithms which output appropriate reading materials and exercises according to students' performance and comprehension level. This approach is the focus in the latest research and it is considered a promising route of achievement in the context of improved academic outcomes. Programs that provide access to affordable housing options vary across urban settings (Xie *et al.*, 2018 as cited in Hidayat, 2024).

Technology is now considered an essential education tool, both for students, and teachers, as it is very helpful in the sense that teaching methods can be simplified, and at the same time, the performance of the digital content can be improved, because it is now cheaper than before (Puggioni, *et. al*, 2020 as cited in Panyasai & Pattama 2023).

The capacity to read written text is one of the key components for people who are acquiring a language. AI is now engineered by recently studies to aid the improvement of reading skills and performance such as Duolingo English test. Contrary to previous approaches, which majorly involve passive reading, active dialogues with AI can bring about a better acquisition of phrases and reading comprehension skills. Incorporating chat bots like Chat GPT into their time for reading help individuals take a big step forward in their vocabulary building and grammar perfection (Toolify AI, 2023).

To round up, the integration of AI into educational tools has sparked optimism among literacy organisations and educators, aiming to enhance reading comprehension through innovative approaches and personalised learning experiences;

- Educational technology and literacy organisations are optimistic about integrating AI into adaptive reading tools to enhance reading comprehension.
- Quill is a non-profit organisation that has designed an AI-based solution that enables students to improve both their writing and reading comprehension. The tool instructs learners on how to cite text evidence and correct grammar in their essays.
- Khan Academy is a non-profit educational organisation that enables students to improve their reading comprehension skills and writing skills through essays that are built from passages.
- Through the use of chatbots and other AI-guided writing tools, the idea of the hero cycle is well-understood by the students with different interests and intelligence levels.
- Teachers play a significant role in using these tools effectively. The latter should rely on their intuition as to whether the machines help the pupils study properly. Chat GPT is an example of motivational intelligence that this trend will continue to evolve. However, it should be used wisely. (Alyson, *et al.*, 2023)

The ongoing addition of AI to reading tools not only creates hope among literacy organisations and educators, but shows an application of using technology in inventing new and innovative learning methods from which people can learn by personalizing them.

1.5 Conclusion

In conclusion, this literature review has highlighted the fundamentals of English as a medium of instruction in more depth, including definition, its history, benefits, challenges, and its significance, particularly in the context of Algerian universities. Additionally, it has examined the benefits and challenges of artificial intelligence in education, examining its applications, benefits, and challenges, such as personalizing learning experiences, improving student outcomes, and addressing ethical concerns.

Chapter One: Literature Review on the Reading Skill

Lastly, it has delved into the realm of reading skills, considering it as a discipline with its defined purpose and various types.

Chapter Two: Research Methodology

2.1 Introduction

This chapter is devoted to outline the practical aspects of the study, which focused on investigating the way AI tools can enhance reading skills in an EMI setting and identifying teachers' perspectives towards AI. The first part of this chapter covers the research design, including the type of research, research approach, sample population, research instruments, and the study proper. The second part analyses and discusses the data collected from the tests and interviews. At the end the main findings are discussed and referred to the two research questions and hypothesis and a conclusion of the chapter.

2.2 Research Design

An essential stage in research initiatives is research design, which outlines data gathering, analysis, and interpretation (Parahoo, 1997 as cited in Draper, 2004). It functions as the framework for the suggested research project and the glue that holds the various project components together. To collect a variety of data sources and techniques, the researchers opted for a mixed-method approach.

To gather additional knowledge about the topic, pre-experimental research was conducted. Experimental research is a methodical and rational approach used in education to determine the effectiveness and influence of interventions, with three primary categories: *Pre-experimental research* (uses pre-test and post-test without a control group), *True experimental research* (assigns both to random subjects), and *Quasi-experimental design* uses both but not randomly assigned subjects (Messaoudi, 2018). This experimental investigation was done with first-year engineering in the computer science department of Abou Bakr Belkaid University of Tlemcen. Researchers provided a pre-post test to check the reading proficiency of the students, then gave them the AI tools (below) for a period of two months in order to help them improve their level

in English proficiency, after that, a post-test has been done to check the level of improvement in the reading skill.

The researchers provided the experimental group with 8 AI tools after the pre-test. These tools were:

1. Cathoven: This adaptable tool is made to match texts to different reading levels. With features to modify complexity, it guarantees understanding without compromising information. Its widespread use in educational settings worldwide indicates its popularity among educators and students, even though exact user data are not easily accessible.

2. Recapiogbt: This all-inclusive tool provides a thorough way to summarise different kinds of text, videos, and documents. Its AI-driven algorithms streamline data while maintaining important details, improving productivity for learning and research projects.

3. Natural Reader: This text-to-speech program is dependable and can accommodate a wide range of users, including those with learning challenges or visual impairments. Utilised extensively in the fields of education, business, and accessibility, its user-friendly interface and realistic audio quality improve the reading experience.

4. Rewordify: Rewordify makes difficult phrases and sentences easier to read and comprehend. Learning is aided by substituting easier words for more challenging ones.

5. Grammarly & LanguageTool: Both Grammarly and LanguageTool are robust grammar checkers that also offer spelling and paraphrasing checks as extra features. With its smooth integration into numerous platforms like Microsoft Word, Google Docs, and web browsers, Grammarly has amassed over 30 million users globally while not all the features are accessible for free. LanguageTool is a less well-known tool that draws customers looking for extensive language help because of its open-source features and multilingual support. It can be said that LanguageTool is the free version of Grammarly.

6. Quizlet: Quizlet uses flashcards and quizzes to transform learning by making it easier to retain and understand a wide range of subjects. It is a preferred platform for both instructors and students due to its vast collection of user-generated information and

intuitive layout. Quizlet has over 50 million active users worldwide, demonstrating its influence on contemporary learning approaches.

7. ZenoChat: It was suggested by one of the teachers from the Department of Computer Science who specialises in Artificial Intelligence. ZenoChat has features including translation, rewriting, tone modification, and summary, ZenoChat is a flexible chatbot and rewriting tool. This tool is not 100% free, it has a number of coins that can allow the user to use it for free.

8. Linguee: This one was also suggested by one of the teachers there, is a dictionary and translator of the well-known translation platform DeepL, that provides precise translations along with relevant samples taken from bilingual materials. It is a useful tool for both language learners and experts due to its simple layout and large language database.

2.3 Sample Population

In research, sampling is the act of selecting a portion of a population or universe to represent the whole. In order to ensure the effectiveness and credibility of a research study, a reasonable sample size should be chosen. This helps to ensure that the findings can be reliably generalized to the entire population (Osuala, 2007 as cited in ORIBHABOR & ANYANWU, 2019). The current research utilised a sample paradigm that involved the selection of twenty students as a representative sample population. The primary objective of using a sample population was to facilitate the collection of data to draw valid inferences about the entire population. Moreover, the researchers adopted a random sampling technique to ensure that every member of the population had an equal chance of being selected for the study.

This approach helped to reduce bias and increase the reliability of the results. By using a random sample, the researchers were able to generalise the findings to the larger population with a higher level of confidence. Additionally, the sampling paradigm helped to make the data collection process more manageable and cost-effective, as it

would have been impractical to collect data from the entire population. In this research, the researchers collected data from twenty-seven students of first-year engineering in computer science and 4 teachers from the Department of Computer Science at the University of Tlemcen.

2.3.1 Students' Profile

To conduct this research, the researchers selected the first-year students of engineering in computer science at the University of Tlemcen as a sample, because they made a small inquiry about the fields that started using EMI approach and they found that in this department are teaching most of the modules in English. To ensure a representative sample, the researchers randomly chose group 8, which consisted 27 students with varying levels of abilities.

2.3.2 Teachers' Profile

The researchers wanted to opt for five teachers from the department of computer science in Tlemcen University. But regarding the occupations about the tests and exams periods, two of the teachers apologised since they could not fix an appointment for the interview. Therefore, the investigators relied only on 3 teachers. The first teacher in the interview is a teacher of operating system, the second is a teacher of English, and the third teacher is teaching the module of Calculus 2. all those teachers are from the departement of computer science.

2.4 Research Instruments

The present research is a mixed methods approach. A mixed methods approach is research conducted by one or more researchers that combines elements of both quantitative and qualitative approaches. This includes the perspectives, data collection, and data analysis methods used (Creswell & Plano Clark, 2011, p. 4 as cited in Cohen *et*

al., 2018). The researchers sought to collect both qualitative and quantitative data. This investigation is based on the use of two different instruments which are an interview for the teachers, and a test for the students, this approach is recognised as triangulation (Messaoudi, 2017).

a. Method Triangulation

In research, triangulation is a widely used method that involves using multiple research tools and techniques to address the limitations of one method with the strengths of another. For instance, a combination of a test and an interview can provide a comprehensive perspective on a topic that would not be achievable with a single research instrument. Triangulation also helps to validate and cross-verify data collected through different tools.

b. Data Triangulation (population)

Another form of triangulation is data triangulation, which involves collecting data on the same topic from various contexts. This not only validates data collected by comparing it with the responses of other populations, but it also increases the researcher's confidence in the accuracy and dependability of the data obtained if it aligns with different samples and contexts.

c. Environmental Triangulation

The method of Environmental Triangulation involves gathering data from various environmental factors, including time and location. This approach has several benefits, including the ability to compare data and ensure its validity (Trochim and Donnelly, 2007). In our study, we distributed a pre-test to student at the university level, and then again after two months of providing the students with the AI tools, a post-test has been done.

d. Design Triangulation

Theoretical triangulation, or methodological pluralism, involves employing both quantitative and qualitative research methods. This method yields a wider range of results than anticipated, allowing for respondent introspection and retrospection in the same study. These methods are also known to produce unexpected results for the researcher (Muijs, 2004).

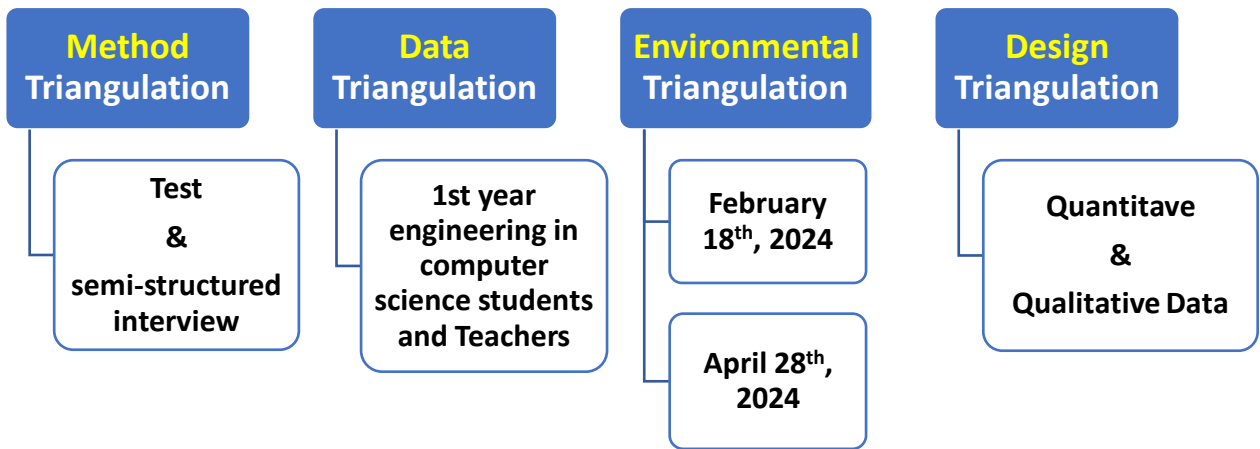


Figure 2.1 Types of Triangulation Followed in the Current Research

2.4.1 Students’ Pre-test and Post-test

One effective method for researchers to gather data on student performance before and after an intervention is through the use of tests. Tests are a powerful research tool that can provide teachers with quick and focused feedback on their students' progress (Cohen *et al.*, 2007, as cited in Messaoudi, 2018). In this research, the researchers opted for the pre-test/post-test with an experimental group design to assess the effect of implementing AI tools in enhancing their reading skill for first-year Engineering students in the Department of Computer Science at Tlemcen University.

