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Reimagining the EFL Classroom: The Impact of Digital Tools and AI on Language Learning in Higher Education. The case of 2nd year EFL student at Tlemcen university, Algeria

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Abstract ;(not more than 10 Lines)

This study investigates the impact of digital tools and AI on EFL instruction in higher education, focusing on second-year students at Tlemcen University. It explores how AI-powered platforms and blended learning environments influence student engagement, language proficiency, and autonomous learning. Using a mixed-methods approach, the research highlights shifts in pedagogy and learner outcomes. The study offers insights into the benefits and challenges of integrating technology in EFL contexts and provides practical recommendations for educators and policymakers.

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1. *Introduction*

A key component of Industry 4.0 technologies, artificial intelligence (AI) is progressively becoming more prevalent in everyday life for individuals. Out of all of its numerous applications, teaching second or foreign languages is one of the most important fields where the former is redefining conventional methodologies. Recently, the idea of implementing AI in Higher Education (HE) has gained a lot of attention from researchers. The Algerian higher education system is not an exception; in fact, it has been forced to take artificial intelligence into account in a number of areas, including education. Thus, Artificial Intelligence (AI) and digital technology integration have completely changed the educational scene in recent years, especially when it comes to language acquisition. English as a Foreign Language (EFL) classrooms are rapidly implementing AI-driven technologies and digital platforms to enable innovative teaching and self-directed learning as higher education institutions throughout the world undergo digital transformation. The fourth Industrial Revolution

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and the changing demands of students in the twenty-first century have established a global trend that is reflected in this shift.

There has also been a substantial amount of scholarly discussion between those who support the integration of AI and those who are hesitant about its potential use in the classroom (Chen et al., 2022). Zawacki-Richter et al. (2019) conducted a comprehensive review that highlights the low involvement of educational scientists in AI-driven research. Without exaggeration, artificial intelligence (AI) has the potential to fundamentally alter second/foreign language instruction more than any other technology in history. The use of AI and digital tools is still an emerging trend in Algeria, where traditional pedagogical approaches have long dominated the country's higher education system. The actual application of these tools, particularly in EFL instruction, has been uneven and understudied, despite national initiatives to promote their use in the classroom. This is especially true in the classroom, where instructors and students frequently encounter pedagogical, institutional, and technical obstacles while attempting to successfully implement digital innovations. So, little is known about how AI can be incorporated into Algerian higher education, especially when it comes to English as a Foreign Language (EFL). Because of this, a lot of Algerian EFL educators now show hesitancy, opposition, or possibly a misperception of AI pedagogy as a safe and effective approach. Examining the function of "AI tools at all levels of education and preparing future generations to take action and make change" is critically important (Idri, 2024, p. 17).

Even though there has been some recent research on students' use of AI, there is still a lack of information about how much students use AI-powered tools for EFL learning, what particular tools they use, and how this engagement is thought to either improve or, in some cases, hinder their learning. This current study, therefore, examines how Tlemcen University second-year EFL students' learning practices are affected by digital and AI-enhanced resources. In other words, it explores students' use of AI-powered learning platforms, their perceived benefits and drawbacks, and how these resources affect their motivation, autonomy, and language acquisition. It achieves this by drawing on both actual classroom research and theoretical frameworks in educational technology. The study intends also to close the gap between academic discourse and classroom realities in Algerian higher education by concentrating on the lived experiences and practical outcomes of learners.

Considering these goals, the study aimed to respond to the following research enquiries:

RQ1: How frequently and how do Tlemcen University second-year EFL students use digital and artificial intelligence (AI) technologies to learn the language?

RQ2: What are the perceived benefits and challenges of using these tools from the students' perspectives?

RQ3: What effects does the incorporation of AI and digital technology have on students' autonomy, engagement, and language competencies?

In order to help teachers, curriculum designers, and policymakers create more dynamic and diverse educational settings in Algerian universities, the findings attempt to offer a specific, evidence-based understanding of the role of digital innovation in EFL education.

2. Literature Review

The current literature review highlights significant developments in digital technology and artificial intelligence (AI) as they relate to education as part of the ongoing investigation of relevant theoretical foundations. Special attention is paid to how these innovations are reshaping language instruction in educational settings in Algeria and around the world. The incorporation of AI into EFL courses is framed by the larger trend of higher education becoming more digital, which is covered in the next part.

2.1. Digital Transformation in Higher Education

To keep up with this technological revolution that has altered many traditional ideas, higher education institutions must now engage with and adjust to the reality imposed upon them by the globalisation and transformation era. To do this, they must use contemporary methods and incorporate communication and information technology into their educational programs and procedures.

2.1.1. The onset of digital transformation

Although it is not new, digital transformation is being revitalised. The engine of digital transformation is digital technology, which began in the 19th century with wireless and telecommunications and advanced in the 20th century with electronic valves and transistors. Later, it created and improved the development of the computer until the advent of the Internet and smart phones, which allowed the world to be connected. Additionally, it carried out the infinite applications and uses in a variety of fields at the human and organisational levels as well as governments and the world at large, without boundaries.

