Attention to Form Enhanced with AI: An Exploratory Study with Pre-Service EFL Teachers

Şebnem Yalçın and Senem Yıldız

Artificial intelligence (AI) has the potential to transform language education by offering personalized instruction, real-time feedback, and tailored skill development. This study investigates how AI can refine attention to form in language teaching, enhancing the creation of language materials that increase the frequency and salience of L2 input, particularly in grammar instruction, aligning with principles of instructed second language acquisition. Understanding teachers' perceptions and preferences regarding AI is crucial, as it can significantly impact various aspects of language teaching in the near future. Using a qualitative research design, the study explores how nine pre-service teachers in Türkiye conceptualize attention to form and the role of AI technologies in form-focused instruction through semi-structured interviews and self-reflections. The findings indicate that participants used AI tools for generating input and crafting sentences and examples, and benefitted from well-contextualized examples with instant access to enriched input for grammar-focused lesson planning.

L'intelligence artificielle (IA) a le potentiel de transformer l'enseignement des langues en offrant un enseignement personnalisé, une rétroaction en temps réel et un développement des compétences sur mesure. Cette étude examine comment l'IA peut favoriser l'attention portée à la forme dans l'enseignement des langues, en améliorant la création de matériel pédagogique qui augmente la fréquence et la mise en évidence de certains éléments de l'intrant en langue seconde. Ceci s'applique en particulier sur l'enseignement de la grammaire, en cohérence avec les principes de l'acquisition d'une langue seconde appliquée à l'enseignement. Il est essentiel de comprendre les perceptions et les préférences des enseignants à l'égard de l'IA, car celle-ci pourrait avoir un impact significatif sur divers aspects de l'enseignement des langues dans un avenir proche. En adoptant un devis de recherche qualitative, l'étude explore la façon dont neuf enseignants en formation en Turquie conceptualisent l'attention portée à la forme et le rôle des technologies d'IA dans l'enseignement de la forme, par le biais d'entretiens semi-dirigés et d'autoréflexions. Les résultats indiquent que les participants ont utilisé des outils d'IA pour générer de l'intrant et élaborer des phrases et des exemples, et qu'ils ont bénéficié d'exemples bien contextualisés avec un accès instantané à un intrant enrichi pour planifier des leçons axées sur la grammaire.

Keywords: AI tools, artificial intelligence, grammar teaching, pre-service teachers

Artificial intelligence (AI) represents a remarkable advancement in the use of technology in a wide array of disciplines. Generative AI refers to a class of artificial intelligence systems that have the ability to generate content that is typically associated with human creativity and intelligence. Unlike earlier educational technologies, AI possesses unique features such as humanlike cognitive functions deriving from natural language processing, machine learning, and adaptive learning systems (Tack & Piech, 2022). These features allow AI to support teachers to offer personalized, immediate, and data-driven support, with the assumption of making instruction more efficient and effective. By integrating AI, teachers are expected to make informed decisions and enhance their instructional methods to create a more engaging learning environment. However, because AI technologies and tools are very new and advancing at an unprecedented pace, our understanding of their actual use by pre-service and in-service educators remains limited. Furthermore, due to the very limited tested empirical data on the integration of AI in education, AI lacks a well-established theoretical and pedagogical framework for its effective integration into instruction. The current relatively short experience with AI and its immense speed raise critical questions about how structured guidance can be provided and call for an in-depth analysis of teacher cognition and behaviour in teaching particular subject areas using AI. Educators' digital competency frameworks, such as Technological Pedagogical Content Knowledge (TPACK) (Mishra & Koehler, 2006) and Digital Competence Framework for Educators (DigCompEdu) (Redecker & Punie, 2017), have only recently been expanded to include AI competencies to encourage teachers to use AI tools, not only to enhance student engagement and personalize learning but also to approach AI with a critical understanding of its unique capabilities, limitations, and ethical implications. Guiding frameworks promote a comprehensive understanding of AI's role in society, encourage responsible usage, and help students develop critical thinking skills to analyze AI applications. The European Union (EU)–funded AI Pioneers project highlights that the key AI competencies added to the DigCompEdu framework include fostering data literacy, promoting computational thinking, designing curricula that integrate AI, encouraging ethical AI use, and equipping students with the skills needed for an AI-driven world (Bekiaridis & Attwell, 2024; Mishra et. al., 2023). In this emerging field, the current research undertakes an initial step toward understanding pre-service teachers' first-time encounters with AI and their perceptions about its use in language teaching, with specific reference to grammar teaching in EFL classrooms.

Literature Review

AI and the Future of Language Education

There are numerous unprecedented assumptions about the future of education in light of the anticipated effects of AI technology. According to a recent UNESCO working paper (2019), we can no longer take for granted that humans have an exclusive hold on advanced language—a natural skill shaped by education and central to our social identity. Recognizing this shift challenges us to rethink the values and assumptions that form the foundation of our educational systems and society at large.

