

The Role of Artificial Intelligence in Enhancing Grammar Instruction for Intermediate Public School EFL Teachers in Nabatieh District

دور الذكاء الاصطناعي في تحسين تعليم القواعد النحوية لدى معلمي اللغة الإنجليزية كلفة أجنبية في المدارس الحكومية المتوسطة في قضاء النبطية

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Abstract

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Integrating Artificial Intelligence (AI) into education can transform teaching practices, especially for teaching English as a Foreign Language (EFL). This study focuses on how AI tools can enhance grammar teaching among EFL teachers in intermediate public schools in Nabatieh District, Lebanon and help teachers through their teaching process. It examines how aware teachers are of the benefits of AI, how they use these tools, and the challenges they face while using them. The study used a descriptive mixed-methods research design, collecting both quantitative and qualitative data through surveys. Results were collected from 63 EFL teachers coming from 17 different intermediate public schools. The study describes how different AI-tools can be used to prepare and design grammar lessons, find teaching aids, check for grammar errors, give feedback, and create assessments. AI could bring significant improvements to the Lebanese educational system, and this leads to better professional development for teachers and consequently improving teaching effectiveness and students' outcomes.

Keywords: Artificial Intelligence in Education, AI tools, grammar instruction, EFL teaching strategies, Lebanese public schools, technology integration

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طالبة في المعهد العالي للدكتوراه في الجامعة اللبنانية الآداب والعلوم الإنسانية - بيروت - لبنان - قسم اللغة الإنكليزية.

المخلص

النّبطيّة. تصف الدّراسة كيفيّة استخدام أدوات الذكاء الاصطناعي لتحضير دروس القواعد وتصميمها، والعثور على وسائل تعليميّة، والتّحقق من الأخطاء النّحوية، تقديم الملاحظات، وإنشاء التّقييمات. يمكن لهذه الأدوات أن تحقق تقدّمًا كبيرًا في النظام التعليمي اللبناني، ما يؤدي إلى تطوير مهني أفضل للمعلمين وتحسين فعاليّة التدريس ونتائج الطلاب.

الكلمات المفتاحيّة: الذكاء الاصطناعي في التعليم، أدوات الذكاء الاصطناعي، تعليم القواعد النّحوية، استراتيجيات تدريس اللغة الإنجليزيّة كلفة أجنبية، المدارس الحكومية اللبنانيّة، دمج التكنولوجيا الكلمات المفتاحيّة: الذكاء الاصطناعي في التّعليم، أدوات الذكاء الاصطناعي، تعليم القواعد النّحويّة، استراتيجيات تدريس اللغة الإنجليزيّة كلفة أجنبية، المدارس الحكومية اللبنانيّة، دمج التكنولوجيا.

Introduction

With the rapid evolution of technology, new advancements emerge daily, leaving us questioning our position in this technological revolution. In fact, Artificial Intelligence (AI) is a pervasive trend in the field of technology, and it invaded our lives to become a significant part of our daily lives through web search engines, mobile apps, and

إن تكامل الذكاء الاصطناعي في التعليم يمكن أن يحدث تحولًا كبيرًا في الممارسات التّعليميّة، خاصة في تعليم اللغة الإنجليزيّة. تركز هذه الدّراسة على استخدام أدوات الذكاء الاصطناعي لتسهيل تعليم القواعد النّحويّة، وتحسينها بين معلمي اللغة الإنجليزيّة في المدارس المتوسطة الرّسميّة في قضاء النبطيّة في لبنان، وكيفية مساعدة هذه الأدوات للمعلمين في عملية التدريس. تبحث الدّراسة في مدى وعي المعلمين ومعرفتهم لفوائد هذه الأدوات، كيفية استخدامها، والتّحديات التي يواجهونها أثناء استخدامها. استخدمت الدّراسة تصميمًا بحثيًا وصفيًا يجمع بين الأساليب الكميّة والنّوعيّة من خلال استبيانات. جُمعت النّتائج من 63 معلمًا للغة الإنجليزيّة من 17 مدرسة متوسطة رسميّة مختلفة في قضاء

healthcare systems (Sánchez-Prieto et al., 2020). It has also significantly affected various professional sectors, with education being one of the most impacted ones.