These days, new and updated data for additional digital transformation is provided by digital technology. It is said that the progress of digital technology is fast-paced or increasing; the most notable example of this, which has been demonstrated over time, is "Moore's Law," which postulated in 1965 that computer processor capacity would rapidly increase while costs would steadily decline. While younger people are watching and will continue to observe, the older have undoubtedly experienced this themselves. IoT (Internet of Things), cloud computing, large data analysis, artificial intelligence, including machine learning science, robot systems, and its numerous applications, are examples of recent data. (2020, Bakri)

2.1.2. The Concept of Digital Transformation

Every researcher has offered a different perspective on the idea of digital transformation, and their opinions have been diverse. In this regard, we will clarify a number of ideas:

- It is the process of incorporating digital technology into all facets of business and society in order to improve operational efficiency, increase productivity, lower errors, innovate, and improve the quality of products and services, in addition to offering customers better services. (2020, Hajir).
- The process by which businesses are shifting to a digital technology-based business model in order to innovate new goods and services, create new revenue streams, and enforce them raises the value of their raw materials. Salami (2019).

- It is a shift that calls for a business plan, as well as technical and digital skills gathered to produce unique goods and services in contrast to the conventional methods of providing services, as well as improving operational effectiveness, cutting expenses, and gaining a wider range of clients and individuals to outperform rivals. (Tobal, 2020)

According to the foregoing, digital transformation is defined as: a process associated with the intensive use of digital technologies and information technology, through which creative products and services are innovated, besides refining operational efficiency and productivity to the highest level of achievement and efficiency, in order to acquire a greater segment of customers and the public than competitors.

2.1.3. The significance of the digital revolution

Digital transformation (DT) offers a number of advantages for businesses, companies, and other stakeholders in addition to consumers and the general public. For example:

- Because it saves a lot of money and work, it improves and organises operational efficiency.
- It opens doors for providing new and inventive services in unconventional ways.
- It helps businesses and organisations grow, reach a wider audience, and reach more consumers and members of the public. Kassem (2020)
- By drastically altering how consumers, workers, and users are served and improving their experiences and productivity through a number of processes that are appropriate with the formulation of necessary procedures for activation and implementation, digital transformation offers enormous potential to build effective, competitive, and sustainable societies. Musailhi (2020)
- Moving from traditional to digital services, automating government services, doing away with bureaucracy because it reduces human worker errors, separating citizens and service providers, cutting corruption, and rationalising spending are all examples of how digital transformation has become necessary to keep up with the technological revolution. Nasr (2020)

2.2. The Connection Between Digital Transformation and the Quality of Higher Education

Rapid information technology improvements have made digital transformation a crucial challenge for international universities. Digital transformation encourages resource sharing and optimisation, improves management efficiency and transparency, and stimulates creativity in instruction and student learning experiences.

Numerous studies have demonstrated that adopting digital transformation as a strategy leads to better higher education quality by enabling the best possible use of ICT, which benefits all aspects of higher education processes. Algeria is a part of a new movement that aims to modernise and improve the quality of higher education by, among other things, establishing devices that put the student at the centre of educational action and integrating ICT into teaching and learning to increase productivity, quality, and performance- thereby making it a lever for development.

2.3. The Digitisation of Algerian Higher Education.

The development and competitiveness of most sectors now depend on digital transformation; in fact, the higher education sector is not exempt from this shift, which holds promise for the development

of human capital, which is necessary to achieve sustained and sustainable economic growth. The Algerian higher education system has undergone numerous reforms and upgrade initiatives for decades in order to address a number of issues, most notably the massification that impacts open access fields and the emergence of a new generation of "digital natives" who are proficient with new technologies and frequently use them outside the university campus. A higher standard of training has been ensured by the introduction of diverse teaching methods and beneficial improvements in educational material brought about by the shift to digital.

We are currently supporting the use of ICTs as a tool to mediatise various course and training formats and mediate various pedagogical paradigms. Thus, the higher education sector should concentrate its efforts and reflections on the quality of training in higher education, and more importantly, on adapting it to the ever-changing current context and providing this generation, which has the advantage of being proficient in new technological tools, with the best possible environment in which to develop the skills that the labour market requires.

2.3.1. The Primary Online Resources for Remote Learning

When students and teachers are separated, remote learning takes place. In a conventional in-person classroom, they are not present together. Teachers and students use technology to connect. The phrase "remote learning" typically refers to a class that meets in person with the option to meet virtually. Timelines for remote learning can vary. Students typically log in for a live session at predetermined intervals, and they finish homework in real time. We refer to this as synchronous learning. However, asynchronous learning can add flexibility to distance learning. When students receive course materials at their own pace, this is known as asynchronous learning.

For students to succeed in the classroom, they must feel protected. Arrange the lessons and different online resources for the distance learning program. Maintain consistency to give your students a sense of security, but use EdTech (Education Technology) to craft captivating lectures that will grab their interest. Although they lack some interactive capabilities, distance learning platforms offer a learning environment where teachers and students can collaborate and stay in real-time online connections. They are also a convenient way for teachers to obtain educational resources and manage their courses.