Much of what we are experiencing now can be viewed as educational forecasting. In some ways, it is quite alarming, such as the widespread fear that AI could replace teachers within the next two decades (Herman, 2022). Clearly, we need systematic research and well-understood findings on the use of AI technology to make informed decisions. Nazaretsky et al. (2022) highlight that trust is a crucial factor for the adoption of AI technologies, citing evidence across different fields showing that whether practitioners choose to utilize AI-based tools often depends on the level of trust they have in them. Therefore, understanding pre-service and in-service teachers' perceptions and cognitions regarding the use of AI tools is essential for the future of language education. For many educators, AI is a new and transformative force in education, with the potential to revolutionize teaching, tutoring, materials design, and publishing. However, a significant knowledge gap exists concerning teachers' perceptions and competencies in using AI technology.

AI tools are increasingly used for personal language learning, yet there is a need for systematic research on their application in formal language teaching. Such research should focus on how AI can support key areas of language instruction, including grammar, vocabulary, and both receptive and productive skills. There are several recent reviews about advances in AI and language teaching (see Han, 2024; Ji et al., 2022; Kohnke et al. 2023; Lo et al., 2024; Ng et al., 2023). Han (2024) lists three strands of research on the second language acquisition (SLA) agenda and poses a list of intersecting questions for SLA researchers. However, her proposals did not include the pedagogical choices specified for classroom use. Zou et al. (2023), in their introduction to a special issue, present five studies that investigate the opportunities and challenges of AI technology for developing language skills in language-learning contexts, including AI for reading practice, speaking practice, automated writing evaluation, error correction, and peer correction. Another recent experimental study by Wei (2023) reports on the effects of AI-mediated language courses on L2 achievement and L2 motivation. Similarly, Lee et al. (2023) examined AI-based content generation and reading enjoyment in young learners. It is obvious that more experimental studies on AI technology and language skills will be published soon. The most recent systematic review of 70 unique empirical studies that investigate the use of AI in English language teaching (Lo et al., 2024) reported that the majority of studies focus on writing as a domain and call for more robust empirical design.

Grammar Teaching and AI

Particular aspects of AI, such as the personalized, immediate, and data-driven support that it provides to learners, make it an ideal additional tool for improving L2 grammar instruction and learning. One of the expected benefits of generative AI in grammar teaching is its capacity to generate learning resources with accurate, contextually appropriate, and natural examples of grammatical structures. English as a foreign language (EFL) teachers in low-input environments may experience difficulty in providing natural, idiomatic examples of target structures. This challenge often stems from the fact that English is not their first language, making it harder to intuitively know what sounds natural in English. However, AI offers a promising solution to help bridge gaps in linguistic competence, enabling teachers to access and present more authentic language examples. AI-powered language tools exploit an extensive range of language corpora, and by surveying this immense amount of real-life data, they generate examples that can reflect both the accurate and natural use of target grammatical structures. This contextualization can be in the form of a variety of input, including depictions of dialogues and conversations, role-playing scenarios, narrative contexts like short stories or blog posts, interactive games, or simple gap-filling exercises through discrete sentences. Warschauer et al. (2023) list some functionalities that can be performed with ChatGPT. Their suggestions encompass several key aspects relevant to grammar teaching with AI tools: content development, corpus search, text modification, support for sentence generation, and vocabulary and grammar support. These functionalities can enhance instructional methods, interventions, and resources for teachers, thereby improving teaching and learning experiences in classroom settings.

Corpora, which have been an invaluable tool in language teaching for over two decades, can be regarded as one of the closest resources to AI for generating teaching materials. Language teachers are trained and encouraged to consult corpora as they provide authentic examples of language in use, valuable information about word frequency, features of collocations, and language patterns of real usage in different genres (Flowerdew, 2009). Despite the positive outcomes with using corpora for teaching grammar through contextualized examples (Bennett & Uí Dhonnchadha, 2023; Boulton & Cobb, 2017), previous research highlights that several challenges—such as the complexity of corpus tools, the technical knowledge required, and limited systematic training make teachers reluctant to use corpora in their classroom teaching (Callies, 2019; Chambers, 2019; Vyatkina, 2020). Another pitfall is that especially teachers of low-proficiency learners have difficulty locating examples in corpora that would match their learners' needs, whereas the use of AI in form-focused instruction (FFI) has the potential

to supplement or even replace traditional corpora by providing real-time, customized language examples and explanations (Crosthwaite & Baisa, 2023; Lin, 2023).

Although AI models have significant potential, they lack the deep subject-matter expertise and pedagogical understanding that human educators bring to the classroom, making collaboration between teachers and AI tools a more realistic and effective approach. By combining their strengths, educators and AI tools can work together to enhance student learning. Saving teachers' time could be one of the key advantages of AI tools. It is claimed that AI can automate teachers' repetitive and time-consuming tasks. This includes tasks such as tracking student progress, grading, or taking attendance (Bushweller, 2020). Such automation could reduce teachers' daily workload, as research suggests that current technology can enable teachers to reallocate 20 to 40 percent of their time to activities that better support student learning by undertaking routine yet time-consuming tasks (Bryant et al., 2020). On the other hand, the pedagogical judgement of teachers—shaped by their intuition, understanding of individual learners, ability to recognize teaching opportunities, emotional intelligence in assessing student needs, cultural understanding, and creativity—remains irreplaceable (Tack & Piech, 2022).

