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AI in the English language classroom in Austria: Exploring Teachers' perceptions
and concerns

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Abstract

Since the public release of ChatGPT (2022), artificial intelligence (AI) has rapidly entered English language teaching (ELT), offering manifold opportunities and tensions for classroom practice. The present study is part of a master thesis and aims to investigate how secondary school English teachers in Austria perceive the use of AI in relation to language teaching and learning with attention to school type (AHS, BHS and Middle school) and teachers' level of experience in years. To understand teachers' diverse perspectives, an online survey (N = 42) and semi-structured interviews (N = 6) examined crucial factors such as teachers' familiarity with AI, their perceived benefits and potential concerns, student use of AI as well as the demand for AI-specific teacher training and official guidelines from educational policymakers such as the Austrian ministry of education.

The results revealed that the majority of teachers across all school types (90.5%) already integrate AI into practice, reporting moderate to high familiarity. AI implementation was mainly observed in lesson preparation (e.g. brainstorming, differentiation, creation of grammar, vocabulary, reading and speaking tasks), with more cautious use for assessment. Perceived benefits were reported in terms of efficiency and material enrichment while concerns centered on academic dishonesty and student over-reliance, alongside manageable issues around data privacy. Despite significant divergence in perception of AI use among teachers from different school settings and at different career stages, clear consensus has been found on the importance of educating students to use AI in a meaningful and critical way. Based on these results, future directions include the need for subject-specific teacher support and official guidelines for AI integration, appropriate student AI literacy and a shift to assessment formats that foster language competence and critical thinking in an educational environment that is subject to increasingly rapid technological progress.

German version:

Seit der Veröffentlichung von ChatGPT (2022) hat künstliche Intelligenz (KI) rasch Einzug in den Englischunterricht gefunden und bringt neben einer breiten Vielfalt an Möglichkeiten auch Herausforderungen für die Unterrichtspraxis mit sich. Die vorliegende Studie ist Teil einer Masterarbeit und untersucht, wie Englischlehrer*innen an Sekundarschulen den Einsatz von KI im Sprachunterricht wahrnehmen. Dabei wird

differenziert analysiert, wie verschiedene Schultypen (AHS, BHS und Mittelschule) und die Länge der Berufserfahrung der Lehrer*innen deren Einstellung gegenüber der Verwendung von KI beeinflussen. Um die unterschiedlichen Perspektiven der Lehrer*innen zu verstehen, wurden in einer Onlineumfrage 42 Teilnehmende und in halbstrukturierten Interviews 6 Lehrkräfte zu ihrer Vertrautheit mit KI im Unterricht und den empfundenen Vor- und Nachteilen von KI für das Lehren und Lernen befragt. Darüber hinaus wurde untersucht, ob Lehrkräfte einen Nutzen in offiziellen Richtlinien vom österreichischen Bildungsministerium zur Verwendung von KI im Unterricht, sowie in Workshops und Fortbildungen sehen.

Die Ergebnisse zeigten, dass die Mehrheit der befragten Lehrkräfte (90.5%) KI bereits in die Praxis integriert haben und eine mäßig bis hohe Vertrautheit damit aufweisen. Hauptsächlich wird KI für die Unterrichtsvorbereitung genutzt (z. B. Brainstorming, Differenzierung, Erstellung von Grammatik-, Vokabel-, Lese- und Sprechaufgaben), während sie für Bewertung bisher eher zurückhaltend eingesetzt wurde. Als Vorteile wurden Effizienz, und Möglichkeiten zur Differenzierung und Personalisierung von Unterrichtsmaterialien genannt, während die Bedenken sich auf Schummeln und eine übermäßige Verwendung von KI durch die SchülerInnen, die sich folglich negativ auf die Entwicklung von eigenständigem Denken auswirkt, konzentrierten. In geringem Ausmaß wurden Bedenken bezüglich Datenschutzes genannt. Trotz erheblicher Unterschiede in der Wahrnehmung des Einsatzes von KI unter Lehrkräften aus unterschiedlichen Schulkontexten und Karrierestufen besteht ein klarer Konsens über die Wichtigkeit, Lernende darin zu schulen, KI sinnvoll und kritisch zu nutzen.

Die aus den Umfragen und Interviews gewonnenen Erkenntnissen deuten auf einen Bedarf an offiziellen Richtlinien zur Implementierung von KI hin, an KI-spezifischen Fortbildungen zur Unterstützung der Lehrpersonen sowie einer Umstellung auf Bewertungsformate, die Sprachkompetenz und kritisches Denken in einem Bildungsumfeld fördern, das einem immer schnelleren technologischen Fortschritt unterliegt.

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List of abbreviations

AHS.....	Allgemein höherbildende Schule (upper and lower secondary school ending with A-levels)
AI.....	Artificial intelligence
BHS.....	Berufsbildende höhere Schule (upper secondary vocational school)
CEFR.....	Common European Framework of Reference for Languages
EFL.....	English as a foreign language
ELT.....	English language teaching
MS.....	Mittelschule (middle school)
SLA.....	Second language acquisition
SpLDs.....	Specific learning difficulties

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1. Introduction

Since the emergence of ChatGPT in late 2022, artificial intelligence (AI) has rapidly found its way into many areas of education, including English language teaching (ELT). The presence of AI tools in academia and education has fundamentally subverted our approach to didactics, methodology and assessment. One of AI's most notable impacts on language teaching has been the personalization of learning, as AI powered tools can adapt tasks, texts and feedback to learners' proficiency level, learning pace and individual needs . At the same time, AI tools can potentially reduce teachers' workload by assisting in lesson preparation and even text correction. AI tools also encourage self-study outside the classroom by providing individualized feedback to students' work (Abedi et al., 2025; Almegren et al., 2025; Bibi & Shahzad, 2025; Derakhshan, 2025; Jose, 2025; Koraishi, 2023). As AI contributes substantially to teaching and learning by generating information in rapid speed, educational demands for classroom practice have evolved ever since. Due to the limitless accessibility of information, learning objectives are less centered around a certain amount of knowledge, but more on the skills required for critical and meaningful engagement with sources of knowledge. At the same time, teachers can focus more on monitoring their students' learning process rather than dedicating several hours to lesson preparation due to AI as a new source of knowledge and support (Koraishi, 2023; Son et al., 2023; Yeh, 2025).

When it comes to ELT, AI has both positively and negatively impacted teaching and learning of language skills (writing, speaking, listening, reading), with effects unique to each skill. Written text production is the language skill most affected by the use of AI. The students' misuse of ChatGPT to bypass homework assignments has been regarded with skepticism by many teachers, as students increasingly tend to rely on AI for producing output in the target language, leading to a loss of creative and critical thinking skills. Consequently, teachers tend to react by limiting writing practice to in-class assignments or applying a flipped classroom methodology (Barrot, 2023; Cancino & Isami, 2025; Chounta et al., 2022; Christina & Panagiotidis, 2024; Han & Sari, 2024). The latter involves the students use AI generated texts and present them in class in ways that show critical engagement with the output. For example, the analysis can be done based on text-type specific criteria in terms of content, layout, grammar and style.

In spite of these potential risks, nevertheless, AI tools also offer several valuable affordances such as automated feedback in the form of spell checkers, language editors and the provision of aforementioned model texts (Barrot, 2023; Han & Sari, 2024; Marzuki et al., 2023a). Applications such as *wordtune* or *ChatGPT* can provide structured feedback including spelling, grammar, vocabulary, coherence and meaning. These tools may function as an initial rater of students' initial assignments, encouraging students to engage in autonomous revision and reflection of their texts. Rather than replacing teacher feedback, AI-based assessment can complement it by supporting learner responsibility in the writing process.

Besides writing, the instruction and assessment of second language speaking skill have also been significantly influenced by the use of AI. In recent years, the practice of speaking has benefitted from the invention of speech-to-text and text-to-speech tools. These tools allow students to practice their pronunciation and intonation outside the classroom and create a stress-free environment for error-correction (Ding & Xue, 2025; Xiao, 2025). By providing immediate auditory and visual feedback, such technologies support the connection between spoken and written language, which is especially valuable for learners who require repeated exposure and practice.

Moreover, speech-based AI tools can be specifically helpful for students with Specific Learning Difficulties (SpLDs) as they enable the transfer and link between the sound and form of a word and cater for different learner types. Learners who struggle with spelling or phonological processing may benefit from multimodal input and output, which can reduce cognitive load and enhance accessibility. In this regard, AI contributes to more inclusive language learning environments by offering alternative pathways to language production and comprehension.

AI has also had a notable impact on receptive skills. In written text comprehension, AI-generated texts can be adapted to specific proficiency levels and topics, offering learners access to comprehensible input tailored to their abilities and interests. It is important to mention, however, that close review of AI-generated texts in terms of quality, authenticity and pedagogical suitability and relevance is required before handing them out to students.

Concerning the practice of listening skills, text-to-speech technologies and AI enhanced listening materials allow learners to control speed and repetition of the auditory input, thereby supporting individual listening strategies and comprehension processes. Owing to AI's ability to process audio-visual language input such as YouTube videos, listening skills can be practiced through various AI-generated tasks targeting comprehension. Moreover, learners could technically create their own listening files or videos defining a topic, the lexical range and variety of English.

This multiskill and multidimensional influence of AI means that it has naturally influenced the professional practices of language teachers, particularly with regard to lesson preparation and assessment (Abedi et al., 2025; Asgap & Khatimah, 2024; Koraishi, 2023; Luc Ha & Nguyen, 2025). AI-powered tools enable the rapid generation and adaptation of teaching materials according to topic, particular interests of the learner group and language level in alignment with the CEFR. This increased efficiency has the potential to reduce the time teachers spend on lesson preparation and allows them to devote greater attention to learners' needs, interaction and pedagogical decision-making. In addition to potentially providing a more efficient approach to lesson preparation, AI has shown to serve as a helpful tool for error correction in written assignments. As mentioned above, AI tools like *wordtune* or *ChatGPT* propose a well-structured assessment of errors on and can be integrated in the classroom to serve as a first rater of students' written assignments, allowing not only for a closer and autonomous analysis of their texts from the student perspective, but also reducing the workload for teachers. Nevertheless, comprehensive IT skills and basic AI literacy are required in order to benefit from the affordances AI tools can offer for teaching. In the initial stages of using AI, teachers need to invest considerable time and effort to familiarize themselves with the technology.