Some tools and resources that should be used for your distant learning classroom are highlighted in the following table:

Table 1: Platforms for distance learning

Distance learning platform	*Description*
Google meet	Professionals may simply arrange video sessions with Google's video conferencing service. Just send a URL that is automatically produced. All participants must have is a Google account.
Google classroom	It is a free learning platform that enables the development and sharing of digital exercises and courses.
Skype	Skype is a program that enables video calls for international communication.
Webinar	The webinar is an online conference or group gathering.
Zoom	One expert video conferencing tool is Zoom. Zoom enables you to set up online conferences, video webinars, online meetings, and instant messaging for written communication.
Youtube	Many educators decided to use social media or YouTube channels to communicate with their students by posting instructional videos on these sites.
Moodle	Moodle is a platform for online education. It has the ability to put up entire teaching systems since it permits the organisation of lessons in the form of courses.

Source: Collected and made by the author.

2.4. Artificial Intelligence in Language Education

The use of artificial intelligence (AI) to improve feedback, automate processes like translation and evaluation, and personalise language learning is growing. Chatbots, intelligent tutoring systems, and language models (such as Grammarly, ChatGPT, Duolingo, and Google Translate) are examples of AI-powered applications that can offer learners flexible learning routes and real-time support (Zawacki-Richter et al., 2019; Meihami, 2023).While providing students with a more independent and customised learning experience, these tools can also reduce the burden for teachers.

Ng et al. (2021) stress the importance of AI literacy, a concept that encompasses knowing how AI functions, applying it morally, and assessing its effects. This means that in language learning, students should be prepared to evaluate the efficacy, precision, and limitations of AI technologies in addition to using them. While some studies emphasise the benefits of AI for writing, vocabulary growth, and speaking fluency, others raise concerns about potential drawbacks, such as over-reliance, superficial learning, and data privacy issues (Wang & Vasquez, 2012; Dizon, 2022).

The features of this artificial intelligence-enhanced education are as follows:

- Making use of big data processing.
- Education informatisation, or the integration of AI into the educational process.
- Tailored education based on learner profile design.

All of these elements are, of course, interrelated, and they cannot be separated from one another.

1. In the first place, big data processing and data mining will confront educators with new obstacles, but they will also be an essential tool for mining data that we have never gotten and that present a rich supply of information that will be helpful for creating learner profiles.
2. Second, the relationship between AI and education informatisation is its most significant feature. Education information is insufficient if it solely uses eLearning platforms as stores for texts, exams,

videos, and communication tools. AI must be included into educational platforms in a manner similar to those of sales channels like Amazon, etc. This will allow us to actively promote new theories and methods and ensure strong educational innovation.

3. Third, intelligent learner information processing will serve as the foundation for personalised learning. Once more, a learner's profile will be created by a big data algorithm, allowing the app used for the learning process to provide them information tailored to their individual requirements. In order to provide the user with the best possible information and data, this is crucial for testing as well as for the entire learning process. This customised approach will be especially helpful for distance learners and part-time students (for instance, during health emergencies when regular schooling is stopped for extended periods of time, like the 2020 coronavirus epidemic).

2.5. The Algerian Context: Challenges and Opportunities

Digital technology has been gradually, although carefully, incorporated into higher education in Algeria in recent years. Universities have been urged to use more ICT (information and communication technology) in their administrative and instructional processes as a result of national reforms and the post-pandemic digital acceleration. Nonetheless, there are still differences in the rate and efficacy of this integration between fields and institutions, especially when it comes to teaching English as a foreign language (EFL).

The infrastructure of Algeria's higher education system is one of its main problems. Both teachers and students are unable to properly utilise digital platforms due to a lack of dependable educational software, outdated equipment, and limited internet connectivity (Ameziane & Benaissi, 2020). In inland and underfunded universities, such those outside the capital, these infrastructure deficiencies are frequently more severe. The digital divide continues to be a significant obstacle to fair learning opportunities, despite attempts by universities such as Abou Bekr university, Tlemcen to update classrooms and implement e-learning systems (like Moodle).

Teacher readiness and digital literacy present another difficulty. Many university professors lack the necessary skills in digital teaching, much less how to employ AI-powered technologies. According to Benmoussat and Benmessaoud (2019), technology is frequently underutilised or used in ways that do not optimise its educational potential. It is challenging for EFL teachers to create assignments that support student autonomy, real-world interaction, or differentiated instruction using digital resources because of this gap in professional development.

However, new opportunities are also appearing. Algerian students are becoming more tech-savvy, especially in urban areas, and they use social media, smartphones, translation applications, and language study platforms informally to help them learn English. This pattern indicates that students are already interacting with technology outside of the classroom, frequently in innovative and self-directed ways, even though institutional adoption of AI and digital tools may be slow. These informal learning practices can be used to encourage more independent and adaptable methods of language learning.

In this regard, there is unrealised promise in AI-powered products like ChatGPT, Grammarly, and language-learning applications like Duolingo or Elsa Speak. These resources offer conversational practice, scaffolded learning opportunities, and real-time feedback—features that are particularly

helpful in huge university classes when teachers are unable to provide each student the individualised attention they need. However, little is known about the pedagogical worth and real-world effects of these tools in Algerian EFL contexts, particularly at the higher education level.