While language teachers can create effective learning materials with AI, further research is needed to explore how AI can improve specific areas, such as grammar presentation, by simplifying complex explanations, providing authentic contexts, and customizing instruction for individual learners. Creating learning resources for teaching grammar involves addressing various challenges and considerations, which include the age and proficiency level of the learners; the relevance and interest of the contexts used to present the grammar topics; the nature of the grammatical areas being covered, including their forms, meanings, and use in spoken or written discourse; and the extent to which the language examples provided are realistic and meaningful for the learners. Teachers should also assess the potential difficulties learners might face, particularly those arising from similarities or differences between the target language and their mother tongue (Stranks, 2013).

Another crucial aspect is that the pedagogical quality of AI-generated content can vary significantly based on various factors, making it essential to exercise caution when relying on AI for educational materials. The efficient use of AI relies on meticulously crafted, highly specific prompts. Prompts that are written with minimum effort or that lack the necessary background knowledge would lead to low-quality results or output that is inappropriate or wrong (Cardona et al., 2023). Understanding and assessing the educational context, learning objectives, or the optimal instructional strategies for a specific topic or audience requires teachers' content knowledge and their general knowledge of instructional methods (i.e., pedagogical knowledge) (Shulman, 1987). Additionally, integrating AI technologies into teaching requires an understanding of TPACK, which blends content knowledge, pedagogy, and technology use (Mishra & Koehler, 2006). Without well-written prompts, proper supervision, and filtering mechanisms, AI-generated content may lack accuracy, coherence, and alignment with the intended educational purposes.

Grammar Teaching and AI Interactions: An ISLA Perspective

Pedagogical interventions aimed at drawing learners' attention to form in the L2 classroom have been at the core of instructed second language acquisition (ISLA) theory and research underpinned by the concepts of *focus on forms* versus *focus on form* (Long, 1991) and FFI (see reviews by Ellis, 2001; Loewen, 2020; Spada, 1997). Integrating theory and research from ISLA into teacher education courses is essential for developing informed processes and practices. In a recent narrative review, Ranta and Lyster (2018) present a systematic overview of existing pedagogical options in FFI, discussing various approaches, findings, and overall effectiveness. Their work offers a comprehensive understanding of the key issues surrounding language awareness and teaching practices and provides key pedagogical interventions within proactive and reactive forms of FFI. Proactive FFI includes strategies such as input enhancement, metalinguistic explanations, consciousness-raising tasks, and practice activities, while reactive FFI primarily involves the use of corrective feedback (see also Pawlak, 2021, for current pedagogical interventions with FFI). FFI research has evolved considerably since its emergence as a sub-field of

study. Numerous influential studies have advanced our understanding of L2 learning processes across diverse contexts. In their pioneering meta-analysis, Norris and Ortega (2000) reviewed 49 SLA studies comparing explicit and implicit instruction. They found that explicit instruction generally yielded larger effect sizes for language acquisition outcomes, although they acknowledged a bias toward explicit measures. Their work guided ISLA research and L2 teaching acknowledging the value of language instruction and encouraged continued work on when and how FFI is beneficial. More recent meta-analyses, such as that by Kang et al. (2019), expanded on earlier work by reviewing 35 years of form-focused instruction studies (1980–2015). This research synthesized findings from 88 studies across multiple variables, including instructional intensity, context, and learner proficiency levels. They reported that FFI has a substantial positive impact on language learning, with explicit instruction being slightly more effective overall. However, specific conditions—such as high-intensity instruction and structured pre- and post-testing—enhanced learning outcomes regardless of the instructional method used. Similarly, Goo et al. (2015) updated Norris and Ortega's (2000) work with more mediating factors and confirmed the initial findings with a larger data set. More recently, Li and Sun (2024) conducted a meta-analysis of 67 studies focused specifically on explicit FFI, examining moderating variables such as outcome type, instructional delivery method, L2 proficiency level, research setting, and the duration and intensity of instruction. These findings confirm the effectiveness of FFI and underscore the nuanced and context-dependent nature.

Although the evidence-based conclusions reviewed above show that FFI is effective, there is still a need for research-informed practice in this field.

AI for Form-Focused Instruction

When possible interactions between grammar and AI are considered, one might argue that AI has the potential to significantly empower language teachers in establishing form–meaning connections required for FFI, while balancing communicative language use with attention to linguistic form—an issue central to ISLA. Theoretical work emphasizes that learners need to notice specific linguistic forms, as noticing is often seen as a prerequisite for language acquisition (Schmidt, 1990). Research also supports the importance of oral corrective feedback in this process (Lyster & Sato, 2010). AI-driven tools can support classroom practice by offering immediate, personalized oral and written feedback, which helps learners recognize and self-correct errors. This could enhance their awareness of target structures and complement traditional classroom instruction. Similarly, the ability of AI to collect and analyze data on learner errors also addresses issues in FFI related to tracking learner trajectories in their interlanguage (Long, 1991), as teachers can use this data to tailor instruction to common error patterns or specific areas of difficulty. Furthermore, AI tools that automatically adapt content difficulty can provide appropriately scaffolded input, enhancing comprehensibility and facilitating input processing by offering relevant examples suited to each learner's proficiency, thus providing better chances of rich and comprehensible input (Krashen, 1982) for learners. In these ways, what AI tools could offer aligns well with SLA theories, particularly in enhancing the integration of FFI within a communicative framework that respects the complexities of language acquisition. Additionally, chatbots and speech recognition tools offer controlled, communicative practice with feedback, reinforcing the fact that effective FFI should balance attention to form, meaning, and use. By embedding FFI within interactive tasks, AI tools could facilitate this balance, giving learners practice with forms in realistic, conversational contexts that also promote fluency. Through these functions, AI tools provide ways to implement ISLA and FFI principles in practice, enhancing learners' ability to process and internalize target language forms while maintaining a communicative, meaning-focused approach.

