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ChatGPT in the Moroccan EFL Classroom: Secondary School Teachers' Use, Perceived Benefits, Impacts, and Challenges

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Abstract

As generative artificial intelligence tools such as ChatGPT rapidly enter educational spaces, understanding how language teachers engage with them is critical for informing pedagogy and policy. This study investigates the extent to which Moroccan secondary school EFL teachers use ChatGPT in their instructional practices, as well as their perceived benefits, reported impacts, and challenges. Using a mixed-methods design, data were collected from 24 teachers through Likert-scale questionnaires and semi-structured interviews. Quantitative findings revealed that most participants use ChatGPT regularly, especially for lesson planning, material simplification, and grammar support, with younger and more digitally confident teachers reporting higher usage. Teachers perceived ChatGPT as a helpful tool for saving time and adapting materials to student levels. However, concerns were raised about content inaccuracy, plagiarism risks, lack of training, and misalignment with local curricula. Thematic analysis of qualitative data confirmed these patterns and highlighted nuanced issues related to teacher identity, classroom roles, and digital pedagogy. These findings contribute to the growing body of research on AI in education by offering context-sensitive insights from a Global South perspective and underscore the need for targeted professional development and policy guidance on AI integration in language teaching.

1. INTRODUCTION

Generative AI technologies have rapidly gained traction in education across the globe. Early analyses suggest that AI-driven tools like ChatGPT can enhance learning by offering on-demand explanations, language practice, and individualized tutoring, thereby making learning more accessible and engaging (Kasneci et al., 2023; Zhai, 2023). In the domain of language education, especially, interest in ChatGPT has grown exponentially. Within months of ChatGPT's launch, numerous studies appeared exploring its use in English language teaching and learning (Meniado, 2023). Initial findings from various contexts indicate that ChatGPT can support EFL teachers in routine tasks; for example, by assisting with lesson planning, generating teaching materials or exercises, and even providing instant feedback on student writing (Moorhouse, 2024; Ulla et al., 2023). From the learners' perspective, studies have noted that interacting with AI chatbots can increase students' opportunities to practice English in meaningful ways, improving skills like writing fluency and vocabulary through prompt feedback and dialogue (Lo et al., 2024; Meniado, 2023). These affordances underscore why educators worldwide are exploring ChatGPT as a potential digital assistant in the classroom. At the same time, researchers caution that the use of ChatGPT in education comes with drawbacks. Notably, the Chabot sometimes produces incorrect or plausible-sounding but false

information, which could mislead learners, and its ease of generating texts raises concerns about plagiarism and students' over-reliance on AI (Meniado, 2023; Lo et al., 2024). Thus, the global discourse around ChatGPT in education highlights a balance of promise and peril, yet it also necessitates new forms of digital literacy and ethical guidelines in teaching.

Within the EFL teaching community specifically, there is a trend towards cautious optimism about generative AI. Teachers in various countries have reported seeing tangible benefits from AI assistance. For instance, in a Thai university context, instructors viewed ChatGPT as a helpful tool to generate ideas, examples, and even full lesson plans, which saved preparation time and enabled more student-centered activities (Ulla et al., 2023). Likewise, language teachers elsewhere have used ChatGPT to personalize learning materials to student needs and to provide immediate feedback on grammar or writing tasks, which potentially enhances students' engagement (Derakhshan & Ghiasvand, 2024; Jeon & Lee, 2023). Such integration trends suggest that, when properly integrated, ChatGPT could serve as a virtual teaching aide capable of answering student queries in real time or offering extra practice, complementing the human teacher in an EFL classroom. At the same time, EFL educators have voiced concerns that mirror those of the broader education community. A common worry is that students might misuse the tool or become overly dependent on it, which could hinder the development of their own writing and critical thinking skills (Hieu & Thao, 2023; Ulla et al., 2023; Allali & El Ghouati, 2025). Instructors also point out that ChatGPT lacks a true understanding of context or culture-specific nuances, which can limit its usefulness in language teaching if not carefully guided (Yeh, 2024). Overall, the global and EFL-specific background underscores that while ChatGPT holds considerable potential to support language learning, its implementation must be accompanied by teacher oversight, clear usage policies, and student training in ethical use.

Turning to the local context, Morocco's educational landscape provides both impetus and challenges for adopting AI tools like ChatGPT. In recent years, Morocco has emphasized digital innovation in education and has seen a growing demand for English proficiency driven by globalization (Ramila & Benmhamed, 2024). English is taught as a foreign language starting in secondary school, and there is increasing pressure on schools to improve students' English communication skills for academic and career opportunities (Ramila & Benmhamed, 2024). This environment makes technologies that could enhance English instruction, such as AI chatbots, particularly appealing. However, it is important to note that Moroccan secondary schools still face significant resource constraints that could impact the integration of tools like ChatGPT. Many public schools have limited internet connectivity, insufficient computers or devices for students, and a lack of robust ICT infrastructure in classrooms (Alaoui Ismaili, 2022). EFL teachers in Morocco often work with large class sizes and outdated teaching materials, and they may not have had extensive training in using new technologies for pedagogy (Ramila & Benmhamed, 2024). These conditions mean that the experience of introducing ChatGPT into a Moroccan high school English class might differ markedly from that in a well-resourced setting.