Hence, the test was a proficiency test adapted and adapted from the TOEIC test, aiming to determine the students' level before and after using AI tools. The test (reading test) aims to assess the learners' reading comprehension, grammar, and vocabulary. The duration of the test is 60 minutes and is divided into 3 main parts:

- A. Incomplete Sentences:** where 4 sentences are given with 4 choices. In which, each sentence has a missing word or phrase. The purpose of this part is mainly about the acquisition and understanding of vocabulary in context/ the field of study.
- B. Text Completion:** In this activity, learners are presented with a text in which a word or phrase is missing from some sentences. Below each sentence, there are four possible options provided. The students have to identify the option that best completes the text. The purpose here is the recognition of grammatical rules and vocabulary in the text (discourse).
- C. Reading Comprehension:** In this section, the students are required to read a text followed by four questions. Below each question, there are four answer choices provided. The learners have to select the best answer that fits the question. This one, targets Reading Comprehension (locating and understanding specific information in written texts and connecting information across multiple sentences in written texts).

Both the pre-test (Appendix A) and post-test (Appendix B) are attached in the Appendices section

2.4.2 Teachers' Interview

Conducting interviews is an effective way to gather detailed information by directly conversing with the participants. However, researchers often consider interviews to be time-consuming and requiring good interviewing skills (Wray and Bloomer, 2006). Additionally, there is a significant risk of interviewer bias and subject expectancy, which can influence the answers provided by the participants (Brown, 1988 as cited in

Messaoudi, 2017, p.76) There are three main types of interviews: semi-structured, unstructured, and structured. Each has particular features and objectives. In this study, the researchers adopted a structured interview with followed up questions to collect in-depth the teachers' opinions on their new experience in using English as a medium of instruction in the Department of Computer Science at Tlemcen University, the use of AI tools, and the reading skill of their learners.

This interview was composed of 12 questions (see Appendix C).

2.5 The Study Proper

Launching this Master's research was in November 2023, when the researchers spent the first months looking for the departments that started using the EMI approach. After choosing the Department of Computer Science, the investigators required some permissions to be able to enter the Department and conduct the research. Then choosing which module is going to be more suitable to be tested since a scientific field has more to do with practice rather than literature. The Operating System module has been selected and the researchers built the pre-test based on its courses content.

The pre-test was launched on February 18th, 2024. Then the next day, the researchers collected the experimental group and provided them with the AI tools that should be used with explanations of each AI tools individually. In this period, the researchers started the preparation of the interview questions and looking for appointments with teachers using EMI to interview them. After two months, the post-test has been designed in the same way of the first one, then the investigators tested the same group on April 28th, 2024. Meanwhile, they started interviewing the teachers, but since it was a period of the second semester's tests most of the teachers were busy and they could not do the interview, only three of them were available. Finally, after gathering all the needed data, the researchers started analysing data.

2.6 Data Analysis

In this section, we will delve into the analysis of the test results, which provides a comprehensive understanding of the students' proficiency and shortcomings in vocabulary, grammar, and reading comprehension.

2.6.1 Analysis of the Tests

Both the pre-test and the post-test were divided into 3 parts: vocabulary, grammar, and reading comprehension. In the first one, *Incomplete Sentences*, students must select the correct word to complete a sentence. *Text Completion* presents a passage with missing words, requiring learners to comprehend vocabulary, recognise grammar, and understand how words work in a text. *Reading Comprehension Comprises* a passage with multiple-choice questions that test students' ability to locate information in the text and answer questions about it. These assessments offer a comprehensive overview of a students' proficiency and shortcomings in vocabulary, grammar, and reading comprehension.

a) Pre-test

Part 1

The first one of the pre-test was meant to test students' vocabulary. It contains 4 questions as shown in Appendix A. The assessment results reveal that a significant majority of test takers answered questions 1 and 2 incorrectly, with 56% and 67% of the respondents respectively getting them wrong. Conversely, question 3 had a majority of correct answers with 59% of test takers answering it correctly and only 41% answering it incorrectly. Finally, question 4 had 63% of the examinees answering it correctly, while the remaining 37% got it wrong as demonstrated in Figure 2.2.

PART 1: Incomplete Sentences

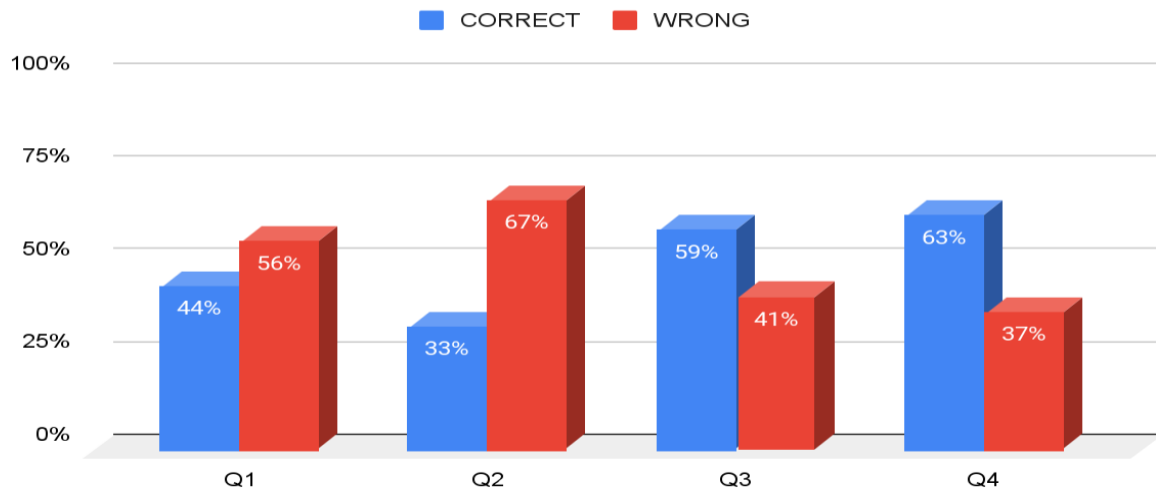


Figure 2.2 Student’s Answers of the Pre-test in Part 1

The following table includes a list of questions from the first part of the test that was focused to test the students’ vocabulary, the percentage of students who answered each question correctly and incorrectly, and description of students' answers for each question. By analysing the data presented in the table, this study aimed to provide insights into the students' performance on each question and to identify areas where they may need further support or improvement.

Table 2.1 Description of Pre-test Results of Part 1

Questions	Correct	Wrong	Responses description
<p>1-Software is ____when it can run on different machines.</p> <p>a-Adaptable b- compatible c-portable d-mutable</p>	44%	56%	The majority of the answers were “a” and “c” (which is correct).

<p>2-In Unix, a _____ is seen as a logical resource, not a physical one. a-file b- directory c- disk d- partition</p>	33%	67%	The answers were mixed between “a” (which is correct) and “d”.
<p>3-If you have forgotten your password, you must contact the _____ (root) who is the only person authorized to unlock it. a-Administrator b-manager c-user d-owner</p>	59%	41%	Almost all the respondents answered with “a” which it the correct answer, while the rest was mixed.
<p>4-The number of ____ of an array determines how many indices are used to access the elements of the array. a-Dimensions b-indices c- elements d- values</p>	63%	37%	Nearly all the participants answered correctly with “a”

Part 2

The second section consists of a single paragraph in which students must recognise vocabulary and grammatical rules in the text within gaps. Based on the test results, it was found that the majority of the test takers had difficulty answering the questions correctly. Specifically, in Question 1, 56% of the test takers answered incorrectly with only 44% of them who could respond appropriately. Similarly, in Question 2, 89% of the respondents answered incorrectly, while only the remaining 11% could provide the correct answer. In Question 3, 59% of the test takers answered it incorrectly, and only 41% of them could respond properly. Finally, in the fourth Question, 52% of the test takers answered it incorrectly, while 48% of them had the correct response as shown below (Figure 2.3).

PART 2: Text Completion

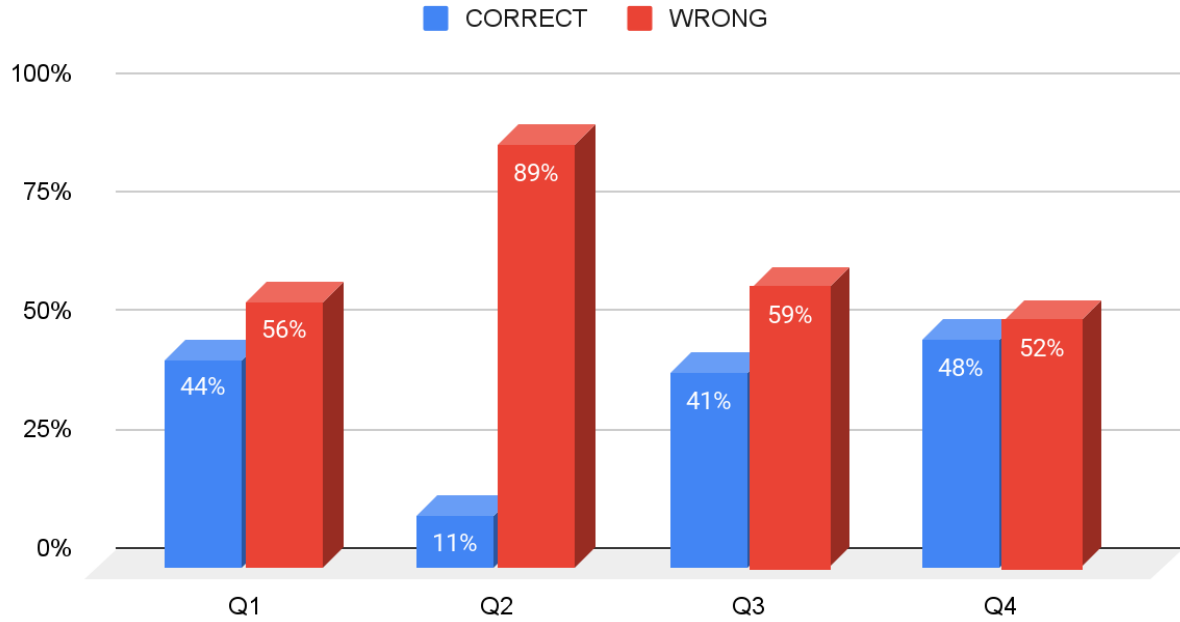


Figure 2.3 Students’ Answers of the Pre-test in Part 2

As mentioned earlier, the table below shows test questions related to the second part that aims to recognise vocabulary and grammatical rules in the text, correct and incorrect responses, and description of responses to assess students' performance and identify areas for improvement.

Table 2.2 Description of Pre-test Results of Part 2

Questions	Correct	Wrong	Responses description
1-The main _____ (1) a. objections b. objectives c. object d. objecting of an operating system are...	44%	56%	Approximately the answers were varied between “c” and “b” which is in fact correct.
2-The operating system can be defined by _____ (2) a. component's b. components c. component d. complement or by functions.	11%	89%	Almost all examinees answered with “b” while the correct one is “c”.

Chapter Two: Research Methodology

3- Memory is used to store data and instructions for _____ (3) a. processing b. managing c. executing d. storing, while the CPU is responsible for executing instructions.	41%	59%	The answers were mixed a little bit from every suggestion while the correct one is “a”
4-The operating system must provide services such as a command interface _____ (4) a. for b. from c. of d. to the user,	48%	52%	Nearly half of the answers are correct “a”, and the rest were turning around “d”.