While ISLA principles are expected to guide language teachers in classroom practice, a gap often exists between theoretical frameworks and their practical application. Teachers' cognitions, shaped by their experiences and beliefs, play a crucial role in how grammar is taught. However, documented tensions arise from discrepancies

between teachers' and learners' experiences, beliefs, and expectations (Fortune, 1992; Loewen et al., 2009; Schulz, 1996, 2001). These challenges are further complicated by contextual factors, such as low-input environments that lack opportunities for meaningful communication and the constraints of classroom realities, including time limitations, curriculum requirements, and the diverse needs of students. Balancing these factors often leads to compromises in instructional practices, underscoring the importance of understanding teachers' preferences as a critical component of research-informed pedagogy.

This study aims to explore pre-service language teachers' attitudes toward the use of AI technologies in relation to FFI, gather insights into whether and how they perceive these technologies as integrated into their practices, and examine their personal experiences on whether this influences their opinions and conceptualization of attention to form in grammar teaching. Previous research has shown that there is a gap between teacher cognitions and actual practice. According to Borg (2006), teachers' beliefs are shaped by schooling, teacher education, and classroom experience. Contextual variation also plays a substantial role in shaping teachers' beliefs and practices. Phipps and Borg (2009) stated that there was a need for exploring language teachers' actual practices and beliefs in advancing our understanding of the complex relationships between these phenomena.

It is well documented that although language teachers may have some background in SLA theories, they frequently rely on practical discourses rooted in their specific teaching contexts, which shape their decision-making processes (Phipps & Borg, 2009, p. 11). Some studies (e.g., Flaherty, 2018; Graus & Coppen, 2016) reveal that teachers often favour explicit FFI as a preferred pedagogical intervention for teaching grammar. However, limited research exists on the range and frequency of FFI techniques employed in classrooms (Simard & Jean, 2011, p. 761). Notably, Jean and Simard's (2011) comprehensive Canadian study found that while both English and French language teachers and students view grammar instruction as necessary and effective, it is often perceived as unenjoyable. Therefore, bridging the gap between theoretical principles and practical application requires a deeper understanding of teachers' practices, preferences, and the challenges they face in diverse instructional contexts. To the best of our knowledge, the current study is the first to explore teachers' cognitions about AI-integrated grammar teaching with an instructed second language acquisition (ISLA) perspective.

Method

Context and Participants

The current study is an exploratory qualitative study involving nine pre-service EFL teachers nearing graduation in an English-medium university in Türkiye. The participants in this study were senior students (one male and eight females) enrolled full-time in an undergraduate teacher education program in the foreign language teaching department of an English-medium public university in Istanbul, Türkiye. An initial online survey was administered to all 72 senior-year students to gather insights into their current cognitions about grammar teaching. Of the 15 respondents, nine students who reported integrating AI into their macro-teaching and who volunteered to participate were selected for the study. Prior to entering the program, all participants had received up to 11 years of formal English language instruction.

The program in which the participants were enrolled combines theoretical foundations, subject knowledge, pedagogy specific to language teaching, and hands-on teaching experience. As part of their senior-year practicum requirements, all students are required to observe 144 hours of English language classes at their assigned K–12 schools throughout the academic year. In addition, they must conduct four official teaching sessions in these schools, each lasting 45 minutes and prepared under the guidance of a mentor teacher and their university supervisor. For their practicum, the participants were assigned to prestigious high schools known for enrolling academically high-achieving students from across the country, with the researchers of the present study supervising their practicum work.

The participants had taken two courses that were directly relevant to the purposes of the study. The first one was a *Pedagogical Grammar* course, which provided theoretical and practical perspectives on teaching grammar and examined the role of grammar in language teaching involving individual and contextual factors contributing to the effectiveness of grammar instruction. The pedagogical grammar course followed both theoretical and practical approaches to grammar teaching. The latter was a *Technology Enhanced Language Learning* course that was a capstone for senior-year pre-service student teachers, building on their accumulated knowledge and skills necessary for teaching various language components such as grammar, vocabulary, reading, writing, listening, and speaking. It included theoretical and pedagogical considerations in the use of technology in second/foreign language learning and teaching. It also consisted of students' reflections on their theoretical knowledge to assess, evaluate, select, and integrate digital applications and online resources addressing diverse learning needs.