Algeria still confronts a number of obstacles to the broad use of digital and artificial intelligence (AI) tools in education, despite the country's growing interest in EdTech. These include curriculum frameworks that place a higher priority on conventional approaches, uneven internet access, and inadequate preparation for teachers in digital pedagogy. However, since the COVID-19 pandemic accelerated up the transition to online and hybrid learning settings, universities are increasingly experimenting with digital platforms and blended learning strategies (Bouhnik et al., 2021).

Regarding EFL instruction, Algerian students frequently do not get real-world exposure to English outside of the classroom. By providing immersive, real-time language contact, digital tools and artificial intelligence may be able to close this gap. However, there is also a dearth of empirical study on how students really use these technologies, particularly at nearby educational institutions. Few studies have thoroughly examined the tools that students use, how they use them, and how they believe they affect language acquisition. Localised research is therefore desperately needed to guide future training initiatives and pedagogical choices.

There is a rising demand for context-specific research that examines how Algerian EFL students use digital and AI-based technologies in authentic learning environments, given the twin realities of latent opportunities and limitations. By concentrating on second-year EFL students at Tlemcen University, an organisation that reflects the larger opportunities and difficulties facing Algerian higher education today, this study meets that need. The study intends to give grounded insights that can guide future curriculum design, teacher training, and educational policy in Algeria by documenting student voices and usage patterns.

3. Methodology

This study explores how digital technology and artificial intelligence (AI) are changing the way that English as a Foreign Language (EFL) instruction is delivered in higher education. With a focus on second-year EFL students at Tlemcen University in Algeria, the study investigates the pedagogical effects of incorporating blended learning models, digital platforms, and AI-enhanced applications into language instruction.

Its specific goal is to assess the ways in which these tools affect important facets of language learning, such as learner autonomous growth, linguistic competency, and student engagement. The study connects theoretical understanding with practical classroom application, drawing on current theories of educational technology, second language learning, and digital pedagogy. It aims to offer a comprehensive grasp of how AI and digital tools can both enhance and challenge traditional EFL teaching techniques in Algerian higher education by fusing conceptual analysis with empirical observation.

3.1. Research Design

To address the aforementioned research questions, the investigator employed a mixed-methods research design, integrating quantitative and qualitative data collection tools to acquire an extensive

understanding of the ways in which digital tools and artificial intelligence technologies influence second-year university students' EFL learning. Semi-structured interviews with teachers and students make up the qualitative component, while a standardised questionnaire given to students makes up the quantitative component.

3.2. Participants

The sample comprised 80 second-year undergraduate students enrolled in the English Department at Tlemcen University, Algeria, during the academic year 2024–2025. The participants were selected using purposive sampling, as they represent a cohort already exposed to blended learning and informal use of digital/AI tools in their studies. Additionally, 6 EFL teachers (3 male, 3 female), with teaching experience ranging from 5 to 20 years, were interviewed to gather insights into instructional practices and attitudes toward digital and AI integration.

3.3. Data Collection Instruments

A student questionnaire and a series of semi-structured interviews addressed to both students and teachers were the two main data collection tools used in this study to guarantee a thorough grasp of how digital tools and AI applications are used and perceived in the EFL learning context at Tlemcen University. These methods were selected in order to integrate the depth of qualitative insights with the breadth of quantitative data and to triangulate data from multiple perspectives.

3.3.1. Students' Questionnaire

Quantitative information on students' technology use patterns, frequency of use of particular AI and digital tools, and opinions regarding the educational usefulness of these technologies were to be gathered through the questionnaire. It was divided into four primary sections:

- Demographic data (such as age, gender, internet usage frequency, and prior experience with digital learning),
- types of AI and digital tools (such as YouTube, Moodle, ChatGPT, Grammarly, Google Translate, and language apps),
- purposes of use (e.g., learning vocabulary, assisting with writing, fixing grammar, and practicing speaking),
- attitudes and perceived efficacy (as determined by a 5-point Likert scale, where "strongly disagree" to "strongly agree" are the possible answers).

Additionally, open-ended questions were used to give students the opportunity to share their own personal perspectives on the benefits and limitations of various technologies in their educational process. Before being widely distributed, the questionnaire was piloted with ten students and examined by two EFL experts to guarantee its validity and clarity. Based on feedback, minor changes were made, especially to clarify tool-specific items and simplify language.

3.3.2. Semi-Structured Interviews

A subsample of ten students and six EFL teachers participated in semi-structured interviews to supplement the quantitative data. The objective was to investigate in greater detail how students use digital and artificial intelligence (AI) technologies, as well as their motivations and concerns, and

how educators view the educational advantages and practical challenges of incorporating these tools into the classroom.

The students' interviews focused on themes such as:

❖ Personal interactions with digital platforms and AI,
❖ perceived influence on language proficiency,
❖ recommendations for improved coursework integration.

The teachers' interviews explored:

❖ Changes in student involvement and performance were noted,
❖ Views on the application of AI in education,
❖ professional and institutional readiness for the digital revolution.

With the participants' permission, all interviews were audio recorded in English and verbatim transcribed. The interview instructions were adaptable, enabling clarification and follow-up questions to elicit in-depth, rich answers.