What is important isn't just whether AI has a positive impact on teaching practices or not, but rather "how" it can enhance the teaching-learning process. One area of education where the transformative impact of AI has

been particularly evident is language learning.

Problem statement

Teaching English as a Foreign Language is not an easy task, and among its challenges, the most demanding one is teaching grammar. EFL teachers in Lebanese intermediate schools struggle in preparing for a grammar lesson, delivering it and having the objectives fully achieved, simplifying the rules, forming exercises, quizzes and other assessments, as well as correcting the assignments and assessments. Hence, integrating AI could increase educators' productivity, save their time, and help manage their workload effectively.

The Lebanese curriculum, which dates back to 1997 is being updated and designed to incorporate advancements in development and technology. Unfortunately, in public schools, particularly, teachers are obliged to use the "outdated curriculum". This makes them face significant challenges. They are required to use textbooks that lack clear grammar sections and comprehensive teachers' guides to be used in lesson preparation and delivery. This stands as a burden on teachers to independently find the most effective methods to teach their lessons. This makes support in organizing lesson

plans and implementing innovative teaching strategies inevitable.

Hence, this is where AI can play a great and transformative role. By integrating AI into the educational process, teachers are provided with the needed tools to enhance their instructional methods and ensure that students receive the highest quality education.

Rationale of the study

The reason for conducting this research is an urgent requirement to solve the problems which English teachers go through in Lebanese intermediate public schools in Nabatieh District. The integration of AI into education could provide innovative teaching methods, individualized support, grammar exercises, quizzes, assessments, and instant feedback. AI can save teachers' time, ensure consistent evaluations, identify student weaknesses, and offer customized grammar lessons and interactive games.

This study investigates the pedagogical practices of EFL teachers in Nabatieh District, exploring their awareness and utilization of AI in teaching grammar and their opinions about its use.

AI can provide teachers with customized teaching methods,

generate grammar exercises, quizzes, and interactive games, and recommend supplementary resources, addressing challenges such as limited resources. Additionally, AI supports teachers' professional development by offering up-to-date strategies, resources, and corrective feedback to enhance their teaching effectiveness.

Research Questions

- Q1. How aware are intermediate public school English as a Foreign Language (EFL) teachers in Nabatieh District of the potential benefits and facilities provided by artificial intelligence (AI) in education, specifically in teaching grammar?
- Q2. To what extent do intermediate public school EFL teachers in Nabatieh District utilize AI tools and resources in their teaching practices, particularly for grammar instruction?
- Q3. What are the AI tools used by EFL teachers in Nabatieh District for preparing grammar lesson plans, finding resources, forming exercises and quizzes, and correcting assignments?
- Q4. What are the obstacles that EFL teachers in Nabatieh District face when using AI tools?

Significance of the study

This study contributes to instruments and methods to empower EFL teachers to plan effective grammar lessons, track the students' progress, and provide individual support. Consequently, this helps them gain in confidence, leading to greater job satisfaction, which may increase students' motivation and engagement. Also, investigating the effectiveness of AI tools meets the demand for curriculum development. Finally, this would allow for further professional development helping teachers become familiar with the latest technology that could be used in education.

Review of literature

Artificial Intelligence (AI)

As far back as 1945, Vannevar Bush introduced the idea of a machine used for storing and retrieving knowledge. Today, in 2024, this concept has developed into the advanced digital knowledge management systems we now use, such as cloud storage, artificial intelligence, and wide range of online databases that are used to access, store, utilize and create information. According to the latest *Artificial Intelligence Index Report* (Perrault & Clark, 2024), AI has "surpassed human performance on several benchmarks, including

some in image classification, visual reasoning, and English understanding” (p. 5). Studies from 2023 found that AI helps workers complete tasks faster and enhance the quality of their work (Perrault & Clark, 2024).