Despite the growing global interest in AI in education, there is a distinct lack of empirical research focusing on how Moroccan EFL teachers perceive and utilize ChatGPT in their

classrooms. Most studies of ChatGPT in educational settings so far have been conducted in North America, Europe, or Asia, often in higher education or university contexts (Lo et al., 2024; Meniado, 2023). These studies provide valuable insights, but their findings may not readily generalize to secondary-school environments in countries like Morocco, where resources and digital readiness can differ significantly. In fact, as of mid-2023, only a handful of studies had been published on ChatGPT's use specifically in EFL education. (Meniado, 2023). This gap in the literature means that we currently have little evidence-based understanding of how local teachers feel about integrating a tool like ChatGPT into their teaching practice.

Based on the gaps outlined above, the purpose of this study is to explore and document Moroccan secondary EFL teachers' perspectives on ChatGPT. Four primary research questions guide the investigation:

- RQ1: To what extent do Moroccan secondary school teachers use ChatGPT in their teaching practices?
- RQ2: What benefits do Moroccan EFL secondary school teachers perceive in using ChatGPT as a teaching tool?
- RQ3: What impacts has ChatGPT had on these teachers' instructional practices and classroom dynamics?
- RQ4: What challenges or concerns do Moroccan EFL teachers report regarding the use of ChatGPT in their context?

Through these questions, the research objectives are: (1) to determine the extent to which secondary school teachers use ChaGPT, (2) to detail the perceived benefits of ChatGPT as identified by teachers, (3) to understand the impact on teaching practices and student learning from the teachers' perspective, and (4) to illuminate the challenges and concerns that might hinder or complicate the use of ChatGPT in EFL instruction. Ultimately, the objective is not only to document these perspectives but also to use them to inform recommendations for practice, training, or policy that address teachers' needs and concerns.

The remainder of this paper is organized as follows. **Section 2** reviews relevant literature on AI in education and EFL teaching, situating the study within existing research and theoretical frameworks. **Section 3** describes the methodology of the investigation, including the research design, participants, data collection instruments, and analysis procedures used to gather Moroccan EFL teachers' perspectives. **Section 4** presents the results of the study, detailing the teachers' reported benefits, observed impacts on their teaching practices, and the challenges or concerns they have encountered when using ChatGPT. This section also provides illustrative examples and quotes from the data to contextualize the findings. **Section 5** offers a discussion of the findings, interpreting their significance in light of the literature and the study's research questions. Finally, **Section 6** concludes the study by summarizing the key insights, outlining the implications for practice and suggesting avenues for future research on generative AI in language education. Through this structure, the study aims to build a coherent narrative from broad context to specific evidence and then to broader implications, providing readers

with a comprehensive understanding of *ChatGPT in the Moroccan classroom* and its associated benefits, impacts, and challenges as perceived by EFL secondary school teachers.

2. LITERATURE REVIEW

2.1. Theoretical Framework (Technology Acceptance Model: TAM)

The Technology Acceptance Model (TAM) is the guiding framework for this study. Originally proposed by Davis (1989), TAM posits that two key beliefs determine an individual's willingness to adopt a new technology: **perceived usefulness (PU),** the extent to which using the technology is believed to enhance one's job performance, and **perceived ease of use (PEOU)**, the extent to which the technology is seen as free of effort or difficulty (Scherer et al., 2018). In TAM, these perceptions influence the user's attitude toward the technology, which in turn shapes their behavioral intention to use it. Over time, TAM has been expanded to include factors like attitudes, external variables (e.g., organizational support, self-efficacy), and actual usage behavior, but PU and PEOU remain central.

TAM has become a dominant model for explaining technology adoption in educational settings. Meta-analytic research by Scherer et al. (2019), synthesizing over 100 studies with more than 34,000 teachers, confirmed that TAM's constructs effectively explain a large portion of the variance in teachers' acceptance of digital tools. In other words, teachers are more likely to embrace an educational technology if they find it useful for teaching tasks and easy to employ in practice. Given that the present research examines teacher perceptions of ChatGPT, a novel AI tool, TAM provides a suitable theoretical lens. It helps predict how factors like teachers' perceived usefulness of ChatGPT and perceived ease of using it influence their attitude and intent to integrate the tool. Grounding the study in TAM allows us to build on an established theory of technology acceptance to interpret Moroccan teachers' readiness to adopt ChatGPT in their English language classrooms. This approach is consistent with other perception-based studies of educational innovation, where TAM has been used to frame analysis of teacher adoption behavior.