Part 3

This part targets the reading comprehension which means locating and understanding specific information in written texts and connecting information across multiple sentences in written texts, it contained 4 questions. A significant percentage of exam takers struggled to answer some of the questions on the test. In Question 1, 56% of test takers answered incorrectly, while only 44% answered correctly. For Question 2, 89% of examiners got it wrong, with only 11% providing the correct answer. In Question 3, 59% of test takers answered it incorrectly, whereas only 41% answered it correctly. Finally, in Question 4, 52% of test takers got it wrong, while the remaining 48% answered correctly.

PART 3: Reading Comprehension

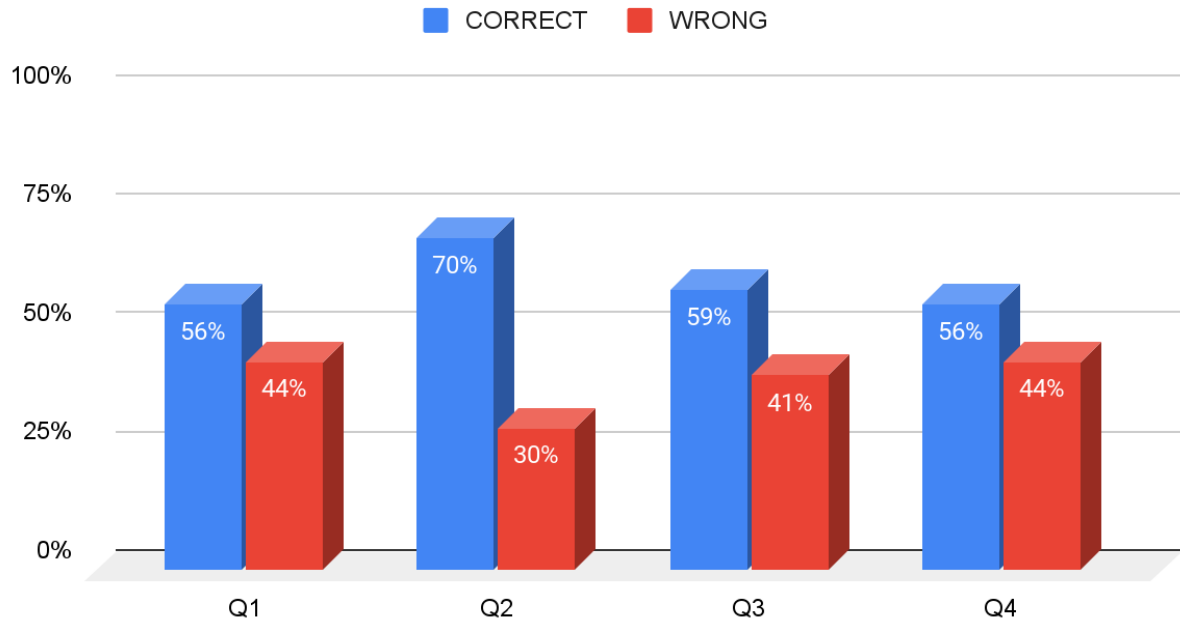


Figure 2.4 Students' Answers of the Pre-test in Part 3

The exam questions for the last section that focuses on reading comprehension, which includes finding and comprehending specific information in the text and making connections between ideas in various phrases the text, are displayed in the table below along with the descriptions of the correct and incorrect answers.

Table 2.3 Description of Pre-test Results of Part 3

Questions	Correct	Wrong	Responses description
<p>1- What was the initial purpose of Unix?</p> <p>a-A complete operating system for personal computers</p> <p>b-A word processing program</p> <p>c-A file management system with basic tools</p> <p>d-A web browser</p>	56%	44%	Most of the answers were correct “c”, and few were “a”.
<p>2- What is the relationship between Unix and the C language?</p> <p>a-Unix was written in C language</p> <p>b- Unix was written in assembler and then rewritten in C in 1971</p> <p>c- Unix and C language were developed simultaneously</p> <p>d- Unix was written in C++</p>	70%	30%	Nearly all the answers were correct “b” and the rest were “a”.
<p>3- What does the integration of the BSD file system into Linux signify?</p> <p>a-Increased compatibility with other Unix systems.</p> <p>b-Improved user interface and graphics capabilities.</p> <p>c- Enhanced security features and stability.</p> <p>d-Focus on mobile device applications.</p>	59%	41%	Majority of the respondents answered correctly with “a”, and the rest were “c”.
<p>4- What is the key feature of the Unix system regarding user access?</p> <p>a-It restricts access to a single user at a time.</p>	56%	44%	The correct answer is “b” and the majority were correct, whereas the rest answered with “c”.

<p>b-It allows multiple users to access the system simultaneously.</p> <p>c- It requires special permissions for any user interaction.</p> <p>d- It prioritizes tasks based on user importance.</p>			
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b) Post-test

Part 1

The purpose of the post-test’s first section was to assess student’s vocabulary as well. The four questions are listed in Appendix B Regarding the performance of the test takers, it was observed that 70% of them answered the first question incorrectly while only 30% answered it correctly. Similarly, in the second question, 74% of the students provided incorrect answers, whereas only 26% of them answered it correctly. In the third question, 56% of the examinees were found to be incorrect while 44% of them provided correct answers. Finally, in the fourth question, it was observed that 63% of the students answered it correctly, whereas 37% of them provided incorrect answers

PART1: Incomplete Sentences

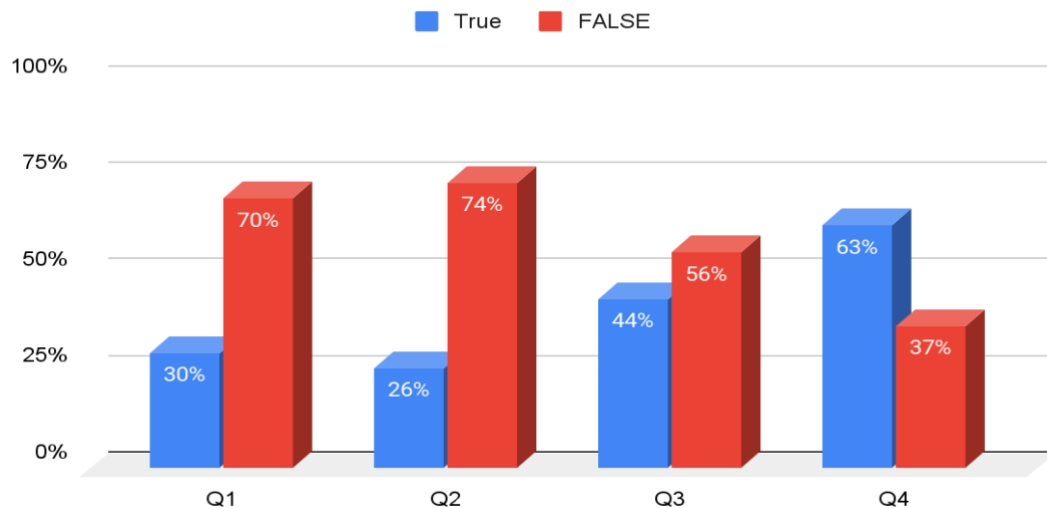


Figure 2.5 Students' Answers of the Post-test in Part 1

The questions from the first section of the post-test, which assessed students' vocabulary, are listed in the following table along with the percentage of students who answered each question correctly and incorrectly, and an explanation of the answers provided by the students.

Table 2.4 Description of Post-test Results of Part 1

Questions	Correct	Wrong	Responses description
1- An operating system's scheduler is an essential component for _____. a- coordinating b- supervising c- synchronizing d- modularizing	30%	70%	Majority of the respondents went for the answer “c” which is a wrong answer.
2- The scheduler's primary objective is to make efficient use of the processor, reduce response time, and consider _____. a- optimization b- allocation c- criteria d- algorithms	26%	74%	Approximately half of the answers were “a” and the other answers were “b” and a minority answer correctly “c”.
3- In a multi-user system, the scheduler must ensure that each process receives its _____. a- multiple tasks b- adequate resources c- network connection d- redundancy	44%	56%	Majority of the answers were “a” and “b” and a minority answer “d”.
4- Meeting the objectives of a scheduler, such as maximizing processor efficiency and providing responsive and fair performance, can be challenging due to _____. a- incompatible software b- insufficient memory c- process competition d- voltage fluctuations	63%	37%	More than the half of the answers were “c” which is a correct answer.

Part 2

This part of the post-test indicates that a majority of the test takers answered Question 1 correctly, with a percentage of 55%. Conversely, 45% of the test takers answered Question 1 incorrectly. Similar trends were observed for Question 2, with 52% of the students answering it correctly and 48% answering it incorrectly. Question 3 demonstrated a higher percentage of correct responses, with 59% of the examinees answering it correctly and 41% answering it incorrectly. Finally, Question 4 showed a majority of correct responses, with 67% of the students answering it correctly and 33% answering it incorrectly.

PART 2: Text Completion

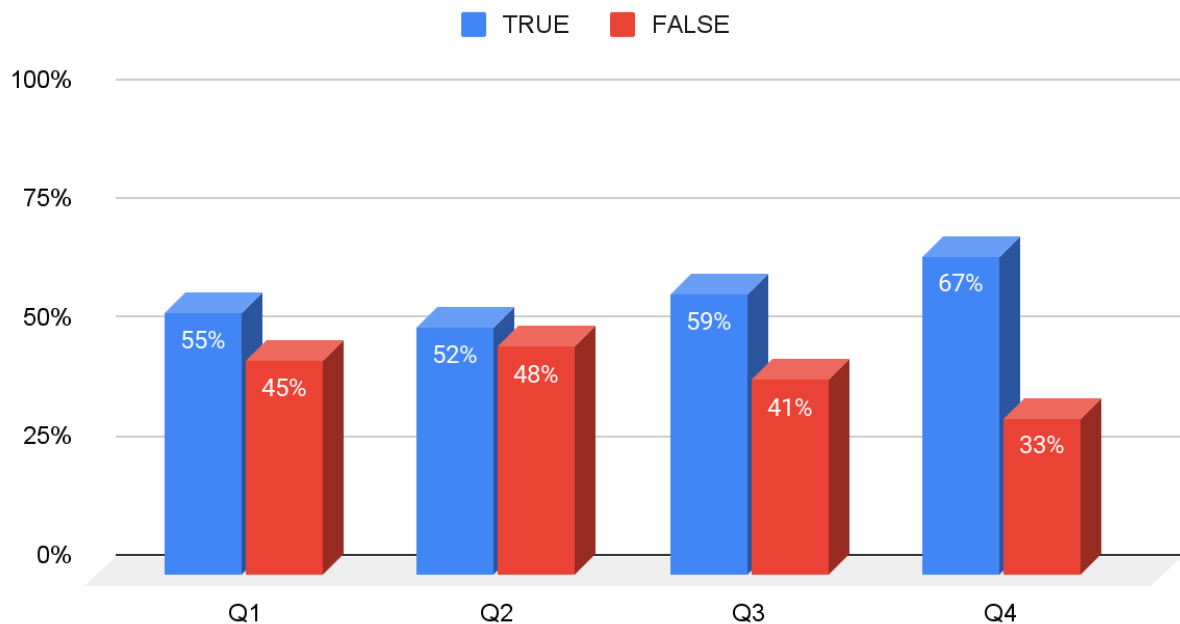


Figure 2.6 Students' Answers of the Post-test in Part 2

The exam questions for the second portion, which is to identify vocabulary and grammar rules in the text, are displayed in the table below along with the descriptions of the correct and incorrect answers. This allows teachers to evaluate their students' performance and pinpoint areas where they need to make improvements.