Artificial Intelligence (AI) in Education

Recent reports have shown that artificial intelligence (AI) is becoming a part of at least 10% of day-to-day activities; from language generation and molecular medicine to disinformation and algorithmic bias, it has begun to permeate every aspect of our lives (Jacob, 2024). As for the future, and in the process of achieving Sustainable Development Goal 4 (SDG 4), which is part of the United Nations’ 2030 Agenda for Sustainable Development, the integration of artificial intelligence (AI) potential was recognized by UNESCO (2016) to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

It is the teachers’ role to implement AI effectively because “effective teaching depends on teachers’ capability to implement appropriate pedagogical methods in their instruction (Tondeur et al., 2020).

Recent studies conducted worldwide highlight the significant benefits of integrating AI into education, showing its positive impact on teaching practices for both teachers and students (Lazar et al., 2022; Mario, 2023; Matthew & Lievertz, 2019; Olga et al., 2022; Oussama et al., 2022; Matthew et al., 2021).

Enhancing Grammar Instruction with AI

Studies have focused on giving feedback to learners instead of exploring different teaching strategies or educational tools that may help teachers and learners. Nazari et al. (2021) and Dizon and Gayed (2021) studied the impact of “Grammarly” when used in English Language teaching and learning in higher education. Both studies led to positive results. They found that students who used Grammarly as a learning tool made fewer grammatical errors and wrote with more lexical variation than students without this AI-powered tool. Nazari et al. (2021) noticed learners enhanced behavioral, emotional, and cognitive engagement, as well as increased self-efficacy in writing.

The table below includes some recent researches that highlight the positive impact of Artificial Intelligence on teaching English language.

Table 1 Overview of Research on AI in Teaching English

Research Title	Findings	Citation
Educational Technology and the Pre-K-12 Environment	AI can assist teachers in teaching grammar by providing personalized feedback, interactive exercises, and virtual tutoring, enhancing the learning experience in the Pre-K-12 environment.	(Ceresa-Gastaldo, 2024)
Student perceptions of Grammarly, teacher's indirect and direct feedback: Possibility of machine feedback	Combining AI tools like Grammarly with teacher feedback is beneficial for teachers and students	(Kawashima, 2023)
Artificial Intelligence and the Future of Language Teacher Education	AI translation tools and chatbots help language teachers in teaching grammar by providing support and resources.	(Vogt & Flindt, 2023)
AI in the Foreign Language Classroom: A Pedagogical Overview of Automated Writing Assistance Tools	AI helps teachers in teaching grammar through automated writing evaluation tools, automated corrective feedback, and AI-powered machine translators.	(Alharbi, 2023)
Revolutionizing Academic English Writing through AI-Powered Pedagogy: Practical Exploration of Teaching Process and Assessment	AI-powered tools assist teachers in teaching grammar by providing feedback, suggestions, and efficient grading.	(Kessler, 2023)
Research on the application of computer artificial intelligence technology in feedback teaching of English	AI helps teachers in teaching grammar by providing feedback, correcting language errors, and promoting effective English language learning.	(Gierrecid, 2022)
Amazement and Trepidation: Implications of AI-Based Natural Language Production for the Teaching of Writing	AI-based natural language production systems like ChatGPT help teachers in teaching grammar by providing examples, feedback, and generating text for analysis.	(Anson & Dannels, 2022)

Why don't we focus on AI tools that help teachers prepare for and deliver the lesson? Here is a list of AI tools that can be used in pre, during, and post Grammar lessons.