Together, these instruments made it possible to conduct a more comprehensive study of the ways in which digital tools and artificial intelligence are impacting EFL instruction in a specific Algerian university context.

3.4. Data Analysis Procedures

To support the study's goal of combining breadth (by the questionnaire) and depth (via the interviews) in understanding the role of digital tools and AI in EFL learning at the Foreign Languages Department in Tlemcen University, the gathered data were analysed using a mixed-methods approach.

3.4.1. Quantitative Data Analysis

In order to find broad patterns in the way that students use digital and artificial intelligence (AI) tools, the questionnaire responses from 80 second-year EFL students were examined using descriptive statistics (frequencies, percentages, and mean scores). SPSS (Statistical Package for the Social Sciences) was used to enter the data in order to guarantee correctness and clarity in the findings' display.

Key variables included:

❖ The frequency of using AI/digital tools,
❖ Favourite platforms and tools,
❖ Primary language learning objectives, such as speaking, writing, and grammar
❖ Attitudes (such as perceived benefit, motivation, and challenges).

When appropriate, the results were presented in tables and charts that highlighted patterns and relationships among involvement levels, gender, and prior experience. Understanding learners' digital behaviours and their perceived impact on EFL growth was made possible by these statistical insights.

3.4.2. Qualitative Data Analysis

Using the framework developed by Braun and Clarke (2006), theme analysis was applied to the qualitative data collected through semi-structured interviews. There were six main stages to this process:

- Familiarisation with the data by repeated reading and transcription,
- initial data chunk coding for usage with digital and artificial intelligence,
- Recognising patterns and emerging subjects
- Examining and improving the topics,
- Identifying and naming themes,
- creating a coherent logical narrative that corresponds to the study questions.

The student interviews uncovered personal experiences of their investigation, scepticism, and useful integration of AI tools into their everyday academic lives. In the meantime, the teacher interviews shed light on more general pedagogical and institutional challenges, including conflicting levels of digital preparation, lack of policy support, and academic integrity issues.

Three major thematic categories emerged from the qualitative data:

❖ *Learner Empowerment vs. Overreliance*: Some students ran the risk of becoming dependant without effectively using language processing, even while programs like ChatGPT and Grammarly increased confidence and productivity.

❖ *Teacher Support and Digital Gaps*: Teachers acknowledged that they were receptive to new perspectives, but they cited a lack of institutional direction and training as major obstacles.

❖ *Ethical Ambiguities and Assessment Challenges*: Concerns about originality, learning authenticity, and equitable evaluation were raised by educators as well as learners who were unsure about the use of AI in assignments.

A detailed overview of the current state of digital and AI in Algerian EFL classrooms was provided by the combination of statistical trends and rich thematic data, highlighting both promising areas and significant gaps.

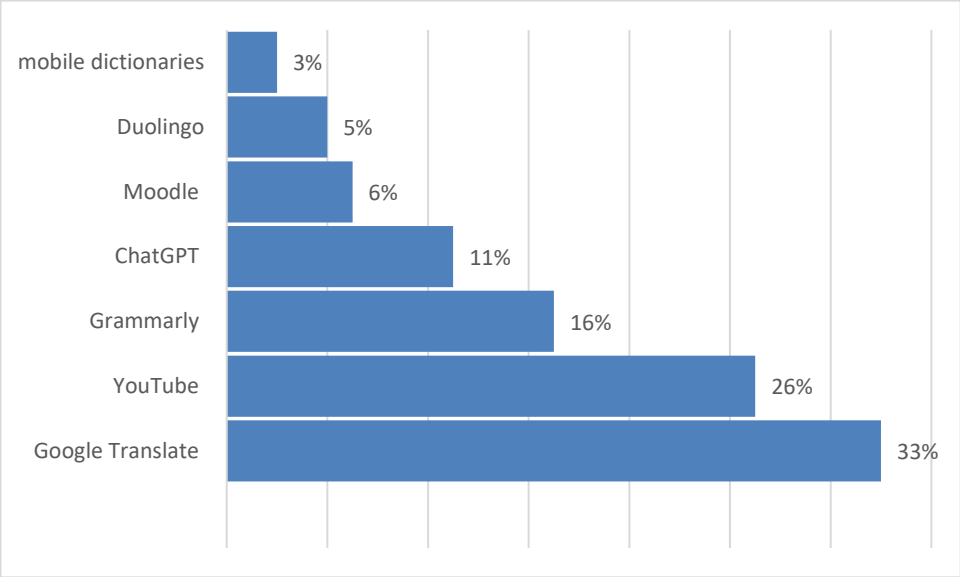
4. *Results and Discussion*

This section presents and interprets the findings from the quantitative and qualitative data collected through student questionnaires and semi-structured interviews with both learners and instructors. The aim is to explore the extent, nature, and perceived impact of digital and AI-powered tools in the EFL learning environment of Tlemcen University.