Table 2.5 Description of Post-test Results of Part 2

Questions	Correct	Wrong	Responses description
1- Process scheduling techniques are essential components _____. <i>a. into any b. of any c. inside any d. to any</i> operating system	55%	45%	Most of the answers were “b” which is a correct answer.
2- Choosing a _____ <i>a. processor b. pressure c. processes d. process</i> to run is often done by using a scheduling algorithm that varies based on specific principles and policies.	52%	48%	More than the half of the answers were “d” which is a correct answer.
3- The scheduler _____ <i>a. playing b. played c. plays d. play</i> a significant role in choosing the correct process to run by weighing the different criteria.	59%	41%	The majority of the answers were “c” which is a correct answer.
4- Different schedulers can have different objectives, such as maximizing throughput, minimizing response time, and ensuring that all parts of the system are _____. <i>a. busy b. easy c. lazy d. noisy</i>	67%	33%	More than the half of the answers were “a”.

Part 3

In the third part of the examination, 74% of the participants responded to Question 1 correctly, while the remaining 26% answered it incorrectly. In Question 2, 67% of the students provided the correct answer, while 33% were incorrect. All

responses to Question 3 were correct with a 100% success rate. For Question 4, 63% of the test takers responded incorrectly, while approximately 37% answered correctly.

PART 3: Reading Comprehension

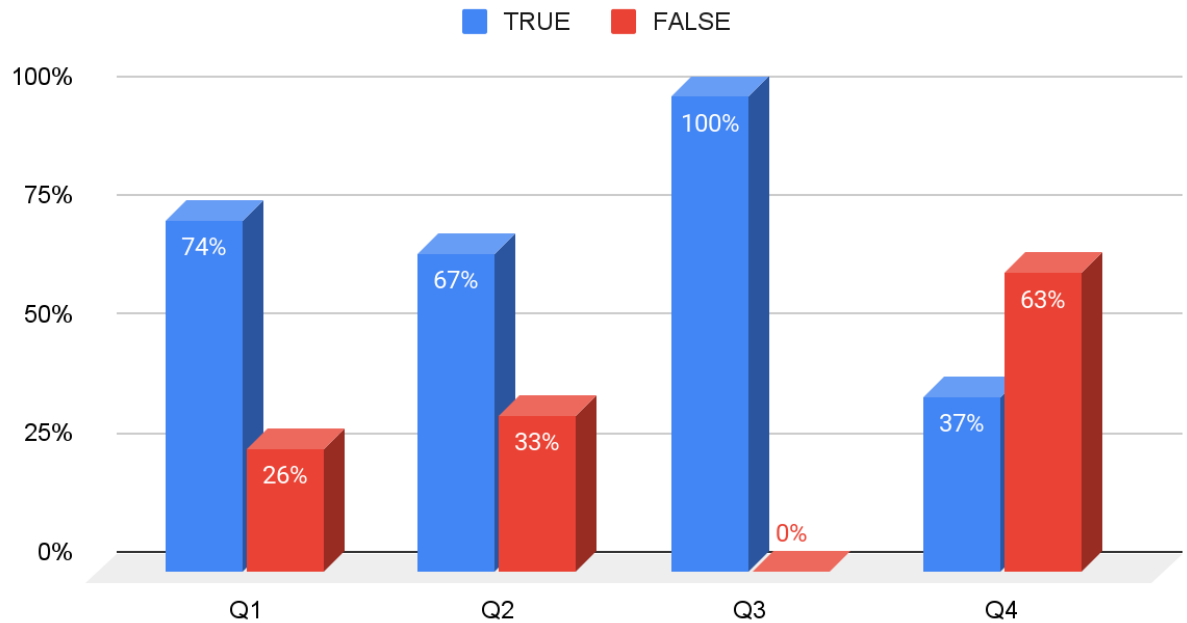


Figure 2.7 Students' Answers of the Post-test in Part 3

The table below lists the exam questions for the final section's reading comprehension section, which covers locating and understanding specific information in the text as well as drawing connections between ideas in different phrases. It also includes explanations of correct and incorrect answers.

Table 2.6 Description of Post-test Results of Part 3

Questions	Correct	Wrong	Responses description
<p>1-The main purpose of interrupts in a multi-user system is to:</p> <p>A-Slow down the processing of tasks.</p> <p>B- Prevent errors in the CPU.</p> <p>C- Increase the workload for the scheduler.</p> <p>D-Manage multiple processes efficiently.</p>	74%	26%	Nearly most the answers were “d” which is a correct answer.
<p>2- Hardware interrupts are triggered by:</p> <p>A- External devices like keyboards and disks.</p> <p>B- Software errors in the CPU.</p> <p>C- Decisions made by the operating system scheduler.</p> <p>D- The completion of a process.</p>	67%	33%	More than the half of the answers were “a” (correct answer).
<p>3-Which of the following is NOT a type of interrupt mentioned in the passage?</p> <p>A- Clock interrupt</p> <p>B- I/O interrupt</p> <p>C- Network interrupt</p> <p>D- Software interrupt</p>	100%	0%	All the answers were “c”.

<p>4- According to the passage, choosing the right scheduling algorithm for interrupts is important because it affects:</p> <p>A- The type of hardware devices used in the system.</p> <p>B- The system's responsiveness and efficiency.</p> <p>C- The number of processes that can be run concurrently.</p> <p>D- The amount of memory available to each process.</p>	37%	63%	Most of the answers were “a” and “c” which are incorrect answers.
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2.6.2 Teachers’ Interview Analysis

The table below analyse the answers of the first two questions related to the teachers’ years of experience, rank and module taught.

Table 2.7 Teachers’ Profile

<i>Teachers</i>	<i>Years of Experience</i>	<i>Rank</i>	<i>Module</i>
1	27 years	Professor	Operating System
2	11 years	Assistant Teacher A	English
3	18 years	Associate Teacher A	Calculus 2

Q3- The initial inquiry pertained to the training program offered by CEIL, which only one teacher had attended twice. This particular teacher already had a high level of

proficiency, hence found the courses uninteresting as he claimed. On the other hand, the remaining two teachers did not participate in the training at all.

Q4- The objective of this question is to explore attitudes towards using French in previous years compared to this year. Two respondents agreed that the main problem is the language in general be it French or English. Only one of the respondents said that “it is too early to see changes, but this generation is oriented towards English”.

In addition to explaining the benefits in using English as the main language, the respondents’ answers differ from one to another. A teacher said that “there is no benefit in using any language in a math class”. Another one pointed out that “teaching English is beneficial because English is the language of science”

Q5- In this question, that was meant to ask about sharing their experience with using EMI in their classroom, most of the teachers agreed that using English as a medium of instruction was not very successful. One of the teachers said: “I taught in English in the first semester and for the second semester I’m preparing my courses in both languages”.

Hence, concerning the main challenges that teachers face in terms of reading comprehension, all teachers face challenges regarding the number of students, insufficient time, and as it was mentioned before, the problem of the language in general.

Q6- Question 6 seeks to know the views of the teachers on the potential use of AI tools in the classroom and if incorporating these tools will be beneficial for improving students’ English language proficiency. One of the teachers suggested that using quizzes can be used in order to learn the different terms seen during the session, but the rest of the respondents concurred that AI is a huge problem, and it will change completely teaching. For instance, one of the teachers said:

“AI represents a problem when we are talking about teaching and learning but I think that AI represents a problem when it comes to the true authentic appreciation of students’ level, for example when we give students some assignments, some homework you will not have the full picture or the real picture, the authentic picture. I think that AI has tremendous potential if its use is

organised and students are aware of the potential that they are the experts, not the AI.”

Q7- This question aimed to identify if the teachers have ever used AI tools in teaching. The interview revealed that two of the respondents had never used AI tools, while one of these two interviewees admitted that it is high time to start using them. However, the remaining teacher said:

“Yes, I use several AI tools and of course. I use GBT and GEMINI (Google Bard) and other tools. I can provide two examples of how can these tools be integrated; I use them when developing my evaluation, my assessment and I use AI when I want to create items. Also, I can ask AI to generate sentences that use present simple and those sentences can be contextualised to the topic, I also use AI to adapt texts to students’ level.”

Q8- In this question, the respondents’ views were different from one to another, but in general teachers tried to help their students by giving them some AI tools like DeepL which is a translation tool, and suggest how to use these tools to enhance their learning experience and mentioned also that they can use them to generate algorithms, codes and graphics. For instance, a teacher said: “I give them everything I know but they don’t use it. They even don’t use YouTube for learning purposes, but I think in coming years students will use AI more but will be everything understood? We do not know.”

Q9- The next question was about how can AI tools help students develop their reading abilities. All the respondents do not know how to help them but one of them said, “I do not know honestly but with writing is more significant. Still, reading is somehow hard, except if they use AI tools to simplify texts, unless they want to understand some passages using AI in order to negotiate meaning, but they cannot know how deep AI can go in meaning.”

Q10- All the teachers in this question agreed that the best way to promote active reading strategies in the digital age depends on the students’ motivation first, oral

presentation and collaborative reading. One of the teachers said: “collaborative reading is a reading strategy that promotes motivation, interest and attracts students to read and more. For example, instead of using a text for a group of students that is put online in a platform, the students can read, comment, and start an online debate if they struggle with something (real-time feedback), and it can calculate the time spent in reading Canva student.”

Q11- The following question addresses the issue of how teachers can promote active reading strategies in the digital age. The respondents suggested teaching strategies should depend on the purpose, motivation and the most important thing is learners autonomous.

Q12- All the interviewees agreed that creating classroom debates and discussion is somehow hard for them regarding the time especially in Math classes. One of them use Teams chat to stay in touch with his students and answer their inquiries and requests concerning the course.

2.7 Discussion of the Main Findings

This section aims to interpret, discuss and summarise the collected data. As researchers, in order to comprehensively understand the research topic, it is imperative to gather data from a wide array of sources. The researchers collected data in order to check the impact of integrating AI tools in an EMI context on the reading skill in Algeria using a test with students and interviews with teachers. This triangular approach led to gain insights from different perspectives and gather diverse data.

From the results presented earlier, you can see that the 1st part of the tests that tested the vocabulary related to science has decreased from the pre-test to the post-test from 50% to 42%, Unlike the other parts (2 and 3) that has improved from the pre-test to the post-test from 36% to 58% in part 2 (which is related to grammar), and from 60% to 69% in part 3 is a good result in fact. The only failure was at the level of the first part which is related to vocabulary, and from Q3 of the interview it was conclude that EMI is

beneficial in science since “English is the Language of science”. In addition to the answers of one of the interviewees who is the responsible of the module tested in the current research, he mentioned that he was teaching in English in the first semester, while for the second semester he started dispensing the lectures in French, and give the online form in both languages (French and English). The problem here, maybe the switch between semesters from English to French, because this part has mainly tested the vocabulary related to the module, where they were familiar with the terms from the first semester’s lectures (in English) in the pre-test, while for the post-test which was from the second semester’s course that was presented in French inside the classroom, the students now are familiar with the terms in French and not English which explains their failure (e.g., Galloway *et al.*, 2017 as cited in Elkhayma, 2022).

From Q7, Q9, Q10 and Q11 of the interview, the researchers’ extract that AI can provide: *real-time feedback* using AI to negotiate meaning. Collaborative reading strategy to enhance *student’s engagement* through creating debates using collaborative reading tools. *Personalised learning* through using AI tools to create items, generate sentences, adapt texts to students’ level and learners’ autonomy as studies has already pointed out (e.g., Kasneci *et al*, 2023; Sinhalese *et al.*, 2023 as cited in Chan, 2023). The latter can conclude that the first hypothesis which states that AI tools allow to improve students’ engagement, provide personalised learning experiences, and offer real-time feedback in order to develop their reading skill is confirmed.