2.2. ChatGPT in Language Education

Recent advances in **generative AI** have introduced tools like ChatGPT into language education, offering new pedagogical possibilities for English as a Foreign Language (EFL) teaching and learning. Researchers have begun to explore how ChatGPT can assist both students and teachers in the EFL context. A scoping review by Xiao et al. (2025) reveals that ChatGPT is widely acknowledged for its ability to provide real-time feedback on writing, which can enhance students' writing quality and efficiency. EFL learners have used ChatGPT as a writing assistant; for example, to brainstorm ideas for essays, improve textual coherence, get grammar corrections, and even expand their vocabulary usage. Because ChatGPT can instantly analyze and respond to written input, it functions as an ever-available tutor or editor, helping learners revise their drafts. Su et al. (2023) demonstrated in an experimental study that ChatGPT could successfully assist EFL students with outlining arguments, revising content, editing language, and proofreading their writing in an academic context (Li et al., 2024; Hazhar et al., 2023; Alrefaee et al., 2025). Similarly, Lu et al. (2024) reported that ChatGPT's output could effectively **complement teacher assessments** of undergraduate EFL writing tasks by providing additional feedback on language and content that aligned with human raters. These early studies suggest that when used appropriately, ChatGPT can support language learners in

developing their writing skills by offering personalized suggestions and corrections. It acts as a supplementary tool that can lighten teachers' load in giving detailed feedback, especially on lower-order concerns like grammar and spelling, thereby allowing instructors to focus on higher-order writing skills.

Beyond student writing, educators are also experimenting with ChatGPT to support teaching practice. Teachers have reported using ChatGPT for **lesson planning and material generation**, leveraging the AI to create draft lesson outlines, generate exercises or quizzes, and produce sample texts for classroom use. In Xiao et al.'s (2025) review, teachers noted the value of AI tools in saving time on preparatory tasks; for instance, ChatGPT can quickly produce a variety of language practice prompts or reading passages tailored to a lesson theme, which instructors can then refine. Early anecdotal evidence and practitioner reports likewise describe teachers using ChatGPT to brainstorm fresh classroom activities, to adapt reading materials to different proficiency levels, and even to get ideas for explaining complex grammar topics. Such uses suggest that ChatGPT can serve as a creative partner for EFL teachers, aiding in curriculum design and differentiation of materials. Importantly, because ChatGPT can generate content on demand, it has the potential to **personalize learning**. A teacher can ask the AI to simplify a text or create extra practice sentences for a struggling student, for example, thus providing more individualized support. Overall, while research on ChatGPT in language education is still emerging, the findings so far indicate substantial pedagogical promise: from enhancing EFL students' writing and grammar skills through instant feedback, to assisting teachers in developing engaging lessons and resources. This dual utility positions ChatGPT as a versatile tool in the EFL classroom, one that can augment traditional teaching and learning processes when used under guided, pedagogically sound conditions.

2.3.Teacher Perceptions of AI in the Classroom

Globally, studies are beginning to capture teachers' perceptions of AI tools like ChatGPT in education. The consensus from early research is that teachers see a mix of exciting benefits and significant concerns. On the positive side, many educators acknowledge that AI can **streamline their work** and improve certain learning experiences. For example, teachers report that generative AI can save them time by automating routine tasks such as grading or creating practice exercises, thereby allowing more time for lesson delivery and one-on-one student support (Xiao et al., 2025). In a broad survey of instructors in multiple countries, a majority believed that AI could help **personalize learning** by adjusting tasks to students' levels or providing adaptive feedback and could increase student engagement through interactive, immediate responses (Xiao et al., 2025). Indeed, when AI tools supply instant feedback or novel educational content, students may become more motivated and involved in learning activities, which teachers view as a strong advantage. There is also a sense that AI can make education more accessible; for instance, tools like ChatGPT are available 24/7, meaning students can get help outside of class hours, and this constant availability is seen as supportive rather than having them wait for the next class. Overall, teachers around the world generally recognize that AI has the potential to **enhance efficiency, personalization, and engagement** in the classroom.

However, these perceived benefits are tempered by a range of challenges and reservations. A common concern is **accuracy and trustworthiness** of AI-generated content. Teachers have noted that while ChatGPT can produce fluent responses, it sometimes provides incorrect information or contextually inappropriate answers, which could mislead students. This issue of AI "misinformation" means educators feel the need to double-check ChatGPT's outputs for factual accuracy, especially for content-based subjects. Another frequently cited concern is the potential for **academic dishonesty**. Because ChatGPT can generate essays, solutions, or translations on demand, some teachers worry that students might misuse it to cheat on assignments or exams. In a global context, this has sparked discussions about plagiarism and how to ensure students still learn critical skills instead of simply taking AI-generated answers. Moreover, teachers often emphasize their **lack of training and preparedness** to integrate AI into teaching. Many did not receive professional development on using tools like ChatGPT, leaving them uncertain about best practices and ethical guidelines for AI use in class. This aligns with findings by Zouali (2025) in Morocco, where instructors called for training in "prompt engineering" and AI literacy to harness these tools' potential better. Ethical and pedagogical implications also weigh heavily: educators question the impact of heavy AI use on students' own skill development and critical thinking. There are concerns about **over-reliance**. If students become too dependent on AI hints, they may not develop independent language skills or may lose the ability to think critically.

Additionally, issues of bias and fairness emerge, as AI models like ChatGPT might carry hidden biases in their responses, raising worries about cultural or gender bias in content. Teachers are conscious of these pitfalls and often adopt a cautious stance, advocating for AI to be used as a *supplement* to, not a replacement for, human instruction. In summary, teacher perceptions internationally tend to balance optimism about AI's assistive benefits with caution about its limitations. These nuanced perspectives highlight the need for clear guidelines and support systems so that teachers can confidently incorporate AI in the classroom effectively and responsibly.