Data Collection and Analysis

The data for this exploratory qualitative study were collected during the 2023–24 academic year through semi-structured interviews, classroom observations of practicum courses, self-reflections, and document analysis. The participants were observed by the researchers during their official practicum macro teaching sessions. Following the observations, semi-structured interviews with each participant were conducted. We used the initial questionnaire, distributed to all 72 senior students, to guide the development of semi-structured interview questions (see Appendix) and gained a preliminary understanding of participants' views on focus on meaning and focus on form. Although the questionnaire data itself are beyond the scope of this paper, they were essential in preparing for the interviews. Methodologically, combining questionnaire insights with observations and reflections allowed for a more complete and nuanced understanding than relying solely on participants' stated opinions. Interviews were conducted and recorded over Zoom, each taking approximately 15–20 minutes; they were transcribed verbatim and translated into English (see Table 1 for participants' interview times and word count for interviews) and were analyzed by employing thematic analysis (Braun & Clarke, 2006). To ensure ethical integrity, informed consent was received from each participant prior to conducting the interviews. The interviews aimed to gain deeper insights into the participants' perceptions, evaluations, and experiences, specifically examining their awareness of FFI and the processes involved in using AI tools. Understanding their awareness of FFI was essential to determining how their choice of AI tools aligned with their grammar teaching preferences. In order to complement the interview responses, we asked the participants to share their lesson plans, self-reflections, and AI chat logs. A close reading of lesson plans, self-reflections, and interviews took place for thematic analysis. Following the complete analysis of all data sets, the researchers agreed on three themes (i.e. contextual examples, opportunities for modification of materials/tasks, and instant access to rich input) to be discussed as the main findings of the study. The trustworthiness of the study was maintained by employing methodological triangulation (i.e., by using multiple sources of data collection to cross-check our inferences from the data sets) and by using peer review in our analysis and interpretation of the interview data sets.

Results

In this paper, the data we analyzed include pre-service teachers' responses to interview questions exploring their perceptions about their macro teaching, the grammatical structure they taught, their approach to grammar in the presentation, and their use of AI tools. The data collection protocol of the study necessitated that we utilize other data-collection tools (e.g., lesson plan, self-reflections, AI tool chat logs, and classroom observations) to triangulate the results of the study. However, within the scope of this paper, we will focus on the analysis of the

Table 1

Interview Times and Number of Words

Participant	Time (minutes and seconds)	Number of words
1	20.06	2,892
2	19.34	2,289
3	17.09	2,558
4	15.52	2,305
5	12.01	1,738
6	10.36	1,666
7	12.10	1,542
8	12.47	1,883
9	12.11	1,695

interview questions and self-reflections that enabled us to illustrate the initial conceptualization of grammar teaching within the realm of AI. We analyzed the responses of the nine pre-service teachers to interview questions exploring how their preferences for grammar teaching are influenced by the use of AI tools and how they utilize these tools in planning grammar lessons. Each participant was assigned a unique number from 1 to 9 to ensure data anonymity.

The key themes that emerged from the data regarding the participants' use of AI-driven tools in their grammar lesson planning and resource creation were categorized into distinct areas, each highlighting different aspects of the research findings. These areas included using AI in grammar teaching for better contextualized examples, better chances of modification, and instant access to rich input.

Better Contextualized Examples

Contextualization of examples and tasks is one of the key principles in language teaching, particularly in relation to grammar and vocabulary teaching. It can be challenging for language teachers—particularly novice EFL instructors—to find contexts that accurately and appropriately incorporate all target structures. The most commonly mentioned benefit of AI tools was their capacity for providing contextualized examples (i.e., sentences, vocabulary, and exercises).

Participant 1 in Excerpt 1 highlights the complexity of integrating multiple lexical items—such as idioms—into a coherent and natural-sounding context and sees AI as a scaffold to ease the cognitive load involved in designing contextualized input.

Excerpt 1

> For example, finding a context in which I can use all those idioms … I might not have been able to find the right *context*. Because, there were, for example, both "long time no see" and "let the cat out of the bag" at the same time among the target idioms … and four or five more idioms. I was afraid that [without AI] I would not have been able to use them all in a *context* or that the context would be too *unnatural*. (Participant 1, interview)

As authenticity is a key feature of any language task, the participants reported consulting AI for such pivotal needs. Excerpt 2 illustrates how participants emphasized the importance of authenticity and contextual

appropriateness in form-focused instruction, which is in line with input quality principles in ISLA (Ellis, 2005), and recognized AI's affordances in generating natural-sounding language models for less frequently used grammatical structures.

Excerpt 2

> We can give our target structure to get *natural, everyday use examples* of that grammatical structure from ChatGPT. Because, one of the main difficulties I have experienced is to teach a not very frequently used grammar through *a natural context*. When you use "past modules" too many times in a study, it starts to sound awkward and inauthentic. But ChatGPT can help us generate a more *authentic context*, I believe. (Participant 2, interview)

Similarly, in Excerpt 3, the participant emphasizes the pedagogical value of contextualization in grammar instruction. By preferring integrated and meaningful presentation over isolated rule explanation, she aligns with communicative and cognitive approaches to grammar teaching (Nassaji & Fotos, 2011), suggesting that AI can support this approach when it is used to embed grammar within stories or authentic tasks.

Excerpt 3

> For example, the most important thing is to *give examples in a contextualized way.* … In this way, I think instead of giving the grammar rule directly, *contextualizing* [is possible], that is, instead, you can integrate it with the story or show it in different ways. (Participant 3, interview)

In Excerpt 4, Participant 4, in addition to contextualization, also refers to *learning challenge* (Larsen-Freeman, 2003) and internalization of grammar and *noticing* (Schmidt, 1990); therefore, she connects to ISLA principles and pedagogical grammar guidelines and indicates that she follows those acquired principles as guidelines in her use of AI tools.