Table 2 AI Tools Used in Preparing and Designing Grammar Lessons

Aspect	AI Tool	Description	Availability
Preparing and Designing Lessons	Teach AI	Creates lesson plans and grammar exercises	Paid (with free trials)
	Lesson up	Helps design interactive grammar lessons with multimedia content	Free
	Eduflow	Helps in creating engaging and interactive grammar lessons	Free
	Nearpod	Allows teachers to create interactive lessons that can include grammar explanations, practice exercises, and quizzes	Free
	Quizlet	Offers resources and flashcards	Free

Table 3 AI Tools Used to Find Teaching Aids for Grammar Lessons

Aspect	AI Tool	Description	Availability
Teaching Aids	Quizlet	Generates grammar quizzes and exercises	Free
	Kahoot	Creates interactive games and quizzes for grammar practice	Free
	Duolingo for schools	Offers gamified grammar exercises	Free

Table 4 AI Tools Used in Creating Assessments for Grammar Lessons

Aspect	AI Tool	Description	Availability
Assessment	Edulastic	Provides formative and summative assessment tools	Free
	Classcraft Quests	Turns assessments into engaging learning adventures	Free

Table 5 AI Tools Used in Grammar Error Checking and Feedback

Aspect	AI Tool	Description	Availability
Error Checking and Feedback	Grammarly	Spelling, grammar, and punctuation checker	Free
	NoRedInk	Gives personalized grammar feedback and exercises	Free
	Hemingway Editor	A chatbot that provides feedback on writing clarity and suggests improvements that indirectly involve grammar explanations	Free
	Scribens	Grammar checker that provides explanations for grammar errors and suggestions for corrections	Free

In addition, ChatGPT serves as a big support to grammar teachers across different aspects. It provides feedback on student writing, providing corrections, structure improvements, and vocabulary suggestions. Also, teachers can use ChatGPT to generate grammar exercises and explanations, simplifying complex concepts for lesson planning and student clarification. Moreover, it helps teachers prepare interactive lessons through suggested activities. Additionally, it's able to generate quizzes and sentence completion exercises. Furthermore, it develops lesson plans by suggesting materials and activities that achieve

specific learning objectives chosen by the teacher. Conversely, it can generate a lesson plan based on the teacher's learning objectives. Besides, ChatGPT supports teachers' professional growth by offering resources and insights into effective grammar teaching strategies.

TPACK (Technological Pedagogical Content Knowledge)

According to Mishra and Koehler (2006), The TPACK framework includes the integration of Technological Knowledge (TK), Pedagogical Knowledge (PK), Content Knowledge (CK), Technological Pedagogical Knowledge (TPK),

Technological Content Knowledge (TCK), Pedagogical Content Knowledge (PCK), and Technological Pedagogical Content Knowledge (TPACK) to produce effective teaching. It is a theoretical framework for understanding teacher knowledge required for effective technology integration. Recent researches have explored the positive impact of TPACK on teachers, students, and the teaching-learning process (Felixtian et al., 2024; Javier et al., 2023).

To evaluate the integration of AI in teaching grammar to EFL learners, TPACK framework will be used in this study as a guiding theoretical perspective this study will show how AI tools support teachers' technological proficiency (TK), pedagogical strategies (PK), and content knowledge (CK), as well as their ability to integrate these domains effectively. This study will either affirm the effectiveness of AI within the TPACK framework or find the gaps and areas where AI is lacking.

Related Studies

A notable absence of studies about the use of AI to enhance grammar instruction specifically within Lebanese public schools is evident. Although the interest in educational technology and AI applications is

growing fast worldwide, there remains a gap in the literature regarding its implementation by Lebanese public teachers. This shows the importance of conducting research to assess the effectiveness of integrating AI tools in grammar instruction within the Lebanese educational system.

Methodology

Research Design

This study follows the descriptive mixed methods research design (Creswell & Clark, 2018). Both qualitative and quantitative data are collected and analyzed in order to answer the research questions.

Data Collection

The collected data includes responses from EFL teachers to a structured Google Form survey. The survey included questions designed to understand how teachers use AI tools in their grammar instruction, the benefits they perceive, and the extent to which they believe AI can make their teaching journey easier. Quantitative analysis was conducted on the closed-ended questions, focusing on teachers' usage of AI tools and their effectiveness. In addition, qualitative analysis was done to the open-ended questions about teachers' personal experiences, opinions, and

suggestions regarding the integration of AI in their teaching practices.