2.4.Studies in the MENA Context

In the Middle East and North Africa (MENA) region, and Morocco in particular, the adoption of educational technology has been shaped by both ambitious initiatives and on-the-ground challenges. The Moroccan government has invested in programs such as **GENIE** and "NAFIDA" since the early 2000s to equip schools with digital tools and improve teachers' ICT skills (Outoukarte et al., 2023). These efforts underscore a national recognition that digital literacy is a key component of modern education. At the secondary school level, for instance, platforms like *Telmidtice* were introduced and teacher training modules were developed to encourage technology use in classrooms. Despite these initiatives, however, there remains a pronounced gap in actual technology integration, especially when comparing different regions and communities. A persistent issue is the **urban–rural digital divide**: urban schools in Morocco tend to have better internet connectivity, more equipment (computers, smart boards), and greater exposure to training, whereas many rural schools still lack basic infrastructure. This disparity means that any discussion of AI tools in education must account for unequal access.

Teachers in remote areas may not even have reliable electricity or internet to run tools like ChatGPT, let alone the training to use them effectively.

Another factor is the **capacity and readiness of teachers**. Moroccan secondary teachers, like many in developing contexts, often have had limited formal training in digital pedagogies. The sudden shift to online learning during COVID-19 exposed these weaknesses: a study by Tahiri et al. (2023) found that during the pandemic, many Moroccan teachers had to resort to **self-training** and improvised use of social media or video-conferencing tools to continue teaching. They struggled with a lack of equipment and insufficient know-how on using e-learning platforms, which indicates generally low digital preparedness in the pre-COVID period. Even though teachers showed resilience and some tech adaptability, the experience highlighted that **professional development in ICT** for teachers has not kept pace with technological advancements. This context is important when considering AI adoption: if basic ICT integration is still in progress, introducing an advanced tool like ChatGPT could be even more challenging without targeted support.

In terms of research, there is a **scarcity of localized studies** on AI in Moroccan K-12 education. Most regional literature on educational technology has focused on higher education or general ICT usage rather than AI in school classrooms. For example, prior to 2023, virtually no studies examined the use of AI or distance learning at the public high school level in Morocco. This is now slowly changing. A few recent investigations have started to address how Moroccan teachers perceive AI. Zouali (2025) conducted a mixed-method study with 53 instructors across Morocco, providing one of the first looks at teachers' views on ChatGPT in education. The findings showed cautious optimism: about 58% of the surveyed instructors rated ChatGPT as "moderately effective" for teaching purposes, acknowledging its capacity to **enhance personalized learning experiences and student engagement.** Qualitative follow-ups in the same study revealed that teachers see promise in ChatGPT for tasks like generating educational resources and providing individualized student support (Zouali, 2025). At the same time, these teachers echoed many global concerns; they raised issues about **disinformation** (AI sometimes giving incorrect or irrelevant answers), **over-reliance** on the tool by students, and the lack of **contextual appropriateness** in some AI outputs for the Moroccan context. Importantly, the study highlighted a demand for training: educators expressed the need for guidance in using AI effectively, such as learning how to craft better prompts to get useful results from ChatGPT. Another emerging piece of research by Lehfid et al. (2025) focused on Moroccan high school English teachers' views of AI; it found that most teachers perceive AI as a **collaborative tool** that can enhance their teaching rather than a replacement for teachers. In other words, Moroccan educators tend to see AI as something that should work in tandem with their instruction to improve quality, as opposed to an autonomous agent taking over the classroom.

3. METHODOLOGY

This study employed a **mixed-methods design** combining quantitative and qualitative approaches to provide a comprehensive understanding of Moroccan EFL secondary school teachers' perceptions of ChatGPT. A questionnaire was used to collect **quantitative data** on

the frequency of use, perceived benefits, impacts, and challenges, while **semi-structured interviews** allowed for deeper exploration of individual experiences, beliefs, and contextual factors influencing ChatGPT use. This design was chosen to enhance both **breadth and depth** of data and to triangulate findings for greater validity.

3.1.Participants

The participants were **24 Moroccan EFL secondary school teachers** from three public high schools in **Sidi Bennour**, part of the **Casablanca-Settat region**. All participants taught in **urban schools**. Their **ages ranged from 23 to 64 years**, and their **teaching experience ranged from 1 to 27 years**. The teachers' **digital literacy levels varied**, but all participants had prior exposure to ChatGPT and reported general familiarity with its operation and features. This sample provided a diverse perspective across age and experience levels, ensuring varied insights into ChatGPT's integration into classroom practice.

3.2.Instruments

Two main instruments were used:

3.2.1. Questionnaire

A structured questionnaire consisting of both **closed-ended Likert-scale items** and **open-ended questions** was developed to gather data on teachers' perceived usefulness, ease of use, teaching impacts, and challenges related to ChatGPT. The items were adapted from established constructs in the Technology Acceptance Model (TAM). The questionnaire was reviewed by two expert teacher researchers for **content validity** and then piloted with 4 teachers not included in the main sample. The instrument demonstrated good internal consistency, with a **Cronbach's alpha of 0.82**, which exceeds the commonly accepted threshold of 0.70 for reliability (Taber, 2018).