Over time, teaching and learning will undergo a fundamental transformation due to factors such as lack of time, a big class size, and an authentic comprehension that students are the experts and should not overly on artificial intelligence (Q6, Q8). Although AI is a useful tool, it also presents a problem because it may limit students' autonomy to learn and their critical thinking skills. And of course, to have a positive outcome from it, the student’s motivation is the major aspect that can create a good learning experience using AI tools (Q8, Q11) as previously mentioned in the study (e.g., Chen *et al.* 2021). The findings above, can be inferred that the second hypothesis which claims that using AI-based tools to enhance reading skills will yield positive benefits for

students in terms of reading comprehension, vocabulary acquisition, and motivation, while also presenting potential challenges related to overreliance, personalised learning limitations, and ethical considerations is confirmed.

The information gathered from teachers' interviews and students' examinations portrays a mixed image of how EMI-related AI tool integration affects Algerian students' comprehension abilities. Although vocabulary scores declined, overall grammar and reading comprehension improved, and the interviews supported the potential advantages of AI tools—such as real-time feedback, increased student involvement, and customised learning—in enhancing reading comprehension. The interviews did, however, also bring to light other difficulties, like a lack of time, big class sizes, the danger of relying too much on AI, and the necessity of preserving students' interest and critical thinking abilities. Overall, the results show that using AI tools in EMI situations can improve students' reading abilities, but doing so carefully and taking into account both the advantages and disadvantages is necessary. Ongoing research and evaluation will be important to maximise the positive impact of AI on reading instruction and learning outcomes.

2.8 Conclusion

In conclusion, this chapter has given a comprehensive account of the practical components of the study, which aimed to explore the impacts of integrating AI tools in order to enhance reading skill in an EMI context. The research design, including the type of research, research approach, research instruments, sample population, and the study proper, was outlined in the first section. In its turn the second section of this chapter analysed the results obtained from the test and interview instruments. Finally, the discussion of the collected data and findings were presented, addressing the research questions and examining the proposed hypotheses.

General Conclusion

Artificial Intelligence has had a significant impact on the field of English language, particularly in the context of English as a Medium of Instruction (EMI). The gradual shift from French to English in the Algerian university has deepened the need for effective language learning strategies. AI has transformed the way to approach language learning, offering innovative methods to enhance reading skill and overall language proficiency. By providing personalised learning experiences, real-time feedback, and immersive environments, AI has the potential to revolutionise the way students engage with the English language in an EMI context. As AI technology continues to advance, we can expect even more sophisticated language learning tools and resources that cater to the diverse needs of learners worldwide.

The current research was structured into two main chapters. The first chapter, which is entitled as the literature review, extensively covered all the aspects included in this work such as EMI, artificial intelligence and the reading skill with its types. The second chapter was all about the research methodology in giving details about the nature of the research, the participants involved in the study, and the methods used to collect data. The collected data was then analysed to yield results that would help test the research hypotheses and answer the research questions. The researchers utilised two data collection methods: a test was given to First year engineering students in Computer Science of Tlemcen University and an interview with three teachers from the Computer Sciences Department in the same university. The data collected through these methods was analysed, interpreted, and then discussed.

The confirmation of two hypotheses was achieved by conducting a mixed methods study, collecting data from multiple sources using several research methods such as test for students and interview with teachers and then analysing and triangulating the results. Two hypotheses were generated to be tested: the first hypothesis suggested that AI tools allow to improve student engagement, provide personalised learning experiences, and offer real-time feedback, in order to develop the reading skill. The second hypothesis stated that using AI-based tools to enhance reading skill will yield

positive benefits for students in terms of reading comprehension, vocabulary acquisition, and motivation, while also presenting potential challenges related to overreliance, personalised learning limitations, and ethical considerations. The main findings of the study supported both hypotheses, showing that AI tools yield positive benefits and potential challenges in helping students improving reading skill and these AI tools can also allow to increase students' engagement.

The data collected through students' tests and teachers' interviews provide a mixed picture of the impact of integrating AI tools in an EMI context on reading skill in Algeria. While vocabulary scores decreased, grammar and reading comprehension improved overall, and the interviews confirmed the potential benefits of AI tools, including real-time feedback, improved student engagement, and personalised learning. However, the interviews also highlighted challenges such as lack of time, large class sizes, the risk of over-reliance on AI, and the importance of maintaining student motivation and critical thinking skills. Overall, the findings indicate that integrating AI tools in EMI contexts has the potential to enhance reading skill, but requires careful implementation and consideration of both the benefits and challenges. Ongoing research and evaluation will be important to maximise the positive impact of AI on reading instruction and learning outcomes.

This study serves as an initial contribution to the discourse surrounding the use of English as a medium of instruction (EMI) in universities such as Tlemcen University, as well as the impact of Artificial Intelligence (AI) on education and student achievement. While the current research has yielded valuable insights, certain limitations must be acknowledged. Firstly, the study aimed to conduct interviews with at least five teachers, but only three teachers were available for the interviews, which may have limited the range of perspectives. Secondly, the findings of this study cannot be generalised to all universities in Algeria due to the specific context and conditions of the selected sample.

For future research, it is recommended to explore the potential of AI tools to have a more significant impact on education. Comprehensive studies are required to evaluate the effectiveness of implementing English as the primary medium of instruction in

scientific disciplines and to investigate how AI tools can facilitate enhanced learning outcomes for students. Furthermore, it is crucial to examine the feasibility of AI replacing traditional teaching roles and the capacity of AI tools to develop tailored curricula across various academic domains.

In conclusion, the integration of AI tools to enhance the reading skill can significantly contribute to increasing students' achievements in an EMI context. As AI continues to advance and become more integrated into various aspects of society, it is essential to make students aware of the potential challenges and opportunities that AI presents. By doing so, the investigators can ensure that students are well-prepared to navigate the ever-evolving landscape of education and beyond. It is important to note that while AI has the potential to significantly enhance learning outcomes, it is not a replacement for human teachers or traditional teaching methods. Rather, AI should be seen as a tool to support and enhance the learning experience, providing teachers with valuable insights and students with personalised learning opportunities

Bibliography

- ◆ Ahmadi, Dr. M. R. & Guilan University, Guilan, Iran. (2018). The Use of Technology in English Language Learning: A Literature Review. *International Journal of Research in English Education*, 3(2), 115–125. <https://doi.org/10.29252/ijree.3.2.115>
- ◆ *AI Could Improve Assessments of Reading, Writing Skills*. (2023, March 16). GovTech. <https://www.govtech.com/education/k-12/ai-could-improve-assessments-of-reading-writing-skills>
- ◆ Al Zumor, A. Q. (2019). Challenges Of Using Emi In Teaching And Learning Of University Scientific Disciplines: Student Voice. *International Journal of Language Education*, 74–90. <https://doi.org/10.26858/ijole.v1i1.7510>
- ◆ Alkhateeb, A., & Alhawsawi, S. (2023). Challenges in Incorporating English as the Medium of Instruction at King Saud bin Abdulaziz University for Health Sciences. *Arab World English Journal*, 14(3), 110–123. <https://doi.org/10.24093/awej/vol14no3.7>
- ◆ Alyson, K, Education, W, Bethesda, M (2023). AI Could Improve Assessments of Reading, Writing Skills. Retrieved in March, 2024 from <https://www.govtech.com/education/k-12/ai-could-improve-assessments-of-reading-writing-skills>
- ◆ Anthony Pragasam, J., & Ainil Sulaiman, N. (2023). Integrating Technology in ESL Reading Classroom: Accounting Pupils' Perspectives. *Arab World English Journal*, 1, 324–342. <https://doi.org/10.24093/awej/comm1.23>
- ◆ Assistant Professor, Department of Education, (DDandCC) Manonmaniam Sundaranar University, Tamil Nadu, India., Jose, R., Dharma Raja, B. W., & Assistant Professor, Department of Education, Manonmaniam Sundaranar

University. Tirunelveli, Tamil Nadu, India. (2011). Teachers' Role in Fostering Reading Skill: Effective and Successful Reading. *I-Manager's Journal on English Language Teaching*, 1(4), 1–10. <https://doi.org/10.26634/jelt.1.4.1599>

- ◆ Bouguebs, R. (2018). Extensive Reading Instruction Via E-Books Impact on EFL Students' Reading Attitude and Motivation, and Reading Skills. *Journal of Studies in Language, Culture, and Society (JSLCS)*, 1(1), 122-139.

<https://www.asjp.cerist.dz/en/downArticle/681/1/1/144578>

- ◆ Bouklata, D (2016). Effects of Computerized Programmes on the Development of Reading Comprehension Skills: Case of Second-Year EFL Students at the University of Tlemcen [Master Dissertation, University of Tlemcen]. Dspace Tlemcen. <http://dspace.univ-tlemcen.dz/handle/112/8962>
- ◆ Boutheldji, I. (2023, February 7). الإنجليزية لغة تدريس بالجامعات الموسم القادم. <https://www.echoroukonline.com/الانجليزية-لغة-تدريس-بالجامعات-الموسم>
- ◆ Cacco, M. (2023). Screenplay as Visual Literature. *International Journal of Linguistics, Literature, and Culture*, 10(1). <https://doi.org/10.19044/llc.v10no1a24>
- ◆ Cardona, M. A., Rodríguez, R. J., & Ishmael, K. (n.d.). *Artificial Intelligence and the Future of Teaching and Learning*.
- ◆ Chan, C. K. Y. (2023). A comprehensive AI policy education framework for university teaching and learning. *International Journal of Educational Technology in Higher Education*, 20(1), 38. <https://doi.org/10.1186/s41239-023-00408-3>
- ◆ Chassignol, M., Khoroshavin, A., Klimova, A., & Bilyatdinova, A. (2018). Artificial Intelligence trends in education: A narrative overview. *Procedia Computer Science*, 136, 16–24. <https://doi.org/10.1016/j.procs.2018.08.233>
- ◆ Chen, L., Chen, P., & Lin, Z. (2020). Artificial Intelligence in Education: A Review. *IEEE Access*, 8, 75264–75278. <https://doi.org/10.1109/ACCESS.2020.2988510>

- ◆ Cohen, L. (n.d.). *Research Methods in Education*.
- ◆ Dean R & D Desh Bhagat University, Mandi Gobindgarh, India, & Grewal, P. D. S. (2014). A Critical Conceptual Analysis of Definitions of Artificial Intelligence as Applicable to Computer Engineering. *IOSR Journal of Computer Engineering*, 16(2), 09–13. <https://doi.org/10.9790/0661-16210913>
- ◆ Dearden, J. (n.d.). *English as a medium of instruction – a growing global phenomenon*.
- ◆ Draper, J. (2004). The relationship between research question and research design
- ◆ Elkhayma, R. (2022). English as a Medium of Instruction: Exploring Benefits and Challenges in the 21st Century. *JURNAL ARBITRER*, 9(2), 158–163. <https://doi.org/10.25077/ar.9.2.158-163.2022>
- ◆ *Enhance Your Reading Skills with AI*. (2024, February 20). <https://www.toolify.ai/ai-news/enhance-your-reading-skills-with-ai-1357767>
- ◆ Fahimirad, M., & Kotamjani, S. S. (2018). A review on application of artificial intelligence in teaching and learning in educational contexts. *International Journal of Learning and Development*, 8(4), 106-118. <https://www.academia.edu/download/92387493/11110.pdf>
- ◆ Fitria, T. N. (2021a). *Artificial Intelligence (Ai) In Education: Using Ai Tools For Teaching And Learning Process*.
- ◆ Fitria, T. N. (2021b). Artificial Intelligence (Ai) In Education: Using Ai Tools For Teaching And Learning Process. *Prosiding Seminar Nasional & Call for Paper STIE AAS*, 4(1), Article 1.
- ◆ Fitria, T. N. (2021c). The Use Technology Based On Artificial Intelligence In English Teaching And Learning). *ELT Echo: The Journal of English Language Teaching in Foreign Language Context*, 6(2). <https://doi.org/10.24235/eltecho.v6i2.9299>
- ◆ Gilner, L., & Morales, F. (n.d.). *Extensive Reading and Evolving Student Prototypes*.