0.1. Participants

Participants are sixty three (63) English language teachers and coordinators from seventeen (17) schools out of twenty-nine (29) intermediate public schools where English language is taught as the first foreign language in Nabatieh District. This number is based on the latest statistics for the number of schools in Lebanon conducted by CRDP in the 2021 (CRDP, 2021).

Instruments

Teachers' Survey

While designing the questionnaire for this study (See Appendix A), the Pew Research Center's process of a successful survey was followed. Hence, clear and specific questions were formed to accurately measure respondents' attitudes and behaviors. We used multiple choice, Likert scale and open-ended questions as recommended by Pew Research Center (2024).

Analysis and Findings

Analysis of the teacher's survey

Sixty-three (63) teachers submitted their responses. The following is a detailed presentation and analysis of their answers.

Question 1

In response to the first question about the cycle(s) they teach, the majority of teachers, 35 in total, accounting for 55.6%, reported teaching Cycle 3 classes. Sixteen teachers, representing 25.4%, indicated that they teach Cycle 1, and an equal number of sixteen teachers, also 25.4%, reported teaching Cycle 2. The smallest group of respondents, eleven teachers or 17.5%, indicated that they teach kindergarten. This distribution highlights a significant concentration of EFL teachers at the intermediate level, which aligns with the study's focus on enhancing grammar instruction for intermediate public-school teachers in the Nabatieh District.

Question 2

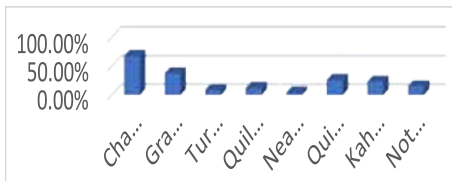
In response to the second question regarding years of teaching experience, the data reveals that the majority, with 37 responses (58.7%), have more than 10 years of teaching experience, indicating a substantial proportion of seasoned teachers. This is followed by 15 respondents, representing 23.8%, who have between 6 to 10 years of teaching experience. A smaller group of 11 respondents or 17.5%, reported having between 1 to 5 years of teaching experience, and there were no teachers with less than 1 year of experience. This distribution

highlights the significant presence of experienced teachers in the study, which may influence their perspectives and practices related to the use of AI tools in grammar instruction.

Question 3

When asked about the usage and familiarity of various AI tools, 68.3% of the teachers use ChatGPT, Copilot, Gemini, or other chatbots. Grammarly follows, with 24 responses (38.1%). Kahoot and Quizlet are also notable, with 15 (23.8%) and 17 (27%) responses respectively. QuillBot and Turnitin have lower usage rates, at 12.7% and 9.5%, respectively. However, 15.9% of the teachers are not familiar with any of the tools listed. Finally, Nearpod shows the least engagement at 4.8%.

Figure 2 Teachers' usage and familiarity with AI tools



Question 4

In the context of AI tool usage during various teaching stages, the majority of respondents, 39 (61.6%), primarily use AI tools during the planning and preparation stage. This indicates that most teachers use AI in the initial phases of lesson design. Finding teaching resources is also

a significant area of usage, with 31 respondents (49.2%) relying on AI for this purpose. In contrast, teaching and delivery, as well as assessment and feedback are the least used stages for AI tool application, with 25 (36.7%) and 17 (27%) respondents using these tools in these stages, respectively. Seven (7) respondents (11.1%), do not use AI tools at any stage.

Question 5

The frequency of AI tool usage in grammar teaching varies among respondents. A significant number of teachers, 27 respondents (43.5%), use AI tools weekly for their grammar teaching and preparation. In addition, occasional use is reported by 11 respondents (17.7%), while daily usage is noted by 9 respondents (14.5%). A smaller group, 8 respondents (12.9%), have never used AI tools, and 7 respondents (11.3%) use them monthly. This data highlights that weekly usage is the most common, with a mix of daily, occasional, and monthly usage patterns, alongside a notable minority who do not use AI tools at all.