3.2.2. Semi-Structured Interviews

A sub-sample of 9 teachers was selected for **follow-up interviews** based on availability and willingness to participate. The interviews were guided by an interview protocol with thematic prompts focusing on participants' actual experiences with ChatGPT, perceived advantages and limitations, classroom integration strategies, and support or training needs. Interviews were conducted in either Arabic or English depending on participant preference and lasted approximately 25–40 minutes.

3.3.Data Collection Procedure

Participants were selected using **purposive sampling**, aiming to include teachers who had basic familiarity with ChatGPT and taught English at the secondary level. The researcher contacted school administrators for permission and then invited individual teachers to participate voluntarily. All participants provided **informed consent** and were assured of the **confidentiality and anonymity** of their responses. The **questionnaire** was administered using

a **Google Forms link** distributed via email and school WhatsApp groups. **Interviews** were conducted **face-to-face** in private settings at the schools to ensure comfort and candid discussion. With permission, interviews were **audio-recorded** for accuracy.

3.4.Data Analysis

Quantitative data from the questionnaire were analyzed using **descriptive statistics** (means, frequencies, percentages) to summarize overall trends in perceptions. Internal reliability was verified using **Cronbach's alpha** ($\alpha = 0.82$), indicating high internal consistency. Data were processed using Microsoft Excel and SPSS. **Qualitative data** from interviews and open-ended questionnaire items were subjected to **thematic analysis**. Transcripts were read multiple times and coded manually following Braun and Clarke's (2006) six-phase approach. Codes were organized into themes representing patterns in teachers' perceptions of ChatGPT's pedagogical utility, challenges, and contextual relevance. **Triangulation** of quantitative and qualitative data allowed for cross-validation of findings and enriched interpretation of the results.

4. RESULTS

4.1.Extent and Contexts of ChatGPT Use Among EFL Teachers

To address the first research question *"To what extent do Moroccan secondary school teachers use ChatGPT in their teaching practices?"* both quantitative and qualitative data were analyzed. The results below present the **frequency of use** and the **contexts and patterns** in which teachers integrate ChatGPT.

4.2.Frequency of Use

Teachers were asked to indicate how frequently they use ChatGPT in their professional practice using a 5-point Likert scale ranging from Never to Always. As shown in Table 1, nearly all teachers reported at least some use of ChatGPT, with 45.8% indicating Sometimes, 29.2% reporting Often, and 16.7% reporting Always. Only two teachers indicated Rarely or Never using it. This suggests that ChatGPT use is becoming a regular part of many teachers' instructional routines, although the intensity of use varies.

Table 1: ***Frequency of ChatGPT Use Among EFL Teachers (N = 24)***

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	1	4.2	4.2	4.2
	Rarely	1	4.2	4.2	8.3
	Sometimes	11	45.8	45.8	54.2
	Often	7	29.2	29.2	83.3
	Always	4	16.7	16.7	100.0
	Total	24	100.0	100.0	

4.2.1. When, How, and Why ChatGPT is Used

Thematic analysis of teachers' responses yielded insights into **when** they use ChatGPT, **how** they use it, and the **factors influencing their usage patterns.**

When is ChatGPT Used?

Most teachers reported using ChatGPT primarily "**during lesson planning"** to save time and improve content preparation:

"I usually use it in the evening when preparing my lessons. It helps me get started with exercises or ideas." (Teacher 5)

Some also mentioned **"in-class use"**, especially to clarify points on the spot:

"Sometimes I type a quick prompt in class if a student asks for an example or definition I want to simplify." (Teacher 14)

4.2.2. How is ChatGPT Used?

Teachers frequently described using ChatGPT to "**simplify learning materials"**:

"I ask it to rewrite texts from the textbook in easier English so my students can follow along." (Teacher 3)

Others relied on it to create **"tailored practice exercises"**:

"It gives me quick grammar practice that I can adjust to my students' levels." (Teacher 9)

Additionally, ChatGPT was used to **rephrase** student writing prompts or generate multiple model answers:

"It helps me generate versions of writing prompts that are more level-appropriate." (Teacher 21)

4.2.3. What Influences the Use of ChatGPT?

Two main factors appeared to influence how frequently and confidently teachers used ChatGPT:

Digital Confidence

Teachers who self-identified as confident with technology reported more regular and diversified uses of ChatGPT.

"I'm comfortable with tech, so I explore different ways to use it — from warm-up activities to checking my own instructions." (Teacher 2)

Generation Gap

Younger teachers (especially those under 35) reported using ChatGPT more regularly.

"Most of the younger teachers in our school use it; the older ones are a bit hesitant." (Teacher 18)

4.3.Teachers' Perceived Benefits of ChatGPT

To explore the perceived benefits of using ChatGPT as a teaching tool, five Likert-scale items were analyzed using descriptive statistics. As shown in **Table 2**, the majority of teachers expressed positive perceptions across all items. The highest mean score was observed for the statement "ChatGPT enables me to simplify reading or writing tasks to match my students' proficiency levels" (M = 4.17, SD = 0.70), followed by "ChatGPT helps me save time during lesson planning and preparation" (M = 4.04, SD = 0.75). These results suggest that teachers recognize ChatGPT's potential for streamlining instructional tasks and adapting materials to learner needs. Moderately high agreement was also found for "ChatGPT helps me personalize materials or tasks for students with different needs or levels" (M = 3.96, SD = 0.69) and "ChatGPT supports my teaching by generating grammar or vocabulary activities" (M = 3.83, SD = 0.76). The lowest mean was reported for "ChatGPT increases students' motivation and engagement in English learning" (M = 3.71, SD = 0.86), though this still reflects overall agreement. These findings indicate that teachers largely view ChatGPT as a supportive pedagogical tool that enhances instructional design and customization, even if its motivational benefits for students are perceived less strongly.