In the light of the manifold affordances and challenges AI tools could have on ELT, teachers' needs and attitudes towards this increasingly growing technology need to be taken into careful consideration. Understanding teachers' perspectives on the use of AI is crucial, as their beliefs and perceived self-efficacy strongly influence whether and how such tools are integrated into classroom practices. To facilitate understanding, it is essential to analyze in which skill areas of language teaching and for which purposes teachers tend to implement AI, which is one of the main objectives of the current study.

Thereby, it aimed to investigate whether and the extent to which AI was actively used as a tool for lesson planning and recommended learning aid by teachers. Furthermore, particular attention was drawn to aspects in which teachers recognized particular benefits as well as potential pitfalls and disadvantages. It will also examine how teaching experience and school type, specifically *allgemeinbildende höhere Schule* (AHS), *Mittelschule* (MS) and *berufsbildende höhere Schule* (BHS) inform teachers' perceptions of AI in the English language classroom. To address these aims, the following research questions were developed:

RQ1: How do Austrian English teachers perceive the growing presence/intentional use of AI tools (e.g., ChatGPT) in language teaching and learning?

RQ2: To what extent does the perceived impact of AI vary in different school types (AHS, vocational school, middle school)?

RQ3: To what extent does teaching experience impact teachers' attitude and adaptation to the growing presence of AI?

Attempting to address these objectives, the current study particularly focused on teachers' AI use, their attitudes towards its implementation into the classroom and their perceived impact on various skills. Despite a growing body of research exploring the integration of AI into English language learning, there remains a noticeable gap in studies that specifically examine the views of secondary school teachers in English as a foreign language (EFL) context in Austria. Most existing studies either focus on higher education (Bibi & Shahzad, 2025), address the pedagogical impact of AI on ELT in a more general setting (Christina & Panagiotidis, 2024) or are related to a specific country/school system (Asgap & Khatimah, 2024; Nyudak et al., 2025; Suharno et al., 2025). Moreover, while global research on AI in education is predominantly concerned with its potential advantages and disadvantages in relation to the learning outcome (Abdellatif et al., 2024; Barrot, 2023; Dai & Wu, 2023), relatively little is known about how teachers themselves negotiate these tensions in their daily practice, and how factors such as teaching experience or school type inform their attitudes towards implementing AI. However, teachers' acceptance and their willingness to use AI significantly determine how effectively these technologies can be implemented in Austrian ELT classrooms. As each school system operates on different policies and

curricula, understanding Austrian educators' attitudes and strategies not only draws a more diversified picture of current classroom realities but also informs future pedagogical approaches and curricular choices. This study's relevance is therefore grounded in its contribution to the evolving field of educational technology and policymaking by offering empirically grounded insights into how English teachers in Austria respond to the increasing presence of AI in the classroom.

The structure of this thesis is as follows: Chapter 2 presents the literature review and situates the study within current research of AI integration in language education. It begins with an outline of social interactionist theory which informs this thesis and continues with an overview of recent findings on the benefits and challenges of AI implementation in English instruction, teachers' attitudes and the role of digital competence and teaching experience. The last section of the theoretical part discusses the impact of AI on specific language skills such as writing, speaking, listening and reading, which is essential to understand teachers' reasons for its implementation. Additionally, studies that explored AI's impact on L2 learners' cognitive and emotional development will be reviewed. The literature review is followed by an explanation of the methodological framework in chapter 3, describing the mixed-methods approach employed to collect and analyze data. It includes details on the design of the online survey and semi-structured interviews conducted with Austrian secondary school English teachers as well as on the procedure which will be adopted for the analysis. Chapter 4 presents the results, combining quantitative findings from the survey with qualitative insights from the interviews to provide a comprehensive view of current AI-related teaching practices and perceptions. The consecutive discussion in chapter 5 relates the findings of the study to existing literature and addresses how factors such as teaching experience and school type influence teachers' attitudes. Finally, chapter 6 offers a conclusion by summarizing the key results, suggesting implications for AI use in English instruction in Austria and pointing towards directions for future research in this field.

2. Literature Review

This literature review situates the present study within research on AI in English language teaching (ELT). As mentioned above, few studies have adopted a teacher-centered perspective that examines how teachers perceive, interpret and negotiate AI integration within their everyday classroom realities, particularly in secondary school contexts. To address this gap, the review aims to establish a conceptual and empirical framework for the current study by drawing on four interrelated strands: a theoretical foundation grounded in symbolic interactionism to conceptualize teachers' attitudes as socially constructed and dynamic; models of teachers' digital competence that inform readiness for AI integration; ethical and policy-oriented frameworks that shape institutional conditions for AI use; and empirical studies examining perceived benefits, challenges, and skill-specific impacts of AI in ELT.

2.1. Symbolic interactionist theory

To understand how Austrian English teachers perceive and respond to the integration of AI tools in their classroom, this study is informed by symbolic interactionist theory by Mead (2003), which views meaning as a product of social negotiation. Symbolic interactionism assumes that meaning is not inherent in objects or practices but emerges through social interaction. Individuals interpret and assign meaning to their environment through communication, shared symbols and ongoing negotiation with others. Consequently, attitudes, beliefs and behaviors are not static but dynamic constructs that evolve through interaction and experience.

In educational settings, symbolic interactionism highlights how teachers' beliefs, attitudes, and professional practices are shaped through interactions with their professional environments. Teachers continuously reinterpret their experiences with colleagues, students, institutional structures, and broader societal discourses, which influence how they perceive and respond to pedagogical innovations. As meanings are negotiated and reinterpreted through everyday professional interactions, attitudes toward new technologies may evolve over time.

Within the context of this study, symbolic interactionism provides a useful framework for examining how teachers construct meaning around the integration of artificial intelligence in English language teaching. Teachers' perceptions of AI are likely to emerge through interactions with colleagues, institutional guidelines, classroom experiences, and broader discussions about technology in education. By exploring teachers' interpretations and experiences, this theoretical perspective helps to understand how attitudes toward AI develop and how these meanings influence teachers' willingness to integrate such technologies into their teaching practice.

2.2. Teachers' digital knowledge literacy

In order to better understand the prerequisites for the effective implementation of AI in the English language classrooms, there is a need to consider the factors that underlie the development of teachers' digital knowledge literacy. Three theoretical models (TPACK, DigCompEdu, Four Component Model) will be reviewed in the following sections. These models will provide the analytical framework for interpreting how teachers' attitudes towards AI may be informed by their technological knowledge.

2.2.1. TPACK and teachers' digital knowledge integration

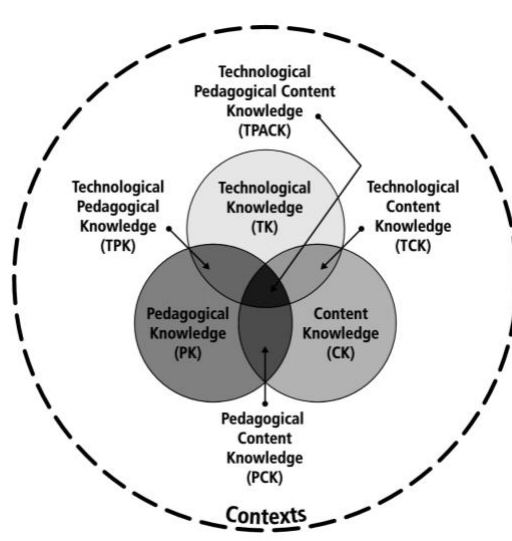
The TPACK (technology, pedagogy and content knowledge) framework is an approach to technology integration developed by Koehler et al. (2013) that aims to promote research in teacher education by drawing upon the connection among technology, content and pedagogy. Teaching is considered a multi-layered practice that requires educators to apply different kinds of knowledge due to the highly complex and dynamic nature of classroom settings. With the rising presence of digital technologies in education, this includes not only subject, didactic and pedagogical knowledge, but also demands a comprehensive understanding of meaningful ways of technological integration in the classroom (Koehler et al., 2013).

Given that new technologies are characterized by specific purposes and are very often not transparent and self-evident in their functioning, teachers face challenges in the process of familiarizing themselves with their implementation. Consequently, technology knowledge (TK) is subject to rapid and continuous change due to ongoing technological inventions as opposed to content knowledge (CK) and pedagogical

content knowledge (PCK) which are more stable in terms of actuality and relevance. All knowledge components interact and impact each other (see figure 1), which lays the foundation for understanding how new technologies can contribute to effective teaching and learning. Furthermore, understanding these dynamics enables institutions to offer teacher training that is adapted to educators' needs and establish guidelines on adequate usage of these technologies in educational settings.

Figure 1

TPACK framework four component model (Koehler et al., 2013)



With respect to AI integration in ELT, teachers' familiarity with AI emerges from the interaction between content (language), knowledge (broadly speaking cultural and linguistic knowledge), technological knowledge and pedagogical content knowledge (didactic knowledge). This implies that teachers are always required to evaluate the pedagogical suitability of AI tools in the context of specific language skills and learning objectives. While didactic knowledge and content knowledge are first and foremost acquired as part of teacher education at university and continuously consolidated over years of teaching experience in most cases, technological knowledge often remains neglected, unless targeted in specific workshops. Didactic knowledge refers to the chosen methods for teaching a specific topic, content knowledge in the case of ELT predominantly encompasses grammar, vocabulary and cultural aspects. With the emergence of educational technologies such as AI, a third component informs teachers' decision-making processes in teaching. In the context of AI, teachers need to assess whether a tool is suitable to teach a certain topic. This suitability is

determined by several factors, requiring teachers to evaluate its efficiency in terms of learning outcome, time and resources required. In other words, teachers need to assess whether the preparation time and lessons spent on implementing a new tool could significantly contribute to reaching the learning objectives. The acquisition of rudimentary AI knowledge can thus be considered a prerequisite for evaluating a tool's usefulness in relation to content knowledge and didactic implementation, which highlights the need for teacher education and in-service training to address AI-specific pedagogical knowledge.