Question 6

The responses to the open-ended question “Describe how you use AI tools in your grammar teaching.” were summarized in the following table:

Table 6 answers on how teachers use AI tools in their grammar instruction

Category	Number of Responses	Percentage
Creating Interactive Activities	24	38.7%
Generating Exercises	22	35.5%
Providing Feedback	4	6.5%
Creating Assessments/Quizzes	7	11.3%
Lesson Planning	5	8.1%
Finding Teaching Resources	3	4.8%
Never Used	8	12.9%
Other Specific Uses	7	11.3%

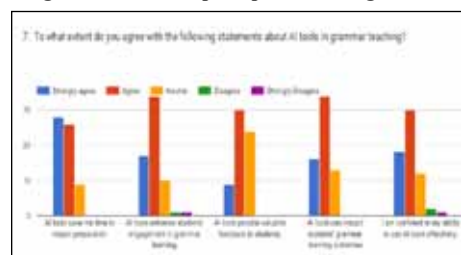
The most prevalent use is of AI tools in grammar instruction is for creating interactive activities, cited by 24 respondents (38.7%). Following closely, generating exercises is mentioned by 22 respondents (35.5%), showing AI's role in facilitating practice and reinforcement of grammar skills. Creating assessments/quizzes and other uses such as motivating students and making presentations are each mentioned by 7 respondents (11.3%), suggesting these tools are also valued for evaluation and diverse educational tasks. Lesson planning is noted by 5 respondents (8.1%), and providing feedback is less commonly mentioned, with 4 respondents (6.5%) utilizing AI for this purpose, and finding teaching resources is cited by 3 respondents (4.8%). Notably, 8 respondents (12.9%) reported never using AI tools.

Question 7

In question 7 about teachers' perception of using AI tools, Likert

scale was used, and answers were analyzed quantitatively. The majority of respondents either strongly agree or agree that AI tools save time in lesson preparation and enhance student engagement. However, opinions are more varied regarding the impact on grammar learning outcomes and the provision of valuable feedback, with a noticeable number of neutral and disagree responses. In addition, confidence in using AI tools effectively also shows a mix of agreement and neutrality. This data highlights a generally positive outlook towards AI tools in education, with some reservations about specific outcomes and user confidence.

Figure 3 Teachers' perception of using AI tools



Question 8

Question 8, which was about challenges and obstacles faced by

teachers when using AI tools, was analyzed qualitatively, and here's a qualitative summary:

Table 7 Challenges and obstacles faced by teachers when using AI tools

Category	Challenges/Obstacles
Technical Issues	Lack of internet access, poor connection, electricity issues, inadequate tools and supplies, technological challenges, and technical problems.
Financial Constraints	Affordability of paid AI tools, need for purchases (pro versions), financial limitations for acquiring AI programs.
Training and Usability	Difficulty in using AI tools without prior training, lack of teacher training, need for specific instructions, and modification requirements.
Curriculum Integration	Challenges in integrating AI tools into curriculum, adapting AI activities to student levels, and merging with curriculum needs.
Accuracy and Relevance	Inaccurate AI responses, irrelevant examples, AI-generated content indicators, and lack of credibility in some AI tools.
Student Familiarity and Practice	Lack of familiarity with AI tools, need for more practice, AI targeting specific grammar objectives.
Availability and Resources	Limited resources, shortage of technology, lack of specific equipment, and limited access to AI tools.
Personal and Institutional Barriers	Absence of guides for teachers, restrictions on phone usage, lack of time for AI integration, unfamiliarity with technology, and the need for clearer instructions.

This table summarizes the various challenges and obstacles faced by individuals when using AI tools in educational settings. Most respondents agreed on the need for better infrastructure, training, financial support, and integration into the curriculum to effectively utilize AI in their teaching practices.