Excerpt 4

> in grammar explanation, there are three things that I focus on, a grammar rule … *purpose*, *use* and *meaning*. … I actually prepared such an activity thinking about [the parts] with which students might have the most trouble or what they should pay attention to when distinguishing these two grammar rules. … I actually wanted them to *notice* that function, that *use*, and then when I gave the defining relative clause, I wanted them to observe this difference between the two … (Participant 4, interview)

Excerpt 5 illustrates how some participants applied their pedagogical knowledge when consulting AI for contextualization and examples. This indicates their careful approach toward validating AI outputs, ensuring they are trustworthy and aligned with ISLA pedagogical grammar principles. They referenced tasks from pedagogical grammar books, showing their commitment to upholding established teaching practices.

Excerpt 5

> For this activity, I was inspired by the activity "Elaborating a Story" in Penny Ur's *Grammar Practice Activities* (1988), a practical guide for teachers. I believe exemplary sentences should serve for a specific

> purpose to facilitate *internalization of the grammar*. Those purposes are presenting the students with the most needed aspect of the grammar, along with *contextualized and authentic input*. I find examples on teacher reference books rather more focused in that sense compared to AI. Therefore, AI isn't more reliable than a reference book to me. I aim for a variety in my examples to present different aspects of the target grammar. (Participant 3, self-reflection)

Better Chances of Modification

Another significant advantage of AI is its capacity to serve as a collaborator for educators during lesson planning. Teachers can provide AI with prompts to modify specific inputs, whether generated by the AI or sourced from external materials, to customize content to their students' unique needs. Through this customization, AI can create learning materials that are more relevant and engaging for a specific group of learners. This customization can be in the form of adjusting reading passages to match the reading levels of different students, or emphasizing particular vocabulary and grammar structures. In a collaborative approach, while AI uses its capacity to generate authentic and natural input, the educators use their content and pedagogical knowledge to make the output suitably address the unique needs of their learners. It can be seen that participants compare opportunities for modification with the reference books, and it is understood that they benefit from the opportunities to revise the texts with more specification or add more details for the tasks. Excerpts 6-9 show that participants benefit from opportunities for modifying texts, sentences, and so forth. It seems that all those modifications allow for more personalized options in different classes.

The participant in Excerpt 6 compares traditional online materials with AI-generated content, emphasizing the customizability and precision afforded by AI tools. This comment also highlights the shift from static resources to more dynamic, modifiable input, underscoring the role of AI in supporting differentiated and learner-responsive material design.

Excerpt 6

> For example, I will compare it with something. When we used it before, that is, two years ago- We would type on the internet to find reading text and similar questions, but we could not *modify* them. I think this is the most important part. Because, for example, now ChatGPT gives us something…. We can modify it in a very *personalized* way and to suit our students. … We can play down to the smallest part and this allows us to obtain a more personalized and more precise result. I think that's why it's preferred. (Participant 3, interview)

The participant in Excerpt 7 used AI actively as a helpful partner, not just a tool, and her detailed and refined prompting illustrates pedagogical judgement and an understanding of instructional design (Mishra & Koehler, 2006).

Excerpt 7

> I used AI for generating the text because it would generate a text that I could easily work on and edit instead of writing from scratch.… I used it mostly to generate the text in the main activity and questions in the Kahoot game. To get the exact outputs I wanted, I had to try many times and give very specific input (describing my audience, proficiency level, classroom setting, objectives, time duration, etc.). Even still, I had to make some changes on my own to adjust it according to my students. (Participant 4, interview)

While AI is generally seen as a time-saving tool, some participants found the time spent on modifying outputs to be somewhat challenging. Excerpt 8 reveals that participants invested significant time refining the final output, as the process required numerous revisions. Crafting effective prompts to meet lesson objectives proved difficult and time-consuming. Given the novelty of interacting with AI, it is understandable that developing proficiency in this skill may take time.

Excerpt 8

> Anyway, I still cannot directly copy and paste the latest version and use it. Well ... No matter how many times I enter the prompt, it still doesn't give me exactly what I want, 100%. So I'm changing it. For example, in grammar, I say A2 level, but he still tells me different tenses, different grammatical constructions. … So I think he doesn't fully understand that part [creating proficiency adjusted texts]. I'm modifying it. (Participant 3, interview)

Once again, as highlighted in Excerpt 9, participants apply their pedagogical knowledge to filter AI-generated output, carefully reviewing examples and assessing their suitability for the target learner profile. Writing effective prompts when using AI tools should therefore be recognized as a critical factor in this process.