Since the current study aims to explore how teachers with various experience levels and in different school contexts perceive the emergence of AI, the TPACK model can be seen as relevant by conceptualizing the interplay between technology, pedagogy and content. More specifically, educators plan their lessons in accordance with school-type specific requirements (e.g., learning objectives set in the curriculum), which determine the content and didactic knowledge that needs to be applied in each context. Consequently, each school type either supports or limits the utilization of technology due to curricular specifications, thereby impacting teachers' scope of action.

The TPACK model, however, comes with certain limitations. One key limitation is its relatively abstract nature, offering limited guidance on how teachers can develop these forms of knowledge in concrete teaching contexts. Since the model itself does not take into account socio-institutional factors (e.g., school culture, policy frameworks), it remains vague in defining the correlation between factors that shape teachers' actual opportunities to integrate AI meaningfully. Additionally, TPACK implicitly assumes that teachers have access to technology and the autonomy to integrate it, which is not always the case in secondary schools.

2.2.2. The European framework for digital competence in education

Complementary to the TPACK framework, *the European Framework for the Digital Competence of Educators' (DigCompEdu)* primary purpose is to provide structured guidelines for developing educators' digital competences. The target competences are centered around six key areas: professional engagement, digital resources, teaching and learning, assessment, empowering learners, and facilitating learners' digital competence (Redecker & Punie, 2017).

While TPACK focuses on the interaction of technology, pedagogy and content, DigCompEdu explicitly addresses the pedagogical, ethical, and professional dimensions of digital practice, including aspects such as accessibility, safety, inclusion and learner empowerment. For instance, it underlines the interdependent competences necessary for the following tasks: selecting suitable digital resources with regard to the competence level of the learner group and the specific learning objective, critically evaluating the reliability of digital sources and considering possible restrictions to the use of digital resources (e.g., copyright, technical requirements, legal provision). Furthermore, the model encourages a student-centered approach to technology, aiming to equip students for life and work in a digital world. Possible ways towards learner empowerment through the use of digital technology consist of enabling students to collect evidence and record progress (e.g., audio, video recordings) and to plan and assess their learning autonomously. In the context of AI, self-regulated learning as one technologically enhanced objective may include teachers advising students to use tools such as ChatGPT in a responsible and meaningful way, such as practicing vocabulary or developing their writing and speaking skills, while at the same time raising awareness of potential risks such as plagiarism or faulty information.

Another strength of digital technologies addressed by the DigCompEdu framework is their potential to facilitate differentiation of learning materials by offering learning activities that cater for different proficiency levels, interests and learning needs. Differentiated and personalized learning can encourage the learners' active involvement in subject matters and support individual development. At the same time, DigCompEdu underlines the need for teachers to consider the accessibility of technology for all students in order not to reinforce existing inequalities as well as their digital abilities which are necessary to use it meaningfully. As for AI integration, students need to acquire both the technological know-how as well as the subject knowledge and analytical skills to use it efficiently.

Concerning guidance and assessment, the model refers to teachers' ability to select suitable assessment formats in order to provide learners with targeted and timely feedback based on the evidence generated by digital technologies (e.g., students' score in online learning activities). The framework also highlights the need to raise awareness about personal data safety when incorporating digital technologies. Teachers should take measures to protect sensitive data such as students' grades or exams in the context of AI assisted assessment.

This model also proposes a self-assessment model, ranging from “Newcomer” to “Pioneer”, which allows teachers to situate and further develop their digital knowledge. For this thesis, DigCompEdu is particularly relevant since it synthesizes the most important areas of digital literacy by drawing on teachers’ needs and classroom realities and thereby contributes to fostering opportunities for AI-specific teacher training.

2.3. Ethics and official guidelines for AI use

An equally important key dimension that informs teachers’ perception of AI can be seen in institutional policymakers’ establishment of official guidelines as supporting its effective and safe use. The following section focuses on the Austrian educational policy landscape.

2.3.1. AI in the Austrian school system

The Austrian ministry of education published recommendations on implementing AI in schools on their official website (Koehler et al., 2013), acknowledging both the potential and the risks of AI in schools. It emphasizes the need for pupils to acquire competences for the critical and responsible use of AI, particularly concerning ethical implications, data privacy and misinformation. Educators are held responsible to foster not only students’ digital skills but also their abilities to assess potential risks in AI supported learning. However, the guidelines remain rather vague in terms of concrete classroom practice except for a few suggestions on teaching about how AI works from a scientific standpoint. In terms of assessment, the guidelines advise teachers to consider any student work that was created with AI as plagiarism, and thus rate it invalid. Furthermore, teachers should seek for alternative forms of assessment such as oral exams and raise awareness among students about the misuse of AI.

In 2023, the ministry of education launched a more practice-oriented project called *education* to implement AI in Austrian schools by monitoring AI-enhanced teaching and learning in pilot schools in collaboration with the university of Graz and by providing teacher-training and SCHILF modules (school internal workshops). The main

objectives of the initiative are to contribute to schools' digital development, to accumulate valuable experience in prompt-engineering for learning purposes and to evaluate the effectiveness of AI-enhanced learning tools that are intended to cater for a variety of different learning needs and styles.

In addition to these school-specific measures, the Austrian government has also published a developmental plan *Artificial Intelligence Mission Austria 2030 (AIM AT 2030)* (BMVIT & BMDW, 2018), which summarizes key objectives to streamline the transformative potential of AI across society, the economy and education. The document highlights possible applications such as intelligent tutoring systems and AI-based language tools and explicitly considering AI as a support for foreign language learning. It also emphasizes the need to integrate AI competences into all levels of education and acknowledges challenges such as ethical concerns, data security and the risk of rendering parts of traditional curricula obsolete.

Similar to the ministry guidelines and initiatives, however, *AIM AT 2030* remains vague in providing pedagogical support for everyday classroom practice, as it does not refer to possible adaptations of the curricula in the future or a set of guidelines. This gap between policy rhetoric and classroom realities underscores the relevance of this thesis, which investigates how ELT teachers in Austria perceive and navigate AI in their teaching with the ultimate aim of providing concrete implications for effective AI use.

2.3.2. Ethical considerations for AI in education

Since ethical aspects of digital technologies represent an integral part of educators' decision-making processes when implementing them in their teaching, issues such as privacy, security and use of learners' and teachers' personal information and data as well as AI's impact on social relations hold significant importance. In their report "Opportunities, guidelines and guardrails for effective and equitable use of AI in education", the OECD stresses the potential of AI as improving the quality and equity of learning, allowing teachers to focus more on their teaching and providing students with new approaches to learning and raises the importance of digitally-literate qualified teachers who are confident in choosing the digital tools and how they are applied in the classroom.

The report aims to support educational jurisdictions and organizations in reaching these objectives by providing nine principles of safe and responsible AI integration. These principles highlight several aspects that are particularly relevant for the context of English language teaching. Firstly, they underline the need for equitable access to e-learning resources, which is a prerequisite for teachers advising their students to use AI tools like ChatGPT for writing or vocabulary, highlighting the risk of widening educational divides if students lack reliable internet or devices. Equally, they emphasize teacher agency and professional learning, recognizing that teachers must develop AI literacy to critically assess and implement AI-generated content, such as texts used for reading or writing practice, and to guide students in using these tools responsibly. The framework also stresses the importance of safeguarding and preserving the social dimension of education by avoiding excessive use of digital technologies, which is especially vital in ELT, where authentic communication and face-to-face interaction are central to learning. Furthermore, it addresses the necessity of individual institutions to establish safety measures in relation to privacy, data protection, algorithmic bias and plagiarism, as very often teachers are left with the responsibility to navigate the use of digital tools due to a lack of official guidelines. Therefore, official guidelines are expected to facilitate AI implementation without placing additional burdens on teachers, assuring that institutions receive timely support when they face problems.

2.4. Perceived benefits and challenges of AI integration

Research on the use of AI in ELT highlights a set of recurring benefits and challenges that shape teachers' attitudes towards its classroom integration. On the one hand, AI tools such as ChatGPT are commonly associated with increased efficiency in lesson preparation and assessment, enhanced opportunities for personalized feedback, and the potential to foster interaction and self-directed learning (Abedi et al., 2025; Christina & Panagiotidis, 2024; Ding & Xue, 2025; Liu et al., 2022). On the other hand, concerns are frequently raised regarding teachers' limited technological know-how, the lack of clear institutional guidelines, and the risk of students' over-reliance on AI-generated output, which may negatively affect language development and critical thinking skills (Abedi et al., 2025; Alm & Ohashi, 2024; Zhai et al., 2024).

Recent studies have investigated the advantages and disadvantages associated with the use of AI in second language teaching and learning. An empirical study conducted by Alm and Ohashi (2024) investigated how university teachers from 48 different countries perceived the use of ChatGPT for teaching purposes after the first weeks of its release. The survey results revealed various discrepancies in their awareness, attitudes, use and perceived impact of AI. While several potential benefits such as efficiency, assessment support and self-directed learning were mentioned, concerns were seen mainly in the potential risk of misuse and negative impact on learning. To encourage active adaptation of educators' teaching and meaningful integration into classroom practices, the majority of participants indicated that they would require more support and official policy guidelines (Alm & Ohashi, 2024).

These findings are in line with a recent mixed methods study by Jose (2025) in a Philippine secondary school context which showed that AI's transformative potential in language education requires teacher training workshops and curriculum guidelines to maximize its impact. Both teachers and students in secondary schools were among the participants, participating in focus group discussions and surveys. The main perceived benefits of using AI in the English language classroom were linked to increased interaction (e.g., role plays, speaking prompts created by ChatGPT) and personalization of feedback. Challenges and concerns consisted of deficiencies in technological know-how and the general newness of AI tools as well as the potential risk of over- reliance on AI (Jose, 2025).