4.1. *Students' Use of Digital and AI Tools*

The questionnaire revealed that the vast majority of second-year EFL students engage with digital and AI-enhanced tools on a regular basis. Among the most frequently used platforms: Google Translate (32,5%), i.e, 26 students out of 80, YouTube (26,25%, 21/80), Grammarly (16,25%, 13/80), and ChatGPT (11,25%, 9/80). Other tools such as Moodle (6,25%, 5/80), language learning apps (e.g., Duolingo)(5%, 4/80), and mobile dictionaries (2,5%, 2/80), also showed moderate levels of use.

Figure 1: Students' Use of Digital and AI Tools



Source: Collected and made by the author.

These instruments were principally employed for the following functions:

- ❖ writing assistance to enhance vocabulary, coherence, and grammar, such as ChatGPT, Grammarly and Moodle;
- ❖ speaking and listening exercises using voice input devices, movies, and apps for pronunciation, like Google Translate, YouTube and Duolingo;
- ❖ word acquisition and translation, particularly using online bilingual dictionaries and Google Translate.

These results are consistent with recent research that shows an increase in student autonomy and tool-based learning practices in EFL contexts (e.g., Dizon, 2020; Wang & Vásquez, 2012). Although learners benefit from instant feedback and increased exposure to input, they frequently do not receive guided teaching on how to use these tools effectively and critically.

4.2. *Students' Perceptions of AI and Digital Tools*

The attitudinal data from the questionnaire and interviews suggests a generally positive perception of AI and digital integration:

A. Students generally find AI tools helpful for learning English, particularly when used for translation, grammar checking, and pronunciation. These tools support vocabulary acquisition and comprehension when integrated meaningfully.

B. Motivation appears to increase when learners use interactive and visual tools, such as language apps, games, or speech recognition software. Immediate feedback features were especially appreciated.

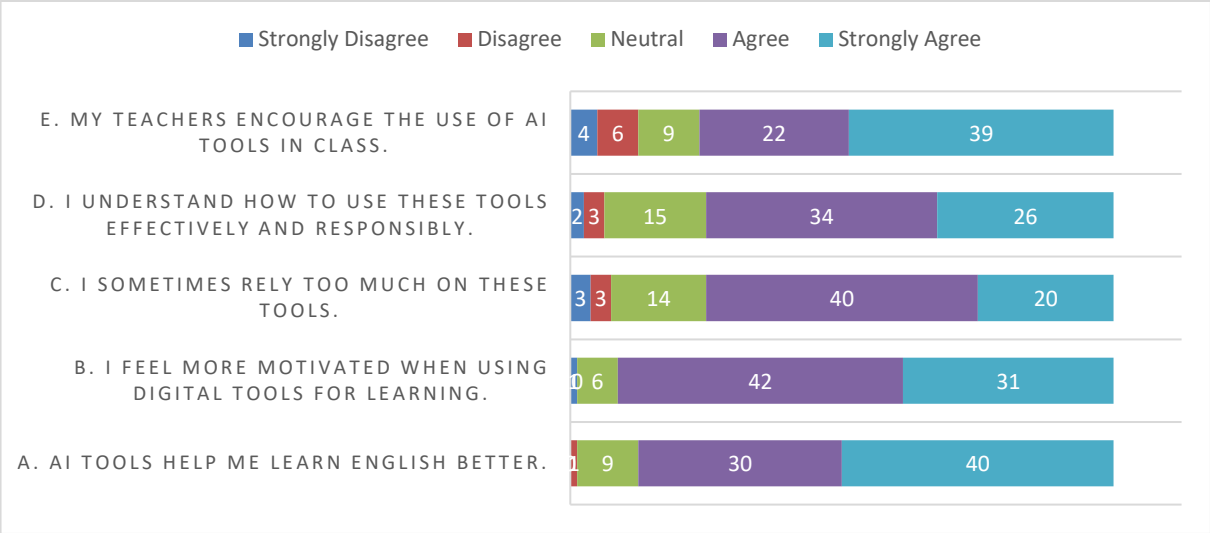
C. Some learners reported over-reliance on AI/digital tools, especially for writing tasks and automatic correction. This may lead to reduced critical thinking and language production efforts.

D. Understanding how to use these tools effectively and ethically is essential. While many students report using AI confidently, not all are aware of issues related to plagiarism, accuracy, or data privacy.

E. Teacher encouragement plays a key role. When instructors integrate digital tools into lessons, students feel more confident using them and are more likely to explore their educational benefits responsibly.

This information is highlighted in figure.2.

Figure 2: Students' Perceptions of AI and Digital Tools



Source: Collected and made by the author.

Nonetheless, a number of students expressed concerns regarding an excessive dependence on tools, including those for translation and grammar correction. 10% said AI outputs were "robotic" or "confusing," and 15% were concerned that ongoing AI use may prevent autonomous language processing.

This is in line with the worries expressed by Meihami (2013) and Ng et al. (2021), who warn that contextualised learning methodologies, digital literacy, and critical engagement are necessary for AI pedagogical influence. AI use could become a dependency trap instead of a support system if it is not properly guided.