- ◆ Hidayat, M. T. (2024). Effectiveness of AI-Based Personalised Reading Platforms in Enhancing Reading Comprehension. *Journal of Learning for Development*, 11(1), Article 1. <https://doi.org/10.56059/jl4d.v11i1.955>
- ◆ Hillman, S., Li, W., Green-Eneix, C., & De Costa, P. I. (2023). The emotional landscape of English medium instruction (EMI) in higher education. *Linguistics and Education*, 75, 101178.
- ◆ Hunt, V. D. (1986). Introduction to Artificial Intelligence and Expert Systems. In V. D. Hunt, *Artificial Intelligence & Expert Systems Sourcebook* (pp. 1–39). Springer US. https://doi.org/10.1007/978-1-4613-2261-0_1
- ◆ Igbokwe, I. C. (2023). Application of Artificial Intelligence (AI) in Educational Management. *International Journal of Scientific and Research Publications*, 13(3). <https://doi.org/10.29322/IJSRP.13.03.2023.p13536>
- ◆ Ismail, H., Syahrurah, J. K., & Basuki, B. (2017). Improving The Students' Reading Skill Through Translation Method. *Journal of English Education*, 2(2), 124–131. <https://doi.org/10.31327/jee.v2i2.405>
- ◆ Jacob, C. (2020). English as a decolonial language: Academic frames, popular discourses & language practices in Algeria. *The journal of North African studies*, 25(6), 1013-1032. <https://doi.org/10.1080/13629387.2020.1732627>
- ◆ Janks, H. (2019). Critical Literacy and the Importance of Reading with and Against a Text. *Journal of Adolescent & Adult Literacy*, 62(5), 561–564.
- ◆ Jared, K. (2023). *Creative AI Tools and Ethical Implications in Teaching and Learning*. IGI Global.
- ◆ Jose, G. R., & Raja, B. (2011). Teachers' Role in Fostering Reading Skill: Effective and Successful Reading. *Journal on English Language Teaching*, 1(4), 1-10.

- ◆ Küçükoğlu, H. (2013). Improving Reading Skills Through Effective Reading Strategies. *Procedia - Social and Behavioral Sciences*, 70, 709–714. <https://doi.org/10.1016/j.sbspro.2013.01.113>
- ◆ Kumar, K. V. (2023). *Teaching and Learning for Global Competence Teaching Reading Strategies to Enhance Reading Skills* (pp. 48–52).
- ◆ Mahriza, R. (2017). Speed Reading To Improve Student’s Reading Skill. *JL3T (Journal of Linguistics Literature and Language Teaching)*, 2(2), 86–100. <https://doi.org/10.32505/jl3t.v2i2.16>
- ◆ McKinley, J., & Rose, H. (2022). English language teaching and English-medium instruction: Putting research into practice. *Journal of English-Medium Instruction*, 1(1), 85–104. <https://doi.org/10.1075/jemi.21026.mck>
- ◆ Messaoudi, N (2018). Designing an ESP Blended Course for Manufacturing and Engineering Sciences Master’s Students at Tlemcen University [Doctoral Thesis, University of Tlemcen]. Dspace Tlemcen. <http://dspace.univ-tlemcen.dz/handle/112/14103>
- ◆ Messaoudi, Y. (2017). An Evaluation of Higher Education-based Pre-service Training and School-based Initial Preparation of EFL Teachers [Doctoral Thesis, University of Tlemcen]. Dspace Tlemcen. <http://dspace.univ-tlemcen.dz/handle/112/12676>
- ◆ Merriam Webster. Definition of Artificial Intelligence. Retrieved in March, 2024 from <file:///Users/maalacheraounak/Zotero/storage/FYDQASVV/artificial%20intelligence.html>
- ◆ Morell, T. (2020). EMI teacher training with a multimodal and interactive approach: A new horizon for LSP specialists. *Language Value*, 12(1), 56–87. <https://doi.org/10.6035/LanguageV.2020.12.4>

- ◆ N, M., & Kumar N S, P. (2023). Investigating ESL Learners' Perception and Problem towards Artificial Intelligence (AI) -Assisted English Language Learning and Teaching. *World Journal of English Language*, 13(5), 290
. <https://doi.org/10.5430/wjel.v13n5p290>
- ◆ Ng, D. T. K., Leung, J. K. L., Chu, S. K. W., & Qiao, M. S. (2021). Conceptualizing AI literacy: An exploratory review. *Computers and Education: Artificial Intelligence*, 2, 100041. <https://doi.org/10.1016/j.caeai.2021.100041>
- ◆ Nguyen, A., Ngo, H. N., Hong, Y., Dang, B., & Nguyen, B. P. T. (2023). Ethical principles for artificial intelligence in education. *Education and Information Technologies*, 28(4), 4221-4241. <https://doi.org/10.1007/s10639-022-11316-w>
- ◆ Oribhabor, C. B., & Anyanwu, C. A. (2019). Research sampling and sample size determination: a practical application. *Journal of Educational Research (Fudjer)*, 2(1), 47-57. https://www.researchgate.net/profile/Chinelo-Oribhabor-2/publication/336723498_Research_Sampling_and_Sample_Size_Determination_A_practical_Application/links/5daf66e5299bf111d4bfc73d/Research-Sampling-and-Sample-Size-Determination-A-practical-Application
- ◆ Ouarni, O. (2023). Exploring Teachers' Perspectives on the Implementation of English as a Medium of Instruction (EMI) in Algerian Higher Education Institutions: Challenges and Opportunities. *Algerian Scientific Journal Platform*, 8 (3), 176-192. <https://www.asjp.cerist.dz/en/downArticle/351/8/3/223062>
- ◆ Panyasai, P. (2023). Enhancing Reading-Comprehension Abilities and Attitudes of EFL Students through utilising Content-Creation Tools in Classroom Presentations. *International Journal of Learning, Teaching and Educational Research*, 22(7), 497-516. <https://doi.org/10.26803/ijlter.22.7.26>
- ◆ Patty, J. (2024). THE USE OF AI IN LANGUAGE LEARNING: WHAT YOU NEED TO KNOW. *Jurnal Review Pendidikan dan Pengajaran (JRPP)*, 7(1), 642-654. <http://journal.universitaspahlawan.ac.id/index.php/jrpp/article/view/24609>

- ◆ Pedro, L. F. M. G., Barbosa, C. M. M. D. O., & Santos, C. M. D. N. (2018). A critical review of mobile learning integration in formal educational contexts. *International Journal of Educational Technology in Higher Education*, 15, 1-15. DOI 10.1186/s41239-018-0091-4
- ◆ Pokrivcakova, S. (2019). Preparing teachers for the application of AI-powered technologies in foreign language education. *Journal of Language and Cultural Education*, 7(3), 135–153. <https://doi.org/10.2478/jolace-2019-0025>
- ◆ Rédaction AE. (2023, December 30). *Anglais à l'université: 64.000 enseignants en formation*. <https://www.algerie-eco.com/2023/12/30/anglais-a-luniversite-64-000-enseignants-en-formation/>
- ◆ Rifiyanti, H., & Dewi, D. U. (2023). English as a Medium of Instruction (EMI) in Learning Practice: Perspectives and Strategies of Educators. *Tamaddun*, 22(2), 183–192. <https://doi.org/10.33096/tamaddun.v22i2.551>
- ◆ Rima, S., & Mohamed, A. (n.d.). *English Medium Instruction from the Perspective of University Students in Algeria*.
- ◆ Rose, H., Macaro, E., Sahan, K., Aizawa, I., Zhou, S., & Wei, M. (2023). Defining English Medium Instruction: Striving for comparative equivalence. *Language Teaching*, 56(4), 539–550. <https://doi.org/10.1017/S0261444821000483>
- ◆ Saghiri, A. M., Vahidipour, S. M., Jabbarpour, M. R., Sookhak, M., & Forestiero, A. (2022). A Survey of Artificial Intelligence Challenges: Analyzing the Definitions, Relationships, and Evolutions. *Applied Sciences*, 12(8), 4054. <https://doi.org/10.3390/app12084054>
- ◆ Savaşkan, V. (2017). Investigating the Effect of Reading Types Used in Turkish Lessons upon 5th Grade Students' Reading Comprehension. *Journal of Education and Training Studies*, 5(8), 77. <https://doi.org/10.11114/jets.v5i8.2491>
- ◆ Stolpe, K., & Hallström, J. (2024). Artificial intelligence literacy for technology education. *Computers and Education Open*, 6, 100159.

<https://doi.org/10.1016/j.caeo.2024.100159>

- ◆ Tamtam, A. G., Gallagher, F., Olabi, A. G., & Naher, S. (2012). A Comparative Study of the Implementation of EMI in Europe, Asia and Africa. *Procedia - Social and Behavioral Sciences*, 47, 1417–1425.

<https://doi.org/10.1016/j.sbspro.2012.06.836>

- ◆ Toolify. Ai (2024). Enhance Your Reading Skills with AI. Retrieved in March, 2024 from https://www.toolify.ai/ai-news/enhance-your-reading-skills-with-ai-1357767#google_vignette
- ◆ *The relationship between research question and research design*. (n.d.).
- ◆ Trung, C. (2023). EFL Students' Challenges in the Integration of Reading and Writing in their Writing Classes. *European Journal of English Language Studies*, 3(1), 13–22. <https://doi.org/10.12973/ejels.3.1.13>
- ◆ Yapp, D., de Graaff, R., & van den Bergh, H. (2023). *Effects of reading strategy instruction in English as a second language on students' academic reading comprehension*. <https://doi.org/10.1177/1362168820985236>
- ◆ Yi, Y. (2021). Establishing the concept of AI literacy. *Jahr – European Journal of Bioethics*, 12(2), Article 2.
- ◆ Young Readers Foundation (2024). Improve the world by letting young people read. Retrieved on march 2024 from, <https://youngreadersfoundation.org/>
- ◆ Zouhaier, S. (2023). The Impact of Artificial Intelligence on Higher Education: An Empirical Study. *European Journal of Educational Sciences*, 10(1), 17-33.
- ◆ . وزارة التعليم العالي: إعتقاد اللغة الإنجليزية كلغة للتدريس بدءا من الموسم الجامعي المقبل. (n.d.). <https://anndz.dz/2023/07/03/الإ-إعتقاد-اللغة-الإ-وزارة-التعليم-العالي-/>

Appendices

Appendix A: Students' pre-test

Full name:

1st year Engineer in computer science

Duration: 1 hour

Reading Test

Title: Computer Science Reading Proficiency Test

Introduction: This test is designed to assess your reading proficiency in computer science. The test includes three parts related to “operating system” module, the text is extracted from the lecture of session 2: Overview of the UNIX system. You are advised to read each passage carefully and answer the questions based on the information provided.

Part I: Incomplete Sentences

Instruction: Select the best answer.

- Software is _____ when it can run on different machines.
a- adaptable **b-** compatible **c-** portable **d-** mutable
- In Unix, a _____ is seen as a logical resource, not a physical one.
a- file **b-** directory **c-** disk **d-** partition
- If you have forgotten your password, you must contact the _____ (root) who is the only person authorized to unlock it.
a- administrator **b-** manager **c-** user **d-** owner
- The number of _____ of an array determines how many indices are used to access the elements of the array.
a- dimensions **b-** indices **c-** elements **d-** values

Part II: Text Completion

Instruction: Read the text and choose the right answer.