Table 2: ***Descriptive Statistics for Teachers' Perceived Benefits of ChatGPT***

	N	Minimum	Maximum	Mean	Std. Deviation
ChatGPT helps me save time during lesson planning and preparation.	24	3	5	4.04	.751
ChatGPT supports my teaching by generating grammar or vocabulary activities.	24	2	5	3.83	.761
ChatGPT enables me to simplify reading or writing tasks to match my students' proficiency levels.	24	3	5	4.17	.702
ChatGPT increases students' motivation and engagement in English learning.	24	2	5	3.71	.859

ChatGPT helps me personalize materials or tasks for students with different needs or levels.	24	2	5	3.96	.690
Valid N (listwise)	24				

4.4. Perceived Impacts of ChatGPT on Teaching Practice

4.4.1. Quantitative Results

The table below summarizes teachers' responses to five Likert-scale items related to the instructional impacts of ChatGPT. As shown in **Table 3**, the highest mean score was recorded for *reducing lesson preparation time* (M = 3.92, SD = .776), indicating that most teachers found ChatGPT helpful in streamlining their planning process. This was followed by *providing more time for student feedback* (M = 3.71, SD = .999) and *increasing student engagement* (M = 3.67, SD = .868). Lower mean scores were observed for *fostering more focus on creativity* (M = 3.58, SD = .974) and *shifting classroom roles* (M = 3.54, SD = 1.021), suggesting more mixed perceptions regarding these specific impacts.

Table 3: ***Descriptive Statistics for ChatGPT's Perceived Impacts on Instructional Practice***

	N	Minimum	Maximum	Mean	Std. Deviation
Reduces lesson prep time	24	3	5	3.92	.776
More focus on creativity	24	2	5	3.58	.974
Shifted teacher roles	24	2	5	3.54	1.021
Increased student engagement	24	2	5	3.67	.868
More time for feedback	24	2	5	3.71	.999
Valid N (listwise)	24				

4.5. Qualitative Results: Instructional Impacts of ChatGPT

4.5.1. Theme 1: Efficiency in Lesson Preparation

Several teachers noted that ChatGPT significantly reduced the time needed to prepare instructional content.

"Before ChatGPT, I used to spend hours creating reading activities. Now I just prompt it with the topic and student level, and it gives me a ready-made version to work from." (Teacher 7)

"It helps me get ideas for warm-ups or grammar exercises quickly. I don't have to start from scratch anymore." (Teacher 13)

This aligns with the quantitative result where the highest mean score (M = 3.92) was for "reduces lesson preparation time."

4.5.2. Theme 2: More Time for Student-Centered Activities

Teachers indicated that ChatGPT allows them to reallocate classroom time toward discussion and personalized feedback.

"With more of the prep done by AI, I can focus more on helping students during the lesson instead of just explaining rules." (Teacher 4)

"I now have time to move around the class and support weaker students during tasks." (Teacher 18)

This corresponds to the relatively high agreement in the statement about "more time for feedback" (M = 3.71).

4.5.3. Theme 3: Mixed Shifts in Teaching Role

Some teachers reported a subtle shift from being content deliverers to facilitators, while others felt their role remained largely the same.

"I feel more like a guide now, especially when students come with ChatGPT-generated writing. I coach them on how to refine it." (Teacher 10)

"I still do most of the teaching the traditional way, but ChatGPT just supports me on the side." (Teacher 21)

These responses explain the moderate mean score (M = 3.54) on the statement about role shift.

4.5.4. Theme 4: Enhanced Student Engagement

Many participants observed increased enthusiasm among students when they used ChatGPT to complete tasks, though a few warned of over-reliance.

"They like using ChatGPT to get ideas, especially for writing tasks. It makes them more involved." (Teacher 6)

"Some students think they don't need to try anymore because ChatGPT will do it all. We need to teach them to use it responsibly." (Teacher 15)

4.5.5. Theme 5: Teacher Confidence and Creativity

Some teachers felt that ChatGPT encouraged them to experiment more with task design and resource adaptation.

"It gives me more options to try out. I'm not stuck with the textbook anymore." (Teacher 3)

"It helped me become more creative, especially in writing prompts and vocabulary tasks." (Teacher 11)

This insight supports the item about *"more focus on creativity"* (M = 3.58), though opinions varied.

4.6.Teachers' Perceived Challenges of using ChatGPT

4.6.1. Quantitative Results

To explore the challenges associated with ChatGPT use, teachers responded to five Likert-scale items measuring common concerns highlighted in the literature. Table 4 summarizes the descriptive statistics for each item.