Excerpt 9

> In my first macro teaching session of this semester (grammar focus on relative clauses), I used ChatGPT4's "Write For Me" feature to produce a short story incorporating non-defining relative clauses … I was aiming (for the students) to infer the use of the grammar form in context and identify the key difference between non-defining relative clauses and defining relative clauses … ChatGPT generated a story with the target form in every sentence. Some were unnecessary and would give the student the wrong impression of the usage of the target form. … I also had to select the appropriate sentences according to my goals … I acknowledge that with a well-written and specified prompt, AI can produce focused examples. However, I find writing such prompts rather complicated than referring to a teachers' reference book. (Participant 4, self-reflection)

Instant Access to Rich Input

As mentioned in the literature review above, AI tools undertake tasks that can be mundane or time-consuming for teachers and thereby save them valuable time. This theme is repeated multiple times by the participants. Digital literacy is a part of their competence for this generation of teachers, and it seems that as a practical functionality AI enables those participants to speed up the material search and compilation of resources. AI seems to offer instant access to an unlimited resource for materials, especially examples that can provide rich input. Excerpts 10–12 demonstrate how AI tools speed up the process of planning and allow access to rich and varied input. Rather than initiating tasks independently, participants appear to use AI tools as a planning aid, focusing on revisions that align with their competencies. Participants noted a comparison between the time spent using AI tools and the time spent searching in books or online.

Excerpt 10 reveals that AI significantly reduces the time and effort needed compared to past practices like searching through multiple websites or books, even though there is a need to revise the final output.

Excerpt 10

> Anyway, like I said, writing that text myself from scratch or finding it from another website would have been very difficult for me. That's why … I mean even though I had to play with the output, what AI generated was very close to what I wanted. ... I can say this research time. I mean if it had been a year ago, I would not have been able to browse many different websites and find things that is completely appropriate/relevant to the grammatical structure I was assigned to, in such a short time. Here, it [A] explains it directly, that is, it explains and gives it to me. Then I organize it and use it. I had to work for a few hours a year ago and look at examples on different websites and even in books to find it this way. I would say "time efficiency" for the unique feature of AI. (Participant 3, interview)

Excerpt 11 underscores faster and more flexible nature of AI, as Participant 5 describes how she uses it to quickly access diverse grammar examples, especially for vocabulary-related topics like suffixes.

Excerpt 11

> AI provided me with fast examples of -hood and -ship (suffixes). I would probably have to go through 3–4 language course books if I wanted to check from books and the examples would be the same although some might be made up [for those first time encountered sentences], AI gives examples faster and generates sentences a lot faster. (Participant 5, interview)

Rather than visiting the library in the traditional way, browsing the web for visuals, examples, or stories, or consulting language corpora for contextualization, participants found tools like ChatGPT to be more convenient and instant in providing alternatives.

Excerpt 12 illustrates how Participant 6 appreciates AI's variety and speed, especially for meaning-focused and communicative activities. She notes that AI provides a broad range of creative suggestions in less time than traditional resources, allowing them to prepare more materials efficiently.

Excerpt 12

> Especially in meaning-focused activities, I think it [AI] provides more varied alternatives compared to books. I mean it can give me a list of 10–15 activities when prompted. And most of them are creative. Of course it all depends on my prompt, such as group work, pair work etc.… If I want to develop a worksheet, for example—let's say—form-oriented. I mean the number of maximum sentences would be limited. Especially when there is the time factor. But with AI I can develop more sentences and from that respect I am happy. … I would certainly say: Time [as a unique/most beneficial feature of AI-tools]. (Participant 6, interview)

Notably, this generation of teachers, while highly digitally literate, is also familiar with traditional book and web searches, as exemplified in Excerpt 13.

Excerpt 13

> Certainly, there are instances that one can benefit from the huge number of examples it could produce in such a short time. But I would generally abide by a teacher's reference book if it suffices. (Participant 4, self-reflection)

Discussion and Conclusion

In this study, we have explored the perspectives on grammar teaching of pre-service teachers during their first experience with AI tools. As AI is supposed to bring radical changes in every aspect of language teaching, we made an attempt to illustrate how pre-service EFL teachers' conceptualizations of attention to form in grammar teaching develops while transitioning into the AI-technology era. We assume that such a new conceptualization of every facet of language teaching—and teaching in general—would require a response from teacher education programs. The findings show that the participants in this study welcomed the opportunities that AI tools brought into the language teaching profession; however, they were cautious about the trustworthiness and validity of the responses generated by AI tools. It is important to note that the participants who studied in one of the best universities in Türkiye and had access to contemporary theories and practice in their undergraduate courses had this critical stance toward issues in education.

The participants mentioned several important concepts in FFI, such as form, meaning, and use. It is clear that they paid attention to meaning- and form-oriented types of exercises and tasks. They integrated their technological, pedagogical, and content knowledge to enhance the learning experience by employing various techniques to make input meaningful and engaging for language learners, ensuring that AI tools align with effective teaching strategies and the subject matter. Results suggest that the participants applied their FFI knowledge and worked with AI to create materials that focused learners on grammatical forms, aligning with Schmidt's (1990) noticing hypothesis and Long's (1991) interaction hypothesis.

AI clearly offers many resources for teachers and curriculum and materials developers for the purpose of delivering differentiated L2 input and tasks for mixed-ability groups. This particular advantage of AI tools was not reported by any of the participants in this study, which may be due to their limited experience as senior students with diverse learner profiles. As previously noted, the schools where they completed their practicum were academically high-performing, with relatively homogeneous student populations. The participants did, however, report benefitting from AI tools by drawing on SLA principles acquired during their teacher education. They appeared to transition smoothly from using general digital technologies to adopting AI-based tools. Given that this generation of teachers is generally comfortable with digital technologies, it is unsurprising that they readily embrace the functionalities of AI tools that meet their needs. The most frequent function mentioned was contextualization, which reflects their adherence to the pedagogical principles emphasized in their undergraduate training. In contrast, time efficiency emerged as a more practical concern, with the participants appreciating AI's ability to quickly generate examples, texts, and other instructional materials. Another reported benefit was the ability to modify AI-generated content, which supports the creation of more refined, personalized materials.