Passage 1: Understanding Operating Systems

An operating system (OS) is a set of programs that manage the hardware resources of a computer and make these resources available to the user. It is a meta-program, a program that manages the computer's hardware resources and interacts with users to run other programs. The main _____ (1) **a. objections b. objectives c. object d. objecting** of an operating system are resource management and providing a user-friendly environment for operating the machine.

The operating system can be defined by _____ (2) **a. component's b. components c. component d. complement** or by functions. The components include memory, CPU, and peripherals, while the functions include resource management and virtual machine. Memory is used to store data and instructions for _____ (3) **a. processing b. managing c. executing d. storing**, while the CPU is responsible for executing instructions. Peripherals include input/output devices such as keyboards, mice, and displays.

The operating system must provide services such as a command interface _____ (4) **a. for b. from c. of d. to** the user, support for program creation, file management, management of programs and applications, interrupt service, input/output management, services for networks, and measurement of computer statistics and performance.

In conclusion, an operating system is a crucial component of any computer system. Its main objectives are resource management and providing a user-friendly environment for operating the machine. The operating system can be defined by component or by functions, and it must provide various services to users. Understanding the concept of an operating system is essential for computer users and professionals alike.

Part III: Interpretation

Directions: Read the text then circle the suitable answer.

Passage 2: History and Functionality of the Unix Operating System

The Unix operating system is a set of programs that manage the hardware resources of a computer and make these resources available to the user. The origins of Unix date back to the late 1960s at Bell Labs, where it was developed as a file management system, a few basic utilities, and a shell. The Unix operating system is closely linked to the C language, which was originally written in assembler and then rewritten in C in 1971.

In 1974, Unix was distributed to universities, and in 1979, it developed commercially. The first commercial steps were taken in 1979 with version 7, and in 1984, System V.2 was adopted as the standard. In 1991, Linus B. Torvalds used MINIX to create a free implementation of the POSIX specifications with System V (AT&T) and BSD (Berkeley) extensions, which became known as Linux. The integration of the BSD file system into Linux made it a reliable system and became a standard. Linux became a complete UNIX system compatible with other UNIX systems, offering more professional-quality services.

The Unix system allows several users to access system resources and perform more than one task at a time. The structure of Unix is made up of four concentric layers: the central kernel, the complete kernel, the Shell, and Tools and applications.

In conclusion, the Unix operating system has a rich history and a complex structure that provides users with powerful features and capabilities. Its compatibility with other operating systems and its support for multiple users and tasks make it a popular choice for many organizations and individuals.

1- What was the initial purpose of Unix?

- a-** A complete operating system for personal computers
- b-** A word processing program
- c-** A file management system with basic tools
- d-** A web browser

2- What is the relationship between Unix and the C language?

- a-** Unix was written in C language
- b-** Unix was written in assembler and then rewritten in C in 1971
- c-** Unix and C language were developed simultaneously
- d-** Unix was written in C++

3- What does the integration of the BSD file system into Linux signify?

- a- Increased compatibility with other Unix systems.
- b- Improved user interface and graphics capabilities.
- c- Enhanced security features and stability.
- d- Focus on mobile device applications.

4- What is the key feature of the Unix system regarding user access?

- a- It restricts access to a single user at a time.
- b- It allows multiple users to access the system simultaneously.
- c- It requires special permissions for any user interaction.
- d- It prioritizes tasks based on user importance.

Thank you so much!

Appendix B : Students' Post-test

Full name:

1st year Engineer in computer science

Duration: 1 hour

Reading Test

Title: Computer Science Reading Proficiency Test

Introduction: This test is designed to assess your reading proficiency in computer science. The test includes three parts related to “operating system” module, the text is extracted from the lecture of *Sessions 5 and 6: Ordonnancement des processus (CPU scheduling)*. You are advised to read each passage carefully and answer the questions based on the information provided.

Part I: Incomplete Sentences (2 points)

Instruction: Select the best answer.

- 1- An operating system's scheduler is an essential component for _____.
a- coordinating b- supervising c- synchronizing d- modularizing
- 2- The scheduler's primary objective is to make efficient use of the processor, reduce response time, and consider _____.
a- optimization b- allocation c- criteria d- algorithms
- 3- In a multi-user system, the scheduler must ensure that each process receives its _____.
a- multiple tasks b- adequate resources c- network connection d- redundancy
- 4- Meeting the objectives of a scheduler, such as maximizing processor efficiency and providing responsive and fair performance, can be challenging due to _____.
a- incompatible software b- insufficient memory c- process competition d- voltage fluctuations

Part II: Text Completion (4 points)

Instruction: Read the text and choose the right answer.

Passage 1: Process scheduling techniques and scheduling algorithms

Process scheduling techniques are essential components _____ *a. into any b. of any c. inside any d. to any* operating system. These techniques aim to ensure that the processor makes efficient use by choosing a process that will boost performance and optimize processing time. The selection process is designed to achieve several criteria, including fairness, responsiveness, execution time, and throughput. Choosing a _____ *a. processor b. pressure c. processes d. process* to run is often done by using a scheduling algorithm that varies based on specific principles and policies. Some of the most commonly used algorithms are First Come First Served (FCFS), Shortest Job First (SJF), Shortest Remaining Time (SRT), and Round Robin (RR). A priority system can also incorporate some algorithms, and the choice of which algorithm to use will depend on the operating system's specific requirements and needs.

When an operating system is multi-programmed, there will be several processes/threads competing for the processor's time. The scheduler _____ *a. playing b. played c. plays d. play* a significant role in choosing the correct process to run by weighing the different criteria. Some challenges exist when selecting the next process to run, such as balancing fairness, responsiveness, and making the best use of the processor. Different schedulers can have different objectives, such as maximizing throughput, minimizing response time, and ensuring that all parts of the system are _____. *a. busy b. easy c. lazy d. noisy*

These scheduling algorithms can be used in both preemptive and non-preemptive situations. Preemptive algorithms interrupt the execution of the current process to choose the next process to give the processor to. In contrast, non-preemptive algorithms will allow the running process to complete before selecting the next one to run. Based on how each scheduling algorithm works, some may prioritize responsiveness over throughput, while others may prioritize throughput over responsiveness.

Part III: Interpretation (4 points)

Directions: Read the text then circle the suitable answer.

Passage 2: Interrupts and scheduling queues

Interrupts are essential when handling a multi-user system with several processes/threads. Interrupts can occur when a new process is created, terminates, stalls, or when an I/O interrupt occurs. Clock interrupts are periodic interrupts commonly used to switch tasks in multitasking systems. The scheduler must make a decision among the competing processes when an interrupt occurs. Different scheduling algorithms have different preemptive or non-preemptive policies to handle these interrupts.

Interrupts can either be triggered by hardware or software. Hardware interrupts are issued by peripherals (keyboard, disk, USB, etc.), while software interrupts occur when the CPU detects an error in the processing of an instruction, such as a division-by-zero error. Clock interrupts are used to switch tasks in multitasking systems. The interrupt may be triggered by a clock and put the scheduler into action. This interruption can pause the current process to select the next process to run when the interruption occurs.

When an interrupt occurs, the scheduler must choose the appropriate policy to implement, such as preemption. Preemptive algorithms provide a mechanism for switching processes within the operating system. This enables changes to the current process when an interrupt occurs. In contrast, non-preemptive algorithms allow currently running processes to finish before scheduling the next process to run. Depending on the operating systems' characteristics, different scheduling algorithms have specific advantages and disadvantages when handling interrupts in competing processes. Therefore, it is essential to consider the most appropriate algorithm to handle interrupts and queue scheduling.

1. The main purpose of interrupts in a multi-user system is to:

(A) Slow down the processing of tasks.

- (B) Prevent errors in the CPU.
- (C) Increase the workload for the scheduler.
- (D) Manage multiple processes efficiently.

2. Hardware interrupts are triggered by:

- (A) External devices like keyboards and disks.
- (B) Software errors in the CPU.
- (C) Decisions made by the operating system scheduler.
- (D) The completion of a process.

3. Which of the following is NOT a type of interrupt mentioned in the passage?

- (A) Clock interrupt
- (B) I/O interrupt
- (C) Network interrupt
- (D) Software interrupt

4. According to the passage, choosing the right scheduling algorithm for interrupts is important because it affects:

- (A) The type of hardware devices used in the system.
- (B) The system's responsiveness and efficiency.
- (C) The number of processes that can be run concurrently.
- (D) The amount of memory available to each process.

Thank you so much!

Appendix C: Teachers' Interview

Interview questions

This interview is a part of research entitled **Integration of AI tools to improve reading skill in EMI approach**. We kindly request your help in responding to the following questions, as they are important for the validity of this study.

- 1- Specialty / module taught
- 2- Years of experience/ Rank
- 3- Have you attended the English course introduced by the university for teachers at the CEIL (and if yes, what was the level attained).
- 4- Can you share your thoughts on using French in previous years compared to this year, and explain the benefits you see in using English as the main language for teaching both yourself and your students?
- 5- -can you share your experience with using EMI in your classroom? What are the main challenges you face particularly in terms of reading comprehension and critical thinking?
- 6- What are your views on the potential use of AI technology in the classroom, and in your opinion, can incorporating AI tools be beneficial for improving students' English language proficiency?"
- 7- Have you ever used AI as a tool in your teaching? If yes, what are these tools and how do you integrate them?
- 8- Since you are a teacher in computer sciences, do you give your students AI tools that may help them in their learning? (Of the English language)
- 9- According to you, how can AI tools help your students develop their reading abilities?
- 10- How can teachers effectively promote active reading strategies for computer science-related materials in the digital age?

- 11- How can teachers encourage students to move beyond passive information consumption (scrolling, skimming) and engage in deeper reading?
- 12- How can teachers create a classroom culture that values discussion, debate, and reflection to encourage students to internalize and learn from what they read?

Appendix D: Interviews' Scripts

TEACHER 1:

Q1: computer science/operating system

Q2: 27 years/professor

Q3: No, but I attended twenty years ago training at CLA (center of Applied Linguistics in France) and I obtained a good mark on the exam

Q4: the main problem these years of the students nowadays is the language, whatever was it French or English. Students, especially in the first year face challenges with the language because it is a new field for them, a scientific one that changes their reasoning in addition to the language factor which makes it very difficult for them.

- Teaching in English is beneficial because English is the language of science, for example when preparing or explaining a concept before using the French language wasn't the exact term that should be used.

Q5: It was not a very successful one, I taught in English in the first semester but for the second I'm preparing my courses in both languages, unlike the TD and TP which are totally in English.

- The main challenge as was mentioned earlier is the language in general, in exams for example they find difficulties in understanding the questions, so as teachers we try to minimize the literature and keep it simple (direct questions).

Q6: using AI tools can help students improve their level for example using quizzes to learn the different terms seen during the session. as they can use them to summarize or translate the course.

Q7: For the moment no but I think it's high time to start using it.

Q8: For the moment I gave them only the translation tool "DeepL"

Q9: I don't know.

Q10: For me, I provide my course at this stage in both languages but for their second years it will be only in English, I find this way will be very helpful to learn the science and the English language through French.

FQ: You mentioned earlier that they have a problem with language e.g., French and English, how can this way help them?

- They have to attend the course, we are using even dialect (Algerian Arabic) and, of course, the learner has to have specific intelligence and motivation to find a way to learn and gather the maximum from their learning process.

Q11: the motivation of students is very important in our field, we are working on making a common core in the first year, to increase the motivation and productivity of the learners (create an autonomous learner).

Q12: I use Teams to stay in touch with my students and I answer them at any moment, so they don't feel shy to ask and they even ask for some additional activities.