Table 4: ***Descriptive Statistics: Teachers' Reported Challenges with ChatGPT***

	N	Minimum	Maximum	Mean	Std. Deviation
Inaccuracy concern	24	3	5	3.96	.751
Plagiarism concern	24	3	5	4.13	.741
Overreliance concern	24	2	5	3.83	.917
Training needed	24	3	5	4.04	.690
Curriculum alignment issue	24	2	5	3.71	.999
Valid N (listwise)	24				

The results indicate that **concern about plagiarism** was the most strongly endorsed challenge (M = 4.13, SD = 0.741), followed closely by the **need for further training** (M = 4.04, SD = 0.690) and **concerns over ChatGPT's inaccuracy** (M = 3.96, SD = 0.751). Participants also expressed concern about **student overreliance** on ChatGPT (M = 3.83, SD = 0.917) and noted **curriculum alignment issues** (M = 3.71, SD = 0.999). These findings suggest that while ChatGPT is widely used, Moroccan EFL secondary teachers remain cautious about its limitations, particularly regarding content accuracy, plagiarism risks, and the need for professional development.

4.7.Qualitative Findings

In addition to the survey responses, semi-structured interviews with selected EFL secondary school teachers revealed several nuanced challenges associated with ChatGPT integration in their teaching. Some core themes emerged through thematic analysis.

4.7.1. Concerns about Content Inaccuracy

Many teachers expressed caution when using ChatGPT due to occasional factual or contextual errors. Teachers emphasized that the tool's information sometimes lacked precision or was too generic, requiring careful verification before classroom use.

"Sometimes the information it gives is not appropriate for our curriculum or contains errors in grammar or context, so I have to double-check everything."
(Teacher 7, 11 years of experience)

4.7.2. Student Overreliance and Plagiarism Risks

Teachers observed a growing tendency among students to rely heavily on ChatGPT, sometimes using it to generate entire writing tasks without meaningful engagement. This raised ethical concerns and fears of undermining learning integrity.

"Some of my students submit essays that are clearly not theirs. ChatGPT makes it too easy to copy and paste."
(Teacher 4, 5 years of experience)

"It's a helpful tool, but students think it's a shortcut to avoid learning how to write or think critically."
(Teacher 16, 20 years of experience)

4.7.3. Lack of Training and Pedagogical Support

Several participants reported feeling uncertain about how to effectively incorporate ChatGPT into structured lessons. They described a lack of institutional guidance or professional development on the pedagogical use of AI tools.

"I use it sometimes, but I'm not really sure how to use it properly in class. We need more training on this."
(Teacher 11, 8 years of experience)

4.7.4. Curriculum and Cultural Misalignment

Some teachers found that ChatGPT-generated content didn't always align with the Moroccan secondary EFL curriculum or with local cultural and linguistic expectations.

"ChatGPT examples are often American or British and sometimes include cultural references that our students don't understand."
(Teacher 2, 17 years of experience)

5. DISCUSSION

This study investigated Moroccan secondary school EFL teachers' use of ChatGPT, focusing on frequency, benefits, impacts on practice, and reported challenges. Drawing on both quantitative and qualitative findings, this section discusses the results in light of the existing literature and the Technology Acceptance Model (TAM), which highlights perceived usefulness and ease of use as key determinants of technology adoption (Davis, 1989).

5.1.Frequency and Extent of ChatGPT Use

The findings indicate that **most Moroccan EFL teachers surveyed use ChatGPT regularly**, with over 90% reporting some level of use and nearly half indicating "often" or "always." Qualitative responses showed that **lesson planning** was the most frequent context of use, followed by occasional **in-class applications** for clarification and student support. These results align with global patterns noted by **Farrokhnia et al. (2023)**, who identified lesson planning and content generation as the most common uses of ChatGPT among educators. The results also reveal that **younger teachers** and those with greater **digital confidence** were more likely to use ChatGPT extensively. This supports TAM-based research such as **Mutammimah (2024)**, which found that both perceived ease of use and self-efficacy are critical in predicting AI tool adoption in EFL contexts.

5.2.Perceived Benefits of ChatGPT

Quantitative data showed that teachers strongly endorsed ChatGPT's **usefulness in simplifying instructional materials**, **saving time**, and **personalizing learning activities**. These findings are supported by **Karataş (2024)**, who found that ChatGPT helped Turkish EFL teachers adapt materials and manage classroom demands more effectively. Additionally, the moderate agreement with ChatGPT's **motivational benefits** for students aligns with the notion that while AI can support engagement, its effects may depend on classroom integration strategies. The perceived benefits directly reflect TAM's **"perceived usefulness"** component, confirming that when teachers find ChatGPT functionally valuable, they are more inclined to adopt and integrate it.

5.3.Instructional Impacts of ChatGPT Use

The study also explored the broader **instructional effects** of ChatGPT use. Teachers reported that ChatGPT helped them reduce preparation time and allowed more classroom time for **individualized feedback** and **student-centered tasks**. These insights reinforce findings from **Farrokhnia et al. (2023)**, who noted similar shifts toward efficiency and student support in AI-assisted classrooms. Some teachers described subtle changes in their **pedagogical roles**, transitioning from content deliverers to facilitators. This shift was more pronounced among confident users, echoing **Mutammimah (2024)**, who observed that AI-adopting teachers began experimenting with more creative task designs and reflective classroom roles. However, this was not universal, suggesting that role transformation depends on broader contextual and training factors.