4.3. *Teachers" Perspectives and Institutional Gaps*

Six(6) EFL teachers interviewed expressed their views on the use of AI in education. Four (4) of them expressed cautious optimism, while the remaining two(2) recognised how AI tools may improve students' engagement, vocabulary development, and writing quality. However, they also highlighted institutional flaws, especially in the following areas:

- *Lack of training:* Two teachers reported minimal exposure to AI-related pedagogy in their professional development programs.
- *Assessment issues:* Concerns were raised about evaluating students' work that may be heavily assisted, or even generated,by AI tools like ChatGPT.This was reported by3 teachers.

- *Ethical ambiguity:* Instructors cited blurred boundaries between support and plagiarism, especially when students use AI to complete essays or assignments, as confirmed by four teachers.

These results align with works like Zawacki-Richter et al. (2019), which emphasises how many higher education systems, especially those with limited resources, lack defined AI governance and pedagogical frameworks.

4.4. *Opportunities and Pedagogical Implications*

Despite the difficulties, educators alike recognised a number of potential and opportunities that may be taken advantage of by integrating digital and artificial intelligence tools more strategically:

- *Customised learning*: four (4) teachers valued the flexibility offered by apps such as Grammarly and ChatGPT, which offer tailored feedback that is frequently not possible in large classes.
- *Enhanced engagement*: It has been noted that multimedia websites like YouTube and Quizlet increased students' interest and enjoyment of educational activities.This statement was confirmed by three (3) educators.
- *Autonomous practice*: AI tools prompted students to edit and evaluate their own work, particularly when it came to writing assignments as mentioned by all of the six teachers.

The paper recommends adjustments in digital pedagogy to increase the impact of these advantages, which includes:

- ✓ programs for preparing teachers and that emphasise AI literacy,
- ✓ models for integrating traditional and AI-enhanced activities in the classroom,
- ✓ Clear institutional guidelines for ethical and instructional use of digital tools.

4.5. *Summary of Key Findings*

According to the survey, Tlemcen University second-year EFL students are actively using a range of digital and AI-powered resources, especially for vocabulary, grammar, and writing enhancement. The most commonly used tools, which reflected an increasing trend towards autonomous, technology-mediated learning, were Google Translate, YouTube, Grammarly, and ChatGPT.

Although students saw these tools as helpful and inspiring in general, issues with over-reliance and limited critical use appeared. Despite the lack of institutional training, evaluation procedures, and ethical clarity, educators expressed cautious optimism about AI instructional potential.

These results highlight the pressing need for pedagogical reforms and organised digital literacy programs and initiatives to guarantee the responsible and meaningful incorporation of AI in Algerian EFL classes.

This could be summarized in the following table:

Table2: Key Findings on AI and Digital Tool Use in EFL Learning

Theme	Key Findings
Tool usage frequency	High engagement with Google Translate, YouTube, Grammarly, ChatGPT
Learning focus	Mainly writing, vocabulary, and grammar support
Student attitudes	Mostly positive; concerns about dependency and clarity
Teacher perceptions	Supportive but cautious; need for training and clearer assessment norms
Pedagogical gaps	Lack of digital literacy and institutional strategy
Opportunities	Autonomy, personalization, increased motivation

Source: Collected and made by the author.

This table outlines the main thematic areas identified through student questionnaires and interviews with teachers and learners, highlighting patterns in tool usage, attitudes, challenges, and pedagogical implications.

5. *Conclusion and Implications*

With a focus on second-year students at Tlemcen University in Algeria, this study aimed to investigate how digital tools and artificial intelligence (AI) technologies affect EFL instruction in higher education. The study has brought to light the growing dependence on technology for language acquisition as well as the pedagogical and institutional inadequacies and gaps that require immediate attention through a mixed-methods approach that combines questionnaire responses and interviews.

The results showed that students had a substantial preference for digital and AI-powered resources like YouTube, ChatGPT, Grammarly, and Google Translate, particularly when it came to writing, vocabulary learning, and grammatical correction. These resources were thought to be time-efficient, motivating, and easily accessible, which helped to boost learner autonomy. However, over-reliance and a lack of critical engagement, especially in the absence of supervised and guided instructional techniques, occasionally curbed this autonomy. Students' generally positive attitudes were accompanied by a demand for improved guidance on the ethical and efficient use of these instruments.

However, the opinions of teachers indicated a cautious approach. Instructors expressed worries about plagiarism, assessment integrity, and a lack of institutional support, even though they recognised the instructional potential of AI-enhanced tools. One major obstacle to incorporating AI technologies into classroom activities is the absence of training and well-defined pedagogical frameworks.

Pedagogical Implications

Findings of the current study carry several implications for educational policy and classroom practice:

1. *Curriculum Innovation:* EFL curricula must be updated to incorporate AI tools in an organised manner, encouraging their use as tools for deeper learning and skill development rather than as short cuts.
2. *Teacher Training and Digital Literacy*: Educational institutions ought to offer instructors targeted professional development on digital ethics, appropriate tool integration, and AI literacy.
3. *Ethical Guidelines and Assessment Reform*: In order to better represent authentic student learning in AI-assisted situations, universities must update assessment models and set explicit guidelines on the appropriate utilisation of AI in academic work.
4. *Student Support Systems*: To ensure that they become competent and critical users, learners need orientation programs and seminars or workshops that help them comprehend the advantages and drawbacks of utilising AI in language acquisition.
5. *Contextual Adaptation*: Any technological or AI-based educational innovation should take into account the Algerian context, teaching readiness, and student access to digital resources.