Teacher2:

Q1: Didactics / English

Q2: 11 years / Assistant Teacher

Q3: No

Q4: It's too early to see changes, but this generation is oriented towards English.

Q5: I face challenges in teaching reading comprehension inside an amphitheater/ lecture hall, it is not practical regarding the number of students, and the time because we have only 90 minutes per week, the dominant psychology of the students.

FQ: do they face difficulties in reading texts?

- It depends on the level of the students, the teachers adapt the text according to the whole group, it can be A1, A2, B1, C2...

Q6: I don't know what to think about it, the AI represents a problem when we are talking about teaching and learning but I think that AI represents a problem when it comes to the true authentic appreciation of students' level, for example when we give students some assignments, some homework you will not have the full picture or the real picture, the authentic picture. I think that AI has tremendous potential if its use is organized and students are aware of the potential that they are the experts, not the AI.

- Roles should switch writing should be done in classrooms and other activities that have been done in the classroom should be done at home and provide them with oral presentation.

- AI has tremendous potential if its use is organized and students are aware of its potential.

Q7: Yes, I use several AI tools and of course, I use GBT and GEMINI (Google Bard) and other tools, I honestly don't remember them, I'm always seeking to innovate and find new tools that can help me in what I'm doing.

- I can provide two examples of how can these tools be integrated; I use it when developing my evaluation, my assessment and I use AI when I want to create items, so instead of going to science books and, searching for sentences that make use of present

simple, I can ask AI to generate sentences that use present simple and those sentences can be contextualized to the topic, I also use AI to adapt texts to students' level.

Q8: Students are perfectly aware of these technologies, my role maybe isn't to show them which AI to use, I could do that if my knowledge is fact-checked (based on facts, experience, and research papers). I can only suggest how to use those tools to enhance their learning experience. Overall, they do not use AI only for language generation but they use it to generate algorithms, codes, and graphics.

Q9: The answer to this question should be creative. I don't know honestly that writing is more significant but reading is somehow hard, except if they use AI tools to simplify texts except if they want to understand some passages using AI (negotiate meaning), They can't know how deep AI can go in meaning.

Q10: Collaborative reading is a reading strategy that promotes motivation, and interest and attracts students to read more. For example, instead of using a text for a group of students that is put online in a platform, the students can read, comment, and start an online debate if they struggle with something (real-time feedback) and it can calculate the time spent in reading (Canva student).

Q11: Teaching strategies, depend on the purpose if you want to teach skimming and scanning. Design instructions particularly instructional assessment because you can't teach reading without using assessment, this is why assessment is very important that it be done to measure whether to evaluate students, teach them, or test them, it is a necessary measure that could serve many purposes, how do you want to teach them skimming and scanning, you can deploy some instructional activities like (the interviewee doesn't remember the exact term) the activity is a reading activity where you are giving a text to students along with a series of questions (those questions could vary from open-ended questions to MCQ questions, to information transfer questions) but all those questions target the surface structure, the expect functional meanings, in this way, you will require students to do skimming and scanning and will control your activity by providing a reasonable amount of time to do the activity, so that the reading would be scanning and skimming, Okay so if you are targeting if you are targeting are

focused reading a deep structure Reading for explicit meaning is reading for pragmatic meaning is okay

Q12: We don't have enough time, I have only 90 minutes per week, in reality, if you are going to sub-merge students with a lot of work, they won't do it with intrinsic motivation. You have to a lot of time on the debate and sometimes you can't do that and the teacher should score the debate to motivate them.

Teacher 3:

Q1: Mathematics / Calculus 2

Q2: 18 years / MCA

Q3: Yes, but only twice because my level is already good enough compared to the courses there (it wasn't teaching me anything) but I got 17 on the exam.

Q4: Actually, for 7/6 years ago we are not using French while explaining, students are not able to make a sentence in French nor Arabic. There is no benefit in using any language in math class, it would be good if the student gets the mathematics that's it, at this level first year isn't that important compared to advanced levels.

Q5: I find that English is very important but I can't impose it on my students.

- For me as a teacher, the main challenge is that that I don't practice the English language that much, but for my students, in my module, they don't care about the language.

Q6: AI is a huge problem and it will change completely teaching, I have been witnessing master theses that have completely changed. Before, there was lots of errors and mistakes that have disappeared with AI, and a perfect work is done. While coming to the oral production is totally different, but for teaching I think is good, it can help teachers sometimes for first and second grade even third-grade it's okay it can help them improve their language proficiency otherwise it would be something illegal and unethical.

Q7: Till now no, I don't use it, I barely use Google Translate. I use AI for my research, not my teaching.

Q8: I give them everything I know but they don't use it, they even don't use YouTube for learning purpose but I think in coming years students will use AI more but will be everything understood? We don't know.

Q9: I really don't know

FQ: they can for example use it for translation, summaries...

- No one can know what to be summarized better than the student himself. The AI tools would be helpful if you know how to use them

Q10: by giving presentations (oral form) read and talk.

Q11: this issue is a huge problem that I struggled with in my first years, I always act as a clown in my classroom to motivate my learners as I always mention that this point is very important and you can't pass through so it depends actually on the personal decision of the student and their motivation to learn.

Q12: this is not possible in a mathematics class, at this stage the students have only to learn, I don't allow much discussion because it will waste time.

Appendix E: Entry Permit Approval

اسم و لقب الطالبة 1 : معلاش روثى
اسم و لقب الطالبة 2 : غماري إيمان
قسم اللغة الإنجليزية


تلمسان في: 05-12-2023


السيّد: رئيس قسم الإعلام الآلي .

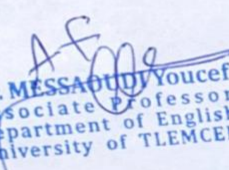
الموضوع: طلب الترخيص بالدخول الى قسم
الإعلام الآلي .

يُشرفنا أن نتقدم لسيادتكم بهذا الطلب المذكور أعلاه،
لطلب التواصل مع طلبة و أساتذة قسم الإعلام الآلي ،
بغرض القيام ببحث بخصوص مذكرة التخرج "ماستر" حول
إدماج الذكاء الاصطناعي لتحسين معارة اللغة الإنجليزية.
وذلك بعلم و طلب من الأستاذ المشرف: الدكتور
مسعودي يوسف .

و في الأخير، تقبلوا سيدي ، فائق عبارات التقدير و الإحترام.


جامعة تلمسان
الكلية الأدبية والعلوم الإنسانية
قسم اللغة الإنجليزية
رئيس قسم الإعلام الآلي
داودي


جامعة تلمسان
قسم الإعلام الآلي
كلية العلوم
رئيس قسم الإعلام الآلي
AF


Dr. MESSAOUDI Youcef
Associate Professor
Department of English
University of TLEMCEM

CS Scanned with CamScanner

Appendix F: The decision of adoption the English Language in Algerian Univesities



الجمهورية الجزائرية الديمقراطية الشعبية وزارة التعليم العالي والبحث العلمي

الأمين العام

الجزائر في: 01 جويلية 2023

رقم: 673/ع. 2023

السادة رؤساء الندوات الجهوية للجامعات بالاتصال مع مديري مؤسسات التعليم العالي

الموضوع: بخصوص اعتماد اللغة الإنجليزية كلفة للتدريس بدء من الموسم الجامعي المقبل 2023-2024.

تنفيذا لتعليمات السيد الوزير، وفي إطار التحضير لاعتماد اللغة الإنجليزية كلفة للتدريس بدء من السنة الجامعية المقبلة 2023-2024، يشرّفني أن اطلب منكم تنظيم اجتماعات بهذا الخصوص، وتشكيل فرق بيداغوجية حسب المقياس أو المادة، وذلك قبل الخروج للعطلة الصيفية.

وتجدر الإشارة إلى أن الفريق البيداغوجي، الذي يترأسه أستاذ عن طريق التعيين أو الانتخاب، يتكوّن من مجموعة من الأساتذة المحاضرين، وكذا الأساتذة الذين يضمنون الأعمال التطبيقية والأعمال الموجهة.

وعليه، يجب أن يتضمن جدول أعمال هذا الاجتماع النقاط التالية:

- عرض مرحلي للتحضيرات الخاصة باعتماد اللغة الإنجليزية كلفة للتدريس،
- إعداد استعمالات الزمن.

كما أنهى إلى علمكم بأن اللجنة الوطنية للإشراف ومتابعة تنفيذ برنامج تكوين الأساتذة وطلبة الدكتوراه في اللغة الإنجليزية، والتي تترأسها الأستاذة قاصد آسيا، تعتزم القيام بزيارات ميدانية للمؤسسات الجامعية، خلال شهر جويلية الحالي، لتقييم التحضيرات ذات الصلة. لذا، يطلب من مديري المؤسسات الجامعية اتخاذ جميع التدابير والإجراءات الملائمة لاستقبال أعضاء هذه اللجنة، وتسهيل مهمتهم، وافادتهم بالمعلومات المطلوبة.

تحياتي الخالصة.

Digitally signed by Abdelhakim BENTELLIS
Date: 2023.07.01 13:57:16 +01'00'

Summary

This study explores the effectiveness of integrating Artificial Intelligence (AI) in improving reading skills in English as a Medium of Instruction (EMI) contexts. This experimental research at Aboubakr Belkaid University of Tlemcen found that AI tools enhance grammar and reading comprehension. Such benefits included real-time feedback, student engagement, and customised learning. However, drawbacks included large class sizes, time constraints, and potential overreliance on AI. Careful implementation is needed to address challenges like vocabulary decline and potential overreliance on AI.

Keywords: Artificial Intelligence (AI), EFL, English as a Medium of Instruction (EMI), English Language, Language education, Reading skill

Résumé

Cette étude explore l'efficacité d'intégrer l'intelligence artificielle (IA) dans l'amélioration des compétences en lecture en anglais en tant que médium d'instruction (EMI) contextes. Cette recherche expérimentale menée à l'Université Aboubakr Belkaid Tlemcen ont révélé que les outils d'IA améliorent la compréhension de la grammaire et de la lecture. Ces avantages comprenaient des commentaires en temps réel, l'engagement des étudiants et l'apprentissage personnalisé. Cependant, les inconvénients comprenaient de grandes tailles de classe, des contraintes de temps et une surdépendance potentielle de l'IA. Une mise en œuvre minutieuse est nécessaire pour relever des défis tels que le déclin du vocabulaire et la dépendance potentielle à l'IA.

Mots Clés : ALE, Anglais comme moyen d'instruction (EMI), Compétences en lecture, Éducation linguistique, Intelligence artificielle (AI), Langue anglaise

الملخص

تستكشف هذه الدراسة فعالية دمج الذكاء الاصطناعي في تحسين مهارات القراءة في سياقات اللغة الإنجليزية كوسيلة للتعليم. وجد هذا البحث التجريبي في جامعة أبو بكر بلقايد تلمسان أن أدوات الذكاء الاصطناعي عززت قواعد اللغة وفهم القراءة، ولكنها قللت من درجات المفردات العلمية. تضمنت هاته المكتسبات كذلك الملاحظات في الوقت الفعلي، ومشاركة الطلاب، والتعلم المخصص. ومع ذلك، تضمنت العيوب ضيق الوقت، والاعتماد المفرط المحتمل على الذكاء الاصطناعي. وبالتالي هناك حاجة إلى التنفيذ الدقيق لمعالجة التحديات مثل انخفاض المفردات، وأحجام الفصول الدراسية الكبيرة، والاعتماد المفرط المحتمل على الذكاء الاصطناعي.

الكلمات المفتاحية: الذكاء الاصطناعي، الإنجليزية كلغة أجنبية، الإنجليزية كلغة متوسطة للتعليم، اللغة الإنجليزية، تعليم اللغة، مهارة القراءة