Similarly, Christina and Panagiotidis (2024) investigated teachers' attitudes towards AI integration in foreign language learning and how it can support differentiated instruction and flipped classroom settings in Greek secondary education. Results show that the majority of teachers had positive expectations towards AI implementation, and that they were even more inclined to use it if they were adequately supported through instructional workshops. The majority also found that AI could help create a more customized learning experience and improved learning outcomes by adapting materials to students' language levels and needs (Christina & Panagiotidis, 2024).

One of the initial reactions by institutions to mitigate the emerging risk of students handing in AI-generated texts was to return to pen-and paper exams. While some

university lecturers and teachers regard AI as a threat to academic integrity, demanding an official ban in educational institutions, others predict a necessity to adapt their approach to teaching and learning in order to integrate it in meaningful ways in the future. According to Elsen-Rooney (2023), public schools in the U.S. context blocked access to ChatGPT on the department's networks and devices, stressing "the negative impacts it has on student learning, and serious concerns regarding the safety and accuracy of content" (Elsen-Rooney, 2023, para. 1). Students' increasing overreliance on AI for solving tasks and writing texts can severely undermine in their critical-thinking and problem-solving skills. An educational spokesperson of the education department was quoted as contending that "while the tool may be able to provide quick and easy answers to questions, it does not build critical-thinking and problem-solving skills, which are essential for academic and lifelong success" (Elsen-Rooney, 2023, para. 2). In the light of the challenges and benefits associated with AI use in different educational contexts, the current study seeks to explore Austrian secondary teachers' perspectives and instructional practices.

2.4.1. AI support in lesson planning

The implementation of AI in ELT has been regarded as particularly advantageous in terms of lesson planning, offering assistance across numerous aspects of teachers' practice. By employing AI-driven technologies such as ChatGPT, material development and test design can be considerably simplified, accelerated and better tailored to learners' needs. Koraishi (2023) exemplifies the increased efficiency in lesson planning, mentioning the use of generative AI tools for obtaining teaching resources like lesson plans, texts, images, worksheets, educational games and assessment rubrics. For instance, ChatGPT's ability to generate reading passages based on a list of target words and create stories adapted to the students' interests and language level enhances both lesson planning and learning. Making materials more student-centered positively impacts motivation and AI technology can further enhance this by providing "engaging content and making resources more accessible" (Almegren et al., 2025, p. 8).

The benefit of customizing materials to learners' needs was confirmed by a study conducted by L'Enfant (2025) with voluntary Canadian ESL teachers. The teaching

practice in this study was characterized by the high need for constant differentiation, as groups of immigrant learners of English had different first languages and various language levels. The purpose was to explore how using *ChatGPT* could support volunteer teachers' lesson planning and task design. The results revealed that it helped them save time, create engaging lessons and meet their students' specific needs.

Another advantage of AI tools worth mentioning is the user function to continuously adjust the generated output according to their needs. Real-time conversations with chatbots enable lesson planners to supplement the materials or directly modify them through the chat box below the generated lesson (Retalis, 2025.)

However, some drawbacks concerning dated, biased or wrong output are worth mentioning. Teachers are warned against the so-called AI "hallucinations", which are incidents of the tools producing false or unrelated results, as noted by Rettberg (2022). Furthermore, AI tools and particularly *ChatGPT* tend to reproduce prejudice or favor certain ideologies. Despite *ChatGPT* being multilingual, it seems to be monocultural since it has been predominantly trained on texts in English, generating output following US laws and values. As the tool itself continuously warns the user "ChatGPT makes mistakes. Check important info", teachers thus need to critically review the output, keeping in mind that dated, biased or wrong answers might occur.

2.4.2. AI support in assessment

Language testing and assessment are an integral part of educational systems, aimed at enhancing the quality and efficacy of language learning by monitoring and evaluating learners' knowledge and progress. Since text and exam creation and correction represent an integral yet time-intensive part of language teaching, innovations around AI systems to simplify assessment have been evolving within the last years. Recent empirical research suggests that AI-assisted assessment tools offer substantial potential to enhance efficiency, consistency, and feedback quality in ELT, while simultaneously raising concerns regarding validity, fairness and pedagogical appropriateness.

A qualitative case study (Luc Ha & Nguyen, 2025) examined lecturers' experiences with AI-based exam creation at a Vietnamese university, focusing on AI's role in generating test items, grading, and feedback provision. Based on semi-structured interviews with experienced lecturers involved in ELT assessment boards, the study highlights efficiency gains as a major benefit. AI systems were reported to significantly reduce the time required for test creation and grading, particularly through automated item generation and rubric-based scoring aligned with standardized frameworks such as CEFR and IELTS. The assessment rubric evolved around aspects such as organization and task achievement and indicated different levels of achievement based on numeral scores. AI generated feedback proved to include not only a high level of detail in justifying the score allocated for each aspect but provided concrete suggestions for individual improvement. Consequently, AI could potentially contribute to ensuring accurate, transparent and more efficient evaluation of students' work as well as it could cater to the support needs of different learners.

While these findings highlight AI's potential to support efficient and standardized assessment, they are based exclusively on lecturers' self-reported perceptions rather than on empirical comparisons of AI- and human-rated learner performance. Consequently, claims regarding the accuracy and validity of AI-generated assessment remain tentative.

The study also reveals several limitations that temper these benefits, as concerns were expressed about AI's ability to handle linguistic complexity (e.g. idiomatic terms, cultural subtleties) and contextual nuance in productive skills such as writing and speaking. Furthermore, ethical and bias concerns about AI's tendency to reinforce cultural prejudices and stereotypes were raised, underscoring the continued necessity of human intervention in exam creation and assessment. Participants also considered the need for transparency in decision-making processes "There needs to be greater transparency in how AI algorithms make decisions. Educators and students should understand the basis for the AI's assessment and feedback" (Luc Ha & Nguyen, 2025, p. 41).

Complementing these findings, Abedi et al. (2025) employed a mixed-methods design to investigate the effectiveness of AI tools such as *Grammarly*, *Duolingo* and *Write & Improve* in ESL assessment across four language skills. The sample group consisted of 150 learners and 20 instructors from multiple institutions. Quantitative results

indicate substantial improvements in writing and reading, suggesting that AI is particularly effective in supporting and assessing text-based skills in terms of form-focused aspects such as grammar, vocabulary, and coherence. Instructors also reported considerable reductions in grading time, reinforcing the efficiency argument. However, improvements in speaking and listening were modest, showing clear limitations in AI's ability to assess oral proficiency. Further concerns addressed algorithmic bias, cultural insensitivity and data privacy, aligning with the issues identified in Almegren et al.'s study.

Taken together, these studies suggest that AI offers clear benefits for efficiency, scalability and formative feedback, particularly in assessing writing and reading. At the same time, they underline persistent challenges related to validity, ethical use and the assessment of complex language tasks in writing and speaking.

2.5. Teachers' familiarity with AI tools

The level of teachers' digital competence is a crucial factor that plays into the effective use of AI for instructional practices. As illustrated by the TPACK model, teachers' general IT literacy is central to implementing digital technologies in teaching. A study by Galindo-Domínguez et al. (2024) confirms the impact that teachers' digital competence has on their attitudes towards artificial intelligence in education. Variables such as the educational stage the teacher works in, sex, age, and the years of teaching experience were taken into account. The results show that there was a high correlation between technical understanding and teachers' preference to implement AI in their teaching practices, as "a feeling of competence, autonomy and relatedness promote the development of a positive intrinsic motivation towards a specific action" (Galindo-Domínguez et al., 2024, 8).

Similarly, a recent study by (Nyudak et al., 2025) investigated Indonesian Junior High School teachers' readiness and concerns towards the use of generative AI in English language teaching. It found that teachers were generally motivated and technically equipped to use GenAI, mostly educating themselves individually on its functions. However, ongoing hesitation and uncertainties persisted due to the lack of systemic support such as policies, resources, training, and a clear framework to tackle possible barriers, such as inconsistency in utilization and ethical considerations, emphasizing

the correlation between teachers' familiarity with AI tools and their attitudes towards using them.

These findings are consistent with those of Bibi and Shahzad (2025), a study that explored the impact of AI on ELT in a Pakistani university context. Fifty university teachers were surveyed with the aim of assessing AI's perceived effectiveness, challenges and ethical issues. Responses revealed that teachers required more training to effectively incorporate AI into their teaching as well as equitable access to bridge the digital divide. Additionally, the need for clear data privacy policies for AI use in ELT was justified by teachers.

2.6. The impact of AI on teaching specific skills

In the Austrian secondary school EFL context, language teaching is structured around clearly defined skill areas, namely reading, listening, writing, and speaking, as outlined in national curricula and CEFR-oriented assessment practices such as the standardized exam *Matura*. As AI tools increasingly enter educational settings, teachers are required to evaluate their pedagogical relevance not only in general terms but also with regard to specific language skills. Consequently, examining AI integration across different skill areas allows for a more nuanced understanding of where teachers perceive AI as beneficial, where they identify challenges, and how these perceptions shape their classroom practices.

2.6.1. Writing

Since the emergence of AI, the number of AI powered writing tools in English as a foreign language has been increasing rapidly. Tools such as grammar and spelling checks, writing aids, and programs that can create entire texts without human aid enable students to receive guided support, allowing for faster progress in students' writing skills. A study by Marzuki et al. (2023) examined teachers' perspectives on the use of various types of AI writing tools (Quillbot, Jenni, Chat-GPT, WordTune, Copy.ai, Paperpal, and Essay writer) and their influence on the quality of university students' writing, focusing on content and organization in particular. It found unanimous agreement among teachers about the positive role of AI in supporting the clarity and

logical progression of students' writing. Additionally, teachers noticed considerable gains in students' vocabulary due to the use of AI assisted writing tools, claiming that students use more sophisticated language when looking up words in online dictionaries for example. However, concerns were expressed concerning the potential overreliance on these tools, decreasing their critical thinking skills. Although informative, the study is not representative since its data was obtained from qualitative interviews exclusively.

Han and Sari (2024) employed a pretest- posttest control group design to investigate the impact of automated feedback on students' analytic writing scores and the number of errors in terms of grammar, mechanics (spelling, punctuation, layout) and style. They showed that AI generated feedback could help students develop better linguistic awareness in writing. Immediate automated error correction, according to the majority of respondents, enhanced permanent learning and motivation due to direct intervention. Automated writing evaluation through AI tools such as Grammarly improved L2 learners' accuracy in writing, while a less considerable impact was observed on the stylistic quality of their texts.

These results are in line with Barrot's (2023) study which examined the effects of automated writing evaluation on the writing accuracy of Philippine university. The findings indicated that learners who utilized Grammarly significantly improved their writing accuracy during the posttest as compared to the control group, which was not exposed to automated writing evaluation. Barrot positively highlights the key benefit of the tool's mechanism, namely that students could effectively learn from its immediate feedback "when they notice the input, engage in interaction, receive feedback and produce output" (p. 599).

Participants in both Barrot's (2023) and Han and Sari's (2024) studies also acknowledged the crucial role of metalinguistic feedback provided by Grammarly, as responses in interviews claimed that feedback comments on their writing needed to be comprehensible in order to be helpful.

Overall, the reviewed studies consistently indicate that AI-powered writing tools could positively support EFL learners' writing development, particularly with regard to grammatical accuracy, clarity, logical organization, vocabulary range, and learners' motivation through immediate and comprehensible feedback. Teachers and students alike reported that writing evaluation tools such as Grammarly raise learners' linguistic

awareness and allow them to notice, reflect on and correct errors, particularly grammatical errors, more efficiently. At the same time, the literature shows several important limitations. The sample sizes were relatively small and focused on university students exclusively, whose highly developed metalinguistic awareness enables them to benefit more from feedback explanations than younger learners, who might struggle to understand or apply such feedback meaningfully. Additionally, concerns remain regarding students' overreliance on AI tools, which may reduce critical thinking and students' autonomous development of writing skills. In sum, these findings highlight the potential of AI to support L2 learners' written skill development, provided that AI tools are implemented appropriately and carefully.

2.6.2. Speaking

When it comes to teaching speaking, automated speech recognition (ASR) has progressed rapidly over the last years, with its presence ranging from online dictionaries to intelligent personal assistants (e.g., Google Assistant). One major affordance of ASR in the EFL classroom lies in its ability to provide learners with immediate, individualized feedback on pronunciation, fluency, and accuracy, thereby enabling students to engage in additional speaking practice beyond the classroom. Additionally, students' genuine speaking practice as part of ELT is often constrained by anxiety or a lack of confidence. ASR tools could potentially help to counteract speaking anxiety through individualized feedback, potentially fostering greater phonological awareness and confidence in speaking.

Interesting results were reported by a mixed methods study by Tai and Chen (2023) which explored the impact of Google Assistant on adolescent EFL learners' willingness for communication. The self-reported findings from interviews and questionnaire indicated that students' integration of personal assistants into their learning practice significantly promoted their willingness to communicate, enhanced their communicative confidence, and reduced their speaking anxiety, all factors that are crucial for developing fluency in the target language. Participants reported that engaging in speaking activities with Google Assistant helped them feel less reluctant to interact in English with peers, share their feelings and opinion or ask for help, as the tool allowed them to practice individually. While students' perceptions provided

valuable insights into the potential effectiveness of digital learning tools, a note of caution is in order here. The study did not measure actual improvements in students' speaking proficiency but exclusively relied on self-reported interview and questionnaire data.

Complementary to these qualitative findings, Zhou et al. (2025) conducted a quasi-experimental study exploring the effects of integrating an AI chatbot into a mobile-assisted blended learning (MABL) framework to enhance speaking proficiency among Chinese university EFL learners. Over an eight-week period, students in the experimental group used ChatGPT and a mobile learning platform for pre-class preparation, in-class interaction, and post-class speaking practice. Compared to a control group that followed conventional methods, learners using the AI chatbot framework showed significantly greater gains in fluency and flexibility, especially in utterance length and flow of speech. However, improvements in linguistic accuracy and complexity were less pronounced, echoing concerns that increased fluency may come at the expense of grammatical precision due to cognitive load (cf. Skehan, 1998). Importantly, learners reported high levels of satisfaction, ease of use, and perceived usefulness, with many indicating they would continue using AI chatbots in the future. These findings suggest that AI-supported frameworks can effectively foster speaking confidence and fluency.

An earlier study by Mahmoud (2022), which explored the role of AI-based conversational chatbots in enhancing EFL learners' speaking performance yielded similar results. It was found that students significantly improved their oral skills after a six-week chatbot intervention using tools like Replika and Andy. Learners reported greater speaking confidence, improved sentence structure, and heightened engagement, aligning with Zhou et al.'s findings on fluency gains and learner motivation. However, some students perceived chatbot interactions as repetitive or mechanistic over time, echoing Zhou's observation that such tools may be less effective for accuracy and complexity. Concerning accuracy, it can be assumed that a longer intervention would be necessary to notice an improvement. Additionally, the relatively short intervention period of both studies and the homogeneity of the sample group undermine the generalizability of the findings and their applicability to broader educational contexts.

Another important aspect of communicative language competence is pronunciation, which has been the subject of focus in a mixed-methods study led by Dai and Wu (2023). It investigated whether and how ASR tools (WeChat, a speech to text recognition tool that simultaneously functions as an audio-chat) could contribute positively to EFL pronunciation learning next to human peer-feedback. The group which was exposed to a combination of ASR supported practice and human feedback proved to experience the most significant improvement in pronunciation in terms of comprehensibility, segmental accuracy and word stress accuracy (Dai & Wu, 2023).

Overall, the reviewed literature indicates that ASR and AI-based speaking tools can meaningfully enhance EFL learners' speaking development, particularly by increasing opportunities for individualized practice, reducing speaking anxiety, and enhancing fluency and communicative confidence. Nevertheless, the findings reveal important limitations such as inconsistencies in improving accuracy, which would supposedly require longer intervention periods, as well as the necessity to integrate human feedback. Methodologically, several studies rely on self-reported data and focus on a university context, which restricts the generalizability of results.

2.6.3. Listening

Listening comprehension represents a central yet demanding component of communicative competence in ELT, as it requires learners to process spoken input in real time while simultaneously managing cognitive load and affective factors such as anxiety. AI has significantly contributed to the practice of listening in ELT by making it easier to create listening activities that instantly adapt to students' skill level and providing individualized feedback in emotionally supportive learning environments (Lee et al., 2022).

A recent meta-analysis by Jantakoon et al. (2025) synthesizing 19 experimental and quasi-experimental studies found an overall positive effect of AI-enhanced English instruction on speaking and listening skills, emphasizing the benefit of individualized instruction, interactive activities, and feedback in real time. However, there was stronger evidence for AI's impact on speaking than on listening skills, assumably due

to a vast number of AI applications designed for speaking (e.g., chat bots, pronunciation tools and gamified speaking platforms). Furthermore, results showed high variation across learner's educational level, geographic region, type and intensity of AI use, implying that AI's educational impact is inextricably linked to educational contexts. This finding suggests that AI-supported listening instruction is promising but far from being conclusive and highly dependent on contextual and pedagogical factors. While younger learners may tend to benefit more from gamified learning activities, more proficient learners in a higher education context may prefer metalinguistic support in listening comprehension.

Within this emerging research area, a study conducted by Xiao (2025) attempted to track the impact of an AI-driven instructional approach on enhancing listening skills, sense of flow and listening anxiety of EFL learners. The treatment program included an experimental group utilizing AI-driven speech recognition technology and a control group following similar lessons without AI support over a period of eight weeks. When listening to L2 input, students received instant confirmation or correction of their interpretation, with the aim of fostering a more accurate understanding of the spoken language. The findings revealed that the Google text-to-speech (TTS) application, a widely recognized AI-driven tool that provided students access to various English learning materials (e.g., news articles, podcasts, lectures), could not only facilitate listening activities by providing spoken content but also support speaking practice by improving students' pronunciation and fluency through real-time feedback. Furthermore, the group which was exposed to the AI-driven intervention yielded higher scores in the post-test and reported an increase in the sense of flow, as well as a reduction in listening anxiety compared to the control group.

The emotional aspect of foreign language learning concerning listening was also addressed in a similar quasi-experimental study in a Saudi Arabian university context that investigated how AI-driven listening exams can positively impact EFL learners' mindsets, resilience, self-competence and listening skills. The findings of Abdellatif et al. (2024) show that AI powered listening assessment helps learners comprehend their errors and create opportunities for growth by providing instantaneous, customized feedback. Additionally, students have shown to feel more confident and resilient to new

challenges since scaffolding supports students' perseverance by offering an adequate amount of support for individual levels.

It could thus be argued that AI-enhanced listening practice holds potential benefits in guiding students' comprehension of the L2 input, specifically in contrast to traditional textbooks which mostly provide a brief answer key only. Although empirical studies indicate that successful outcomes are highly dependent on learner characteristics and institutional context, evidence confirms a generally positive impact of AI on listening, as it can help learners process spoken input more effectively, develop greater confidence and perceive errors as part of the process rather than as failure. With regard to listening anxiety, creating a positive perspective on error correction could help reduce stress in exam situations as well, as AI assisted listening practice could equip students with strategies to give reasons for their interpretation. Critically, it could be argued that L2 input should remain authentic and unaltered by technologies in order to prepare students for real world communication in English.

2.6.4. Reading

Reading comprehension is a complex skill that requires learners to process linguistic input, construct meaning, and remain concentrated over extended periods of time. For many learners, particularly at lower and intermediate proficiency levels, maintaining motivation and accessing appropriately scaffolded texts remains a persistent challenge. In recent years, AI-supported learning tools have been increasingly explored as a means of addressing these challenges by enabling personalization, adaptive support, and interactive reading experiences. These affordances not only represent valuable learning support for the students, but also support teachers by generating reading passages tailored to the proficiency level, target vocabulary and grammar of any groups of learners.

For instance, Koraishi (2023) examined how ChatGPT could be employed in generating reading passages that are tailored to individual needs of the learners. The prompts used in AI included details about the topic, the CEFR level and the specific task format desired (e.g. comprehension questions and vocabulary exercises). This does not only allow for differentiation in terms of difficulty levels but also creates a more

personalized learning experience for the students. Another strategy to create reading texts that simultaneously foster the integration of new vocabulary is to include lists of target words in the prompt (e.g. from the coursebook), which considerably reduces the preparation time associated with customizing materials.

Concerning students' AI-supported reading practice, Irgashevna (2025) investigated the use of AI tools to support the development of literal reading comprehension among university student in an Uzbek higher education context. AI-powered diagnostic tools, adaptive reading applications, and real-time feedback mechanisms were used to support learners' reading skills in identifying main ideas, sequencing events, and recalling factual information. Additionally, the study investigated the motivational potential of interactive and gamified reading experiences, alongside the use of analytics dashboards for teachers and parents to monitor progress. These findings demonstrated how AI could enhance student engagement, support differentiated instruction and foster more independent reading practices.

The importance of engagement in reading was addressed in a study by Liu et al., (2022), which investigated the use of an AI-powered chatbot as a book talk companion to sustain reading interest in a primary EFL context. In a six-week extensive reading activity, students in the experimental group interacted weekly with a social chatbot that had been trained to "understand" 157 books through natural language processing techniques. The chatbot responded with personalized book talk and social affective cues, which led students to feel a strong sense of social connection. Notably, while overall engagement (flow) remained comparable to the control group, learners who interacted with the chatbot maintained their situational interest in the value of reading over time, unlike those in the control group, whose interest declined. Students valued the chatbot's role in deepening their understanding and described the interaction as encouraging and non-judgmental, which supports the idea that AI-enhanced social interaction can enhance reading motivation. This example highlights that continuous interaction while reading is vital to sustaining motivation and supporting comprehension, with AI offering additional reading assistance beyond the classroom.

While the findings in Liu et al.'s (2022) study give a valuable insight into the potentials of personalized reading instruction in the early stages of EFL reading, a mixed methods

study conducted by Chavez (2024) explored how motivational features embedded in AI-driven mobile reading applications (chatbots, Google Translate, Duolingo) affect High school students' engagement and comprehension when reading texts online. The aim was to find out which of these applications were perceived to be the most appealing and effective in fostering autonomy, promoting relatedness and enhancing feelings of competency when reading in English. Notably, the findings of the quantitative compared to qualitative data exhibit ambiguity in terms of gamification of these applications, with respondents from the quantitative data expressing discomfort with competitive features such as challenges or gamified rewards. However, both types of data reveal the importance of individualized progress tracking, i.e. continuous personalized feedback, for enhancing competence. Similarly, social interaction on the applications was seen as a pivotal factor for creating a sense of relatedness and engagement. These findings show that AI-driven reading apps can significantly contribute to building EFL intermediate learners' reading skills by supporting autonomy through personalization, enhancing competence via progress tracking, and fostering relatedness through social interaction features.

Overall, the studies reviewed suggest that AI tools hold considerable potential for enhancing EFL reading comprehension by supporting differentiation, personalization, and learner engagement. Across diverse educational contexts, AI-assisted reading practices appear particularly effective in facilitating comprehension and enhancing motivation through adaptive feedback, progress tracking, and interaction. However, the question remains as to whether complete adaptation of reading texts to students' language level could lead to a decrease in the authenticity of texts or impede the natural flow in reading. Moreover, further research would be important to evaluate whether AI-generated reading passages are suitable for classroom use or require additional revision, which would significantly impact teachers' preparation time.

2.7. The role of AI in cognitive and emotional development of L2 learners

Beyond its impact on specific language skills, the integration of AI in ELT has increasingly been discussed in relation to learners' cognitive and emotional development. Cognitive engagement refers to students' abilities to employ learning strategies during learning activities (Derakhshan, 2025a; Zhai et al., 2024; Zhang & Liu, 2025). These include basic cognitive strategies such as simple rehearsal,

memorization, planning and evaluating, and advanced cognitive abilities such as critical thinking which enable learners to gain a deeper understanding of the subject matter (Dörnyei, 2009). Language learning does not rely solely on linguistic knowledge but is also shaped by the dynamic interaction between cognitive processes and emotions. Emotional factors include motivation, anxiety, self-efficacy and engagement, all of which have a direct impact on learners' ability to process and retain new languages (Krashen, 1985; Swain, 2005). With regard to AI, learning tools could potentially influence both cognitive and emotional aspects of learning simultaneously, as recent findings indicate (Ding & Xue, 2025; Zhai et al., 2024; Zhang & Liu, 2025).

Several studies have explored how AI systems contribute to cognitive development in L2 learners by providing more adaptive, efficient and individualized instruction (Derakhshan, 2025a; Ding & Xue, 2025; Xiao, 2025; Zhai et al., 2024). The results of a recent study conducted among Chinese university students indicate that personalized content and emotionally responsive technologies (e.g., digital learning tutor) would not directly enhance student engagement, but could significantly reduce anxiety, which plays a significant role in students' willingness to participate. Adjusting the level of difficulty of learning materials and detecting learners' emotional states could help lower cognitive load and thereby enable deeper focus on form and meaning (Ding & Xue, 2025). A study by Derakhshan (2025) found that generative AI technologies (e.g., chatbots, language learning apps) had a positive impact on learners' emotional engagement by "enlightening teacher-student classroom relationships" (Derakhshan, 2025, p.5). The participants were postgraduate EFL university students. Self-reported findings revealed that the students felt more involved in the subject matter and supported at their individual language level due to the direct feedback provided by AI tools. Additionally, AI chatbots enhanced L2 communication between students by guiding them through discussions (Derakhshan, 2025). Since differentiation represents a highly important factor in classroom instruction, students' perceptions of their enhanced motivation due to AI-supported differentiation highlights AI's potential as a learning facilitator. However, this study overlooked the teachers' perspectives on AI regarding students' language learning progress and engagement. A more comprehensive approach to the role of AI in ELT would require the inclusion of teachers' accounts of AI-enhanced classroom practices, allowing for an examination of whether the AI-generated effectively supported the achievement of learning

objectives. Furthermore, adult learners of English demonstrate higher level of autonomy and metalinguistic awareness, which makes it essential to examine the conditions for the effective use of AI in secondary school contexts.

In addition to cognitive support through differentiation and feedback-mechanisms, AI also plays an undeniable role in influencing the learners' emotional development by shaping their motivational and affective learning experiences. A meta-analysis by Zhang and Liu (2025) investigated the impact of AI tools on EFL learners' emotional cognition across different non-English speaking countries and educational levels, proving that AI technologies could enhance positive emotions such as interest and enjoyment while inhibiting negative states like anxiety. Students would particularly benefit emotionally from low-stakes conversational practice and non-judgmental feedback, which contrast with traditional oral performance contexts (Zhang & Liu, 2025). Notably, the non-human aspect of AI could encourage students to work on their language skills without feeling the social performance pressure of the classroom, allowing for unfiltered language practice. Although the majority of findings reviewed in this meta-analysis study rely on self-reported measures, students' perceived emotions in language learning are considered a noteworthy factor and should thus be taken into account in any discourse around AI in ELT.

In opposition to the positive impact of AI on learners' cognitive and emotional development, a major area of critique was found in learners' over-reliance on AI assistance. For example, Duhaylungsod and Chavez (2023) investigated 16 college students' interactions with AI dialogue systems for academic tasks. Interestingly, findings showed that although AI efficiently decreased the time-dedicated to research, it fostered complacency and an over-reliance on AI among students. Additionally, students' work proved to be less creative and lacked depth on the level of detail and reasoning. Likewise, Marzuki et al., (2023) explored the impact of AI writing tools on student writing as perceived by EFL teachers, particularly concerning content and organization. The findings of this study suggest that the integration of AI writing tools can be advantageous in enhancing the quality of EFL student writing on the level of linguistic complexity, as students used more elaborate vocabulary and grammar. At the same time, results indicated that students ran the risk of using AI uncritically, leading to plagiarism and a gradual loss of analytical thinking skills.

Overall, the reviewed literature draws a nuanced picture of the impact of AI technologies on the cognitive and emotional dimensions of L2 learning. On the one hand, empirical research indicates that AI can reduce learners' anxiety, enhance emotional engagement, and support cognitive processes by lowering cognitive load, providing constructive feedback and enabling differentiated instruction. On the other hand, critical perspectives highlight the risk of over-reliance on AI, which may undermine creativity and critical thinking abilities if AI use is insufficiently mediated. AI use can thus be portrayed not as an inherently beneficial or detrimental factor with regard to learners' cognitive and emotional development, but as a learning tool that depends on pedagogical framing, learners' age and autonomy, and the extent to which reflective and critical engagement with AI is fostered in the classroom.

Building on these insights, the present study aims to investigate teachers' perspectives on AI use, as understanding the challenges and specificities of AI integration is crucial for effectively supporting learners. This is particularly important for young learners, who require guidance in developing the skills to engage with AI meaningfully and responsibly in their language learning. By exploring teachers' experiences, the study seeks to inform practices that maximize the benefits of AI while addressing its potential limitations in the classroom.

3. Methods

The following section outlines the methodological framework of the study, detailing the research design, participants, data collection instruments, and procedures used for the data analysis.

3.1. Research Design

This study employed a mixed-methods research design, integrating both qualitative and quantitative approaches to explore teachers' perceptions and concerns towards the use of AI for ELT classroom practices. The mixed-methods approach consisting of an online survey and semi-structured interviews was selected to draw a more nuanced picture of the current status of AI in the secondary educational context among Austrian

teachers. The survey allowed for the efficient collection of a large number of responses from teachers across different school types while the consecutive interviews offered opportunities for participants to elaborate on their experiences, outline concrete examples and reflect on individual aspects of AI integration.

As Greene et al., (1989) argue in *Five purposes for mixed-method evaluation designs*, namely triangulation, complementarity, development, initiation and expansion, methodological triangulation is one of the five purposes of mixed method designs to enhance the validity and reliability of the findings. This approach aims to provide a comprehensive understanding of individual attitudes, contextual factors and underlying concerns by serving a complementary means to elaborate on and clarify the results from the survey.

3.2. Participants

The participants in this study were in-service English teachers working in Austrian secondary schools, including both *Allgemeinhöherbildende Schulen (AHS)*, *Berufsbildende höhere Schulen (BHS)* and *Mittelschulen (MS)*. These school types differ with regard to their educational focus and learner profiles. AHS emphasizes academically oriented general education upon completion of the Matura, which is a standardized high-stakes exam that enables students to attend tertiary education at university level. Similarly, BHS education leads to Matura but combines general education with vocational and professional training. Students who graduate from a BHS thus have two options: pursuing further academic education or seeking employment in their professional field directly upon completion of the Matura. While AHS can be attended immediately after primary school and comprise an eight-year program for students between the ages of 10 and 18 years, BHS targets upper secondary level education with a program lasting five years. The third school type, MS are accessible immediately after primary school and cater to a more heterogeneous student population with varying academic abilities and learning needs, spanning four years until children have completed compulsory education. After completing MS, students have the option to transfer to an AHS or BHS. In the present study, the inclusion of participants from these three school types allowed for a broader representation of the Austrian secondary school context and enabled the exploration

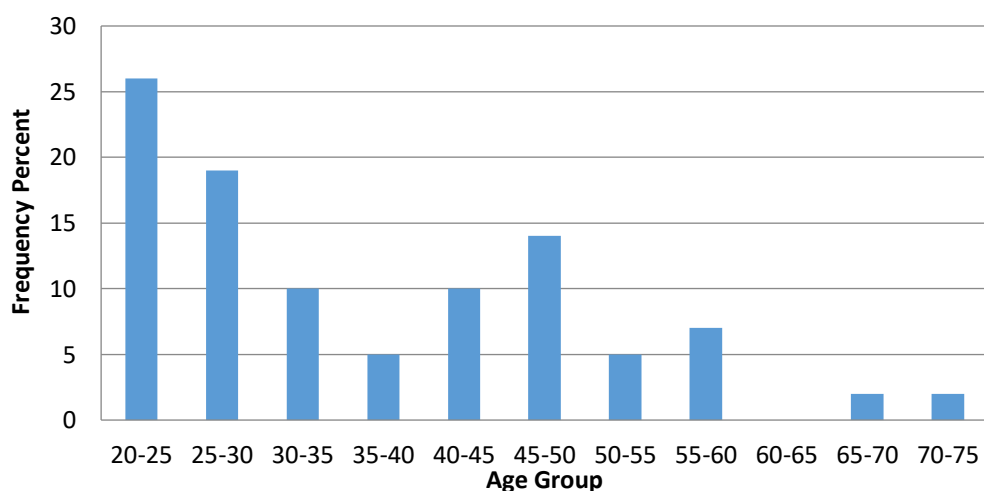
of potential differences in teachers' experiences and perceptions related to English language teaching and learning as well as the integration of AI-supported tools across diverse educational settings.

Teachers were recruited through teacher networks and social media groups dedicated to ELT in Austria. In total, 42 teachers completed the online survey. Given the practical limitations of large-scale access and the geographical dispersion of the target population, a convenience sampling strategy was employed. This means that participants were selected based on their availability, accessibility, and willingness to participate, rather than through randomization. While convenience sampling does not allow for statistical generalization in a strict sense, it is a widely used and pragmatic approach in applied linguistics research, particularly when aiming to gather rich insights from practitioners within a defined professional field (Dörnyei, 2007). The study was conducted in both urban and rural secondary schools in Austria and varied in terms of school types, teachers' demographic characteristics such as gender, age, and years of teaching experience to ensure diversity in perspectives and experiences.

The participants in this study (see Figure 2) represented a wide range of ages, spanning from 23 to 72 years old. The majority of teachers were in the 20-30 age group, followed by a noticeable number in the 30-50 age range. Only a small percentage was aged 60 and above. This suggests a relatively young sample overall, although older teachers were also represented to a lesser extent.

Figure 2

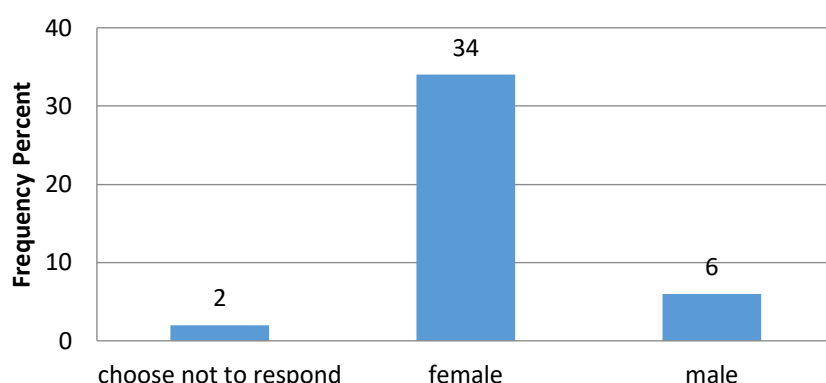
Age distribution of participants



With regard to gender, the sample consisted predominantly of female participants, with 34 out of 42 respondents (81%) identifying as female. A smaller portion of the sample identified as male (6 participants, or 14%), while 2 participants (5%) chose not to disclose their gender. This distribution reflects a notable gender imbalance in the sample, which may correspond to broader demographic trends in the teaching profession.

Figure 3

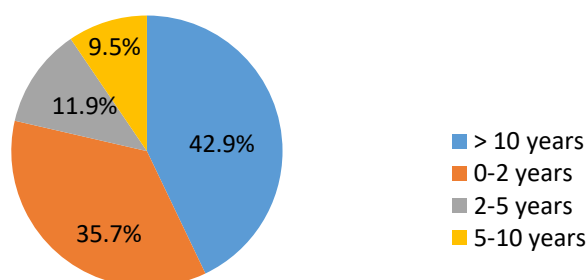
Gender distribution of participants



Participants in the study also had varying levels of teaching experience (see Figure 4). The largest group, 42.9 percent, had more than 10 years of teaching experience, followed by 35.7 percent who had been teaching for 0–2 years. A smaller proportion had between 2–5 years (11.9%) or 5–10 years (9.5%) of experience. This distribution reflects a sample that includes both novice and highly experienced educators, offering a broad perspective on the issue.

Figure 4

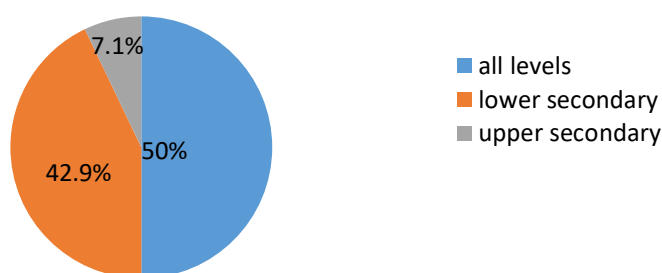
Participants' teaching experience in years



Participants also varied in terms of the school levels they had taught (see Figure 5). Half of the respondents (50%) reported having experience across all secondary school levels, suggesting a broad teaching background and flexibility in adapting to diverse learner needs. A substantial number (42.9%) indicated that they had taught exclusively at lower secondary level, while only a small proportion (7.1%) had taught only at upper secondary level. This distribution reflects a participant group with diverse classroom experiences and familiarity with different educational settings within Austria's secondary school system, offering a comprehensive view on the role of AI across school contexts.

Figure 5

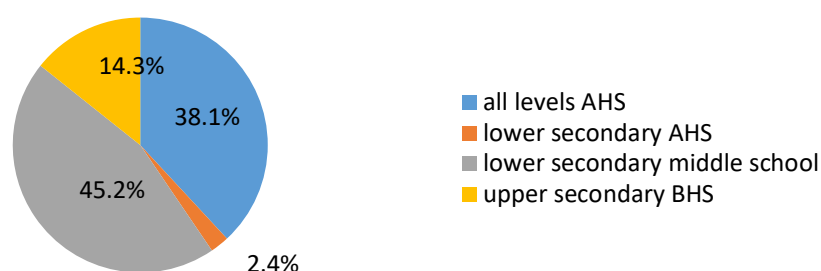
Levels teachers have taught in the course of their career



Participants were teaching across various school types within the Austrian secondary education system at the time of the study (see Figure 6). The largest proportion (45.2%) reported working at lower secondary middle schools (MS), followed by 38.1 percent who were teaching all levels at an Allgemeinbildende Höhere Schulen (AHS). A smaller group (14.3%) were employed at upper secondary vocational schools (BHS), while only 2.4 percent reported teaching exclusively in lower secondary AHS. This distribution ensures a diverse sample with representation from multiple school forms, which was vital for the analysis of how institutional context may influence teachers' attitudes towards AI in ELT.

Figure 6

Levels teachers are currently teaching



Follow-up interviews were conducted with six teachers selected from survey responses. Participants were chosen based on their willingness to participate and their diversity in school types, their familiarity with AI as well as their overall teaching experience. The teachers who were interviewed ranged from novice teachers in their twenties to experienced educators with more than 25 years of classroom practice, which reflected how AI use and perception at different stages of professional development.

3.3. Data Collection Instruments

Data collection involved two primary instruments: structured online questionnaires and semi-structured interviews. The survey and interview items were developed drawing on instruments from previous studies (Chounta et al., 2021; Zlmotti et al., 2024) and adapting them to the research questions and educational context.

3.3.1 Online survey

The online survey (see Section 8.1.) was designed using *GoogleForms* and included five main sections: general information (e.g. demographic information, school type, years of teaching experience), the impact of AI on teaching language skills (writing, reading, listening etc.), the impact of AI on language learning, AI in relation to specific teaching contexts and a final section with open questions for final reflections. In total, the survey contained 30 questions, including multiple-choice items, 5-point Likert scale statements and 4 open-ended questions. Likert scale items addressed the level of agreement with statements such as “AI tools can make teaching more efficient and

effective (e.g. lesson preparation, assessment)” and examined teachers’ tendency to use AI tools for specific tasks (e.g. How likely are you to use AI tools for generating worksheets with grammar rules, examples and exercises?). The survey underwent pilot testing with a sample of 20 participants to estimate its reliability. The results of Cronbach’s Alpha coefficient ($\alpha = 0.76$) showed that the survey was of an acceptable level of reliability.

3.3.2 Interviews

The semi-structured interview questions were informed by overarching themes emerging from the survey results, focusing more particularly on how teachers perceive and respond to AI integration in their specific teaching environment. Interviews were conducted in person, each lasting between 15 and 30 minutes, covering five major thematic areas: 1) specific situations in which AI was used in the classroom and the outcomes, 2) perceived pedagogical and professional affordances and challenges, 3) institutional and curricular support, 4) ethical considerations (e.g. plagiarism, data privacy), and 5) future perspectives on the use of AI in ELT. Interviews were recorded with participants’ permission and transcribed for thematic analysis.

3.4. Procedure

Prior to data collection, ethical approval was obtained from the university of Vienna’s review board. Participants were informed about the study’s purpose, the voluntary nature of participation and the confidentiality of their responses. Informed consent was obtained from all participants before completing the survey or taking part in the interviews. All data were anonymized during transcription and analysis.

Following the development of the survey and interview items, the online survey was distributed to the teachers via school networks and social media. After the survey data had been collected and analyzed, the results were used to inform the subsequent interview phase. Based on the survey responses, interview participants were selected and the interview questions were designed to allow for a more detailed exploration of emerging themes. To obtain a diverse range of perspectives, two teachers from each

school type with substantially different levels of teaching experience were selected. The semi-structured interviews were then conducted in English and audio-recorded with the participants' consent. Finally, the findings from the survey and interviews were brought together and evaluated to answer the research questions.

3.5. Data Analysis

Quantitative data from the survey were analyzed using descriptive statistics to identify the patterns in teachers' responses regarding their familiarity with AI tools, frequency of use, and attitudes toward their pedagogical value. Statistical analyses were performed using *Statistical Package for the Social Sciences* (SPSS Version 30.0), with results illustrated as frequencies, percentages and measures of central tendency.

Qualitative data from the semi-structured interviews were analyzed thematically based on the analysis framework developed by Braun and Clarke (2006). By systematically identifying patterns of meanings across participants' perspectives, thematic analysis allowed for an overview of both shared and diverging perceptions. This approach was selected for its suitability in identifying recurring patterns across participants' responses in relation to the study's research questions.

In an initial analysis phase, repeated reading of the interview transcripts helped achieve familiarization with the data. Initial codes were then generated systematically, focusing on the content relevant to the research questions addressing the perceived benefits, challenges, and future perspectives of AI integration. These codes were subsequently grouped into smaller themes (e.g., enhanced learner autonomy as a benefit; academic dishonesty as a challenge) and interpreted in relation to the findings obtained from the online survey. In the final phase (see Section 5), the data were interpreted in relation to the research questions and existing literature

4. Results

The following section aims to answer each research question by providing the results from the online survey as well as from the subsequent interviews.

4.1. Teachers' perceptions of the growing presence and use of AI in ELT (RQ1)

4.1.1. AI usage and level of familiarity

Overall, 38 out of 42 (90.5%) of the survey participants reported that they integrated AI into their teaching practices on a regular basis. To assess teachers' level of familiarity with AI tools for teaching purposes, which represents one of the main factors impacting their attitude towards AI, a scale from 0 (= very unfamiliar) to 10 (= very familiar) was used in the survey. The results showed a clear tendency toward moderate to high familiarity, with a mean of 6.52. The majority clustered around the higher end of the scale, with the most frequent response being 8, selected by over one third of participants (34 %), followed by 9, selected by another 15 percent of teachers. Only a small proportion (25%) of respondents indicated lower levels of familiarity ranging from 0 to 5, suggesting that most participants had at least some prior exposure to or experience with AI in their educational context.

Respondents in the interviews drew a similar picture. All six teachers claimed to have integrated AI into their lessons to varying extents. Across school types, teachers reported that they predominantly used AI for lesson preparation, including brainstorming, generating role cards for practicing speaking, creating vocabulary lists, activities and reading comprehension texts. One AHS teacher, for example, pointed out that prompting was essential: "You cannot ask something and then you get your results. You always have to change, to check, recheck... The commands are crucial". She also noted that she had invested time in familiarizing herself with ChatGPT. Similarly, a BHS teacher reported having integrated AI since its emergence and observed progress from using it for creating grammar tasks exclusively to incorporating it as a helpful aid when providing feedback on students' texts. In contrast, middle-school usage of AI appears to be more limited to preparation, as teachers highlighted the necessity to closely monitor their progress in developing writing skills. One middle

school teacher further underlined the erroneous AI outputs such as wrong pictures or hallucinations when uploading a document in pdf format.

All in all, teachers across school types expressed a certain level of familiarity with AI, implementing it for a variety of purposes such as for lesson and exam preparation. AI appears to be less commonly used for assessing students' work, mainly due to the need for close monitoring of their progress. Additionally, teachers acknowledged the need for effective prompting and revising materials with regard to erroneous AI output.

4.1.2. Frequently used tools

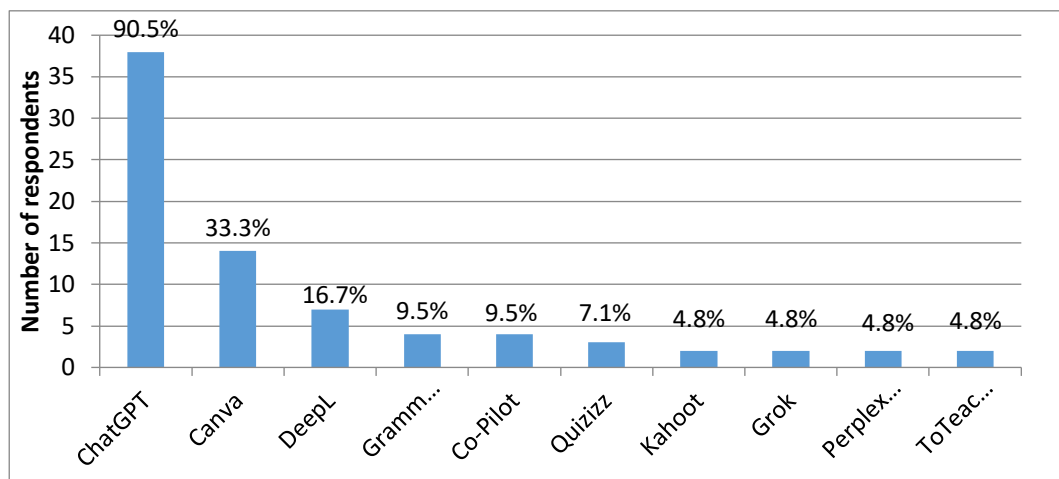
The results clearly point towards a trend of ChatGPT being the most used AI application among teachers. The vast majority of 90.5 per cent indicated that they used ChatGPT, of which 30 per cent exclusively used ChatGPT, and the remaining 60 per cent stated that they also used other AI tools in addition to ChatGPT (see Figure 7). Based on the participants' viewpoints, since ChatGPT can serve multiple functions such as generating grammar and vocabulary tasks, summarizing, translating and explaining texts, it was considered as the most functional tool. Participants mentioned that they used it for a wide range of tasks from lesson planning to drafting emails or even proof-reading texts.

The second popular tool was *Canva* which was indicated to be used by 33.3. per cent of the participants. Canva is a tool for visual content creation (e.g. worksheets, slide shows, posters) that offers a wide range of ready to use templates. With material development representing one of the core tasks in teaching, it is unsurprising that slightly above a third of teachers reported the frequent use of this tool. *Canva* was followed by *DeepL* as the third most frequently used tool (16%), an advanced translation tool that ensures high accuracy in translating entire texts between languages. Interactive learning tools such as *Quizizz* (7.1%) and *Kahoot* (4.8%) were also mentioned by a small number of users. These tools enable competition-based quizzes and activities to enhance classroom engagement. A few participants (4.8%) also reported using *Grok*, Khan Academy's AI tutor that offers personalized learning support; *Perplexity*, an AI-powered search tool that combines internet results with AI-generated responses and sources; and *ToTeachAI*, an education-focused assistant that helps generate lesson materials tailored to the classroom context.

The interviews revealed a similar tendency, with all six teachers referring to ChatGPT as their most frequently used AI tool, mostly due to its ability to perform a wide range of different tasks, its accessibility and user-friendliness.

Figure 7

Most used AI tools



In the interviews, teachers most frequently mentioned using ChatGPT due to its versatility in terms of material adaptation, learner differentiation and wide range of task formats.

4.1.3. Student use of AI

Interestingly, while a majority of 90.5 percent reported using AI tools for teaching purposes themselves, only 59.5 percent of teachers asserted to encourage their students to make use of AI tools for self-study. Since four out of six teachers remarked in the interviews that they also advised students to use AI for self-study, the interviews confirm the findings of the survey. Based on teachers' reports, writing and speaking were the areas in which AI proved to be the most beneficial for self-study purposes. In terms of writing, students used AI to proof-read their texts and receive individualized feedback