When considering teachers' daily workload and the fast pace of classroom instruction, AI tools offer significant relief by speeding up the generation of examples, stories, and tasks. This time-saving aspect can allow teachers to focus more on learners' linguistic needs, enabling them to address individual differences and develop more personalized options in mixed-ability classrooms. Although participants reported spending additional time revising AI-generated content, it is likely that with more experience in prompting, they will be able to obtain more accurate outputs and reduce revision time. The three key features identified by participants—contextualization, time efficiency, and customizability—demonstrate that AI tools hold promise for language teaching. Moreover, participants seem open to exploring these tools further, albeit with thoughtful caution. To discuss all possible functionalities is beyond the scope of this article, but it is promising to see that AI tools could offer changes in interaction and feedback in speaking programs. This would be a major contribution to language teaching practice for teachers from varying backgrounds and for learners with diverse needs in a variety of learning contexts like

EFL and ESL settings, as well as input-rich and low-input contexts. As teacher educators in the field of language teaching, we are looking forward to experiencing such practices in language classes.

There are a number of pedagogical implications of the present study. As highlighted by Warschauer et al. (2023), AI literacy and competence frameworks for both teachers and learners have recently been introduced to better train prospective teachers and establish realistic objectives for teacher competencies. However, these frameworks remain broad in scope (see UNESCO, 2019). Now it is time to integrate such a framework into teacher education programs. Another important issue is ethical considerations about AI tools. Pack and Maloney (2024), acknowledging the potential benefits of AI for TESOL, call for immediate classroom policies and institutional awareness for ethics and bias in AI tools. Akgun and Greenhow (2022) highlighted the importance of ethical considerations: "as scholars in teacher education and educational technology, we believe that educating future generations of diverse citizens to participate in the ethical use and development of AI will require more professional development for K–12 teachers (both pre-service and in-service)" (p. 438). Therefore, faculties of education and teacher education programs should incorporate AI competence and ethical considerations into their agenda and systematically and meticulously follow the developments.

This exploratory study, which was undertaken as a response to Han's (2024) call for systematic research on the interactions between AI and SLA, has demonstrated that AI tools are already part of pre-service teachers' practice and seem to enhance their grammar teaching. While Han's proposal did not address pedagogical choices, we believe that the rapidly evolving nature of the field warrants a focus on classroom practices. Therefore, this article aimed at understanding the current experience of pre-service teachers who are considered to be more familiar with AI tools. There seems to be a smooth transition on the part of the current generation of teachers, and AI tools seem to enhance meaning-oriented teaching with better contextualized examples and tasks. This group of EFL pre-service teachers reported adopting AI tools to generate meaningful and natural input in the form of stories, examples, and visuals to support teaching. While the findings provide important insights for our field, some limitations should be acknowledged. First, although methodologically acceptable, the small sample of participants comes from the same university and practices in the same K–12 schools. Therefore, future research should address different pre-service populations from different contexts. Future research should also address the digital divide as a factor, as different contexts have different access to digital resources. Finally, it is also important to acknowledge that when the data were collected during the 2023–24 academic semester, the participants' familiarity was limited, as the pace of change in AI tools is unprecedented, and other participants could offer different insights even after short periods of time. The pre-service participants of this study could be invited to reflect on their in-service experience in a follow-up study.

Acknowledgement

This research was supported by the Boğaziçi University Research Fund Grant Number 19952 / 24DP1.

The Authors

Şebnem Yalçın received her Ph.D. in second language education from the Ontario Institute for Studies in Education, University of Toronto. Her research interests include instructed second/foreign language acquisition, form-focused instruction, and the effects of individual learner differences (i.e., aptitude and working memory) in foreign language classrooms. She has been teaching in the Department of Foreign Language Education at Boğaziçi University, Istanbul, since 2012.

Senem Yıldız is an associate professor in the Department of Foreign Language Education at Boğaziçi University in Istanbul. She teaches both undergraduate and graduate courses on technology-enhanced language teaching, teacher development, materials design and development, and the teaching of second language skills. She earned her doctorate from Indiana University, where she also taught online graduate courses. Her research interests include technology-enhanced language learning and teaching, digital pedagogy in language teaching, competence of language teachers, blended and distance learning, and second language skills development. She has published widely in high-impact international journals indexed in SSCI and Scopus, contributing to the global discourse on language education and educational technology.

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Appendix: Interview Questions

1. Have you taught any grammatical structure in your macro teaching?
2. If yes, which structure did you target and how did you decide about that?
3. Can you please tell me about your lesson?
4. How do you define this piece of teaching? Form-focused instruction, or meaning Focused Instruction?
5. Have you used AI tools for this lesson?
6. Why do you think AI is a good option for you?
7. What does it offer that you cannot/could not do before?