Questions 9 and 10

Responses indicate a significant interest in professional development on AI integration in grammar teaching, with 68.3% (43 respondents) expressing a desire to attend workshops or training

sessions, 6.3% (4 respondents) not interested, and 25.4% (16 respondents) unsure. Coupled with the finding that 50.8% of respondents have already received training on using AI tools in education while 49.2% have not, these results highlight a clear need and willingness for further professional development. Their interest in additional training suggests that EFL teachers in Lebanese public schools recognize the value of AI tools and are eager to enhance their skills, which could bridge the current gap in training and support the effective integration of AI in grammar teaching.

Question 11

Teachers’ feedback on AI tool usage reveals a need for increased support and integration. Results were analyzed qualitatively. Table 8 shows the suggestions and frequency of each:

Table 8 Suggestions given by teachers

Key Theme	Frequency
Training and Support	High
Accessibility	High
Curriculum Alignment	Moderate
Tool Usability	High

Comparing the study’s findings with TPACK

This study aligns with the TPACK framework by highlighting the teachers’ integration of technological, pedagogical, and content knowledge in their use of AI tools for grammar instruction. The teachers’ familiarity with various AI tools reflects their technological knowledge (TK). Also, their application of these tools in lesson planning and preparation demonstrates their pedagogical knowledge (PK). Although many challenges were found, such as technical issues and financial constraints, the teachers’ expressed interest in further training

indicates their readiness to improve the integration of AI tools.

Answering the research questions

This study addressed the research questions concerning the awareness, utilization, and perceptions of AI tools among EFL teachers in intermediate public schools in Nabatieh District. First, the findings reveal that teachers are generally aware of the benefits of AI tools, particularly in saving time during lesson preparation and enhancing student engagement, answering the first research question. Second, the study demonstrates that a significant number of teachers actively use AI tools for planning, resource finding, and exercise creation, thus addressing the second research question. The most commonly used tools identified include ChatGPT, Grammarly, Kahoot, and Quizlet, providing a clear answer to the third research question about the specific AI tools in use. Regarding the effectiveness and benefits of AI tools, teachers expressed positive perceptions, answering the last research question.

Appendix A

Teacher Use of AI in Grammar Teaching Practices Questionnaire

Instructions: Please answer the following questions based on your experience and practices.



Teacher Information

1. Teaching cycle
 - o Kindergarten
 - o Cycle 1
 - o Cycle 2
 - o Cycle 3
2. Years of teaching experience
 - o Less than 1 year
 - o 15- years
 - o 610- years
 - o More than 10 years

AI-Tool Familiarity and Usage

3. Please indicate your familiarity with the following AI tools (check all that apply):
 - o Grammarly
 - o ChatGPT, Copilot, Gemini or other Chatbots
 - o Turnitin
 - o QuillBot
 - o Nearpod
 - o Quizlet
 - o Kahoot
 - o Not familiar with any
 - o Other...
4. In which of the following teaching stages do you primarily use AI tools? (check all that apply):
 - o Planning and preparation
 - o Teaching and delivery
 - o Assessment and feedback
 - o Finding resources
 - o None
 - o Other...
5. How frequently do you use AI tools in your grammar teaching (including preparation)?
 - o Daily

- o Weekly
 - o Monthly
 - o Occasionally
 - o Never
6. Please describe how you use AI tools in your grammar teaching (e.g., generating exercises, providing feedback, creating interactive activities).

Perception and Challenges

7. To what extent do you agree with the following statements about AI tools in grammar teaching?

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
AI tools save me time in lesson preparation					
AI tools enhance students' engagement in grammar learning					
AI tools provide valuable feedback to students					
AI tools can impact students' grammar learning outcomes					
I am confident in my ability to use AI tools effectively					

8. What are the main challenges you face when using AI? And if you don't use AI, what are the obstacles?

Professional Development and Future Outlook

9. Have you received any training or professional development on using AI tools in education?
- o Yes
 - o No
10. Would you be interested in attending workshops or training sessions on AI integration in grammar teaching?
- o Yes
 - o No
 - o Maybe
11. Do you have any suggestions for improving the use of AI tools in grammar teaching?

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