5.4.Reported Challenges and Concerns

Despite the perceived advantages, teachers expressed significant concerns regarding **plagiarism**, **AI-generated inaccuracies**, **student overreliance**, and the **lack of institutional training**. These challenges mirror global concerns. For example, **Dwivedi et al. (2023)** and **Cotton et al. (2024)** both highlighted academic integrity risks and the potential erosion of critical thinking due to AI overuse. Participants also raised issues related to **cultural and curriculum misalignment**, noting that ChatGPT sometimes generates content that reflects non-Moroccan cultural contexts or linguistic registers. This concern was echoed by **Bekou et al. (2025)** in their study of Moroccan ELT teachers, who found that such misalignments could create confusion or disconnect in classrooms. The challenges reported in this study reflect **barriers to perceived ease of use**, as defined by TAM. When teachers lack training or

encounter unreliable output, their confidence and intention to adopt the tool sustainably can be undermined.

6. CONCLUSION

This study examined the extent to which Moroccan secondary school EFL teachers use ChatGPT in their instructional practices and explored their perceived benefits, reported impacts, and challenges associated with its use. The findings indicated that most participants integrate ChatGPT into their teaching, particularly during lesson planning and material simplification, with younger and more digitally confident teachers demonstrating higher levels of use. Teachers generally perceived ChatGPT as a beneficial tool for streamlining lesson preparation, adapting instructional content to student levels, and supporting pedagogical tasks such as grammar or vocabulary practice. However, they also raised concerns related to the accuracy of generated content, risks of student plagiarism, lack of formal training, and occasional misalignment with curriculum or local cultural norms. These findings provide empirical insights into how generative AI is currently being adopted in Moroccan public EFL classrooms and underscore the importance of contextual and individual factors in shaping teacher attitudes and usage patterns.

6.1. Implications

The findings carry important implications for pedagogy, policy, and theory. On the pedagogical front, there is a clear need to support teachers in using ChatGPT more strategically and responsibly. This includes offering targeted training that focuses on integrating AI tools into lesson design, mitigating academic dishonesty, and fostering digital literacy among students. Teachers also require support in balancing traditional methods with emerging AI-assisted practices in a way that encourages student creativity and critical thinking. From a policy perspective, educational authorities should consider developing clear guidelines on the ethical and pedagogical use of generative AI in classrooms. They should also ensure equitable access to such technologies and provide regular professional development opportunities tailored to teachers' digital needs. Theoretically, the findings reinforce the relevance of the Technology Acceptance Model in explaining AI adoption in education, particularly how perceived usefulness and ease of use influence teachers' integration of new tools into their instructional practices.

The findings underscore the need for structured teacher training on AI integration in EFL contexts. Training programs should incorporate **practical modules on prompt engineering** to help teachers elicit accurate, level-appropriate responses from ChatGPT, as well as **plagiarism detection strategies** to maintain academic integrity. Additionally, **workshops, peer-mentoring schemes, and ongoing professional learning communities** could support teachers in sharing effective practices and addressing emerging challenges. Such initiatives would ensure that teachers not only adopt AI tools but also use them in pedagogically sound and ethically responsible ways.

Policymakers should prioritize **infrastructure upgrades**, particularly **reliable internet access in rural and under-resourced schools**, to ensure equitable access to AI-enhanced learning

opportunities. Alongside these infrastructure improvements, **AI integration policies** should provide clear guidelines on ethical use, data privacy, and curriculum alignment. Collaborative efforts between the Ministry of Education, teacher training institutions, and technology providers could facilitate a phased and well-supported rollout of AI tools such as ChatGPT across Moroccan secondary schools.

6.2.Limitations

Several limitations should be acknowledged. First, the study was limited to 24 EFL teachers from three public high schools in an urban region, which may limit the generalizability of the findings to broader populations, including rural or private school contexts. Second, the data relied on self-reported survey items and interviews, which may be subject to social desirability bias or individual interpretation. Third, the study focused exclusively on teacher perspectives, without incorporating classroom observations or student feedback, which restricts the ability to draw conclusions about the actual pedagogical impact on learners.

This study focused exclusively on teachers' perspectives, which limits the scope of findings. Future research should include **student voices** to provide a more comprehensive understanding of ChatGPT's pedagogical and motivational impacts in the classroom. Another limitation concerns the **self-reporting nature** of the survey and interviews, which may be subject to **social desirability bias**. Triangulating self-reports with classroom observations or usage analytics in future studies could provide more objective measures.

6.3.Suggestions for Future Research

Future research should consider longitudinal studies to examine how ChatGPT use evolves over time and whether sustained use leads to measurable improvements in instructional quality or student learning outcomes. Intervention-based studies involving structured training sessions on AI integration could offer deeper insights into how professional development shapes teacher practice. Comparative research across urban and rural settings or across different educational levels would also be valuable in understanding how contextual factors influence AI adoption. Additionally, studies focusing on student experiences with ChatGPT, including their engagement, learning strategies, and ethical considerations, would complement the current teacher-centered perspective and provide a more comprehensive understanding of the tool's role in language education.

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