In conclusion, even if digital and artificial intelligence (AI) tools are currently transforming the EFL classroom, their long-term effects will rely on how well universities and educational institutions, in general, adapt to the rapidly changing digital environment. Using these resources with pedagogical purpose, moral clarity, and institutional support is key to the future of language learning in Algeria and elsewhere.

All in all, this study emphasises how vital it is to address the increasing use of AI in education, especially when it comes to language acquisition. It highlights the need for higher education institutions, particularly in Algeria, to actively engage in the creation and pedagogical integration of AI-powered tools and apps in addition to adapting to these developing technologies. By doing this, educational processes can be brought into line with worldwide digital improvements, enhance teaching efficacy, and promote learner autonomy.

As AI and digital technologies develop further, their incorporation into EFL instruction needs to be directed by institutional support, ethical consciousness, and well-informed pedagogy. Future studies should look at how teachers and students adapt to increasingly AI-driven learning settings, as well as the long-term impact on language proficiency.

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Appendices

***Appendix A*: Student Questionnaire – Use of Digital and AI Tools in EFL Learning**

Dear Student,

You are kindly invited to participate in this academic research exploring how digital tools and AI-powered technologies influence English language learning at Tlemcen University. Your responses will remain anonymous and confidential, and will be used strictly for research purposes. Please answer the questions honestly based on your own experience. Thank you for your valuable contribution.

Instructions: For single-choice questions, tick (✓) one box only. For multiple-choice questions, tick all that apply.

Section 1: Background Information

1. Gender

- ( ) Male
- ( ) Female

2. Age

- ( ) Under 20
- ( ) 20–25
- ( ) 26–30
- ( ) Over 30

3. Academic Level

- ( ) Licence 2 (Second Year)
- ( ) Other levels optional if needed)

4. How would you rate your current level of English proficiency?

- ( ) Beginner
- ( ) Intermediate
- ( ) Advanced

Section 2: Use of Digital and AI Tools

5.How often do you use digital or AI-powered tools to support your English learning?

- ( ) Never
- ( ) Rarely
- ( ) Sometimes
- ( ) Often
- ( ) Very often

6. Which of the following tools do you use most frequently? (Select all that apply)

- ( ) ChatGPT
- ( ) Grammarly
- ( ) Google Translate
- ( ) YouTube (for English learning)
- ( ) Duolingo or other language learning apps
- ( ) Moodle or e-learning platform
- ( ) Mobile dictionary

7.Which language skills have these tools helped you improve? (Select all that apply)

- ( ) Reading
- ( ) Listening
- ( ) Speaking
- ( ) Writing
- ( ) Vocabulary
- ( ) Grammar

8.How often do you use digital or AI-powered tools to support your English learning?

- ( ) Never
- ( ) Rarely
- ( ) Sometimes
- ( ) Often
- ( ) Very often

Section 3: Attitudes and Perceptions

9. To what extent do you agree with the following statements? (Tick one per row)

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a) I tools help me learn English better.	( )	( )	( )	( )	( )
b) I feel more motivated when using digital tools for learning.	( )	( )	( )	( )	( )
c) I sometimes rely too much on these tools.	( )	( )	( )	( )	( )
d) I understand how to use these tools effectively and responsibly.	( )	( )	( )	( )	( )
e) My teachers encourage the use of AI tools in class.	( )	( )	( )	( )	( )

10. What challenges do you face when using AI/digital tools? (Select all that apply)

- ( ) Lack of understanding how to use the tools
- ( ) Difficulty accessing reliable internet or devices
- ( ) Overdependence or reduced critical thinking
- ( ) Difficulty understanding AI-generated content
- ( ) Lack of teacher support or classroom integration
- ( ) Other (please specify): _____

11. Would you like to receive more guidance or training on how to use these tools for learning English?

- ( ) Yes
- ( ) No
- ( ) Not sure

Section 4: Perspectives on the Use of AI-Powered Tools

Please indicate your opinion on each of the following statements by selecting one option per row.

Statement	Agree	Neutral	Disagree
I think AI tools help me save time and effort.	( )	( )	( )
I think AI tools provide immediate feedback and assistance.	( )	( )	( )
I think AI tools help improve my language skills.	( )	( )	( )
I think AI tools make learning fit my own level.	( )	( )	( )
I think AI tools make learning enjoyable.	( )	( )	( )
I think AI tools make me depend too much on AI.	( )	( )	( )
I think AI tools reduce my critical thinking.	( )	( )	( )
I think AI tools distract me from other important tasks.	( )	( )	( )
I think AI tools sometimes give incorrect information.	( )	( )	( )
I think AI tools lead to plagiarism or academic dishonesty.	( )	( )	( )
I have limited access to advanced AI tools and features.	( )	( )	( )
I still prefer other learning methods.	( )	( )	( )
I am not able to use AI tools well.	( )	( )	( )
I have concerns about privacy and security.	( )	( )	( )
I lack the motivation to use AI tools.	( )	( )	( )

Thank you for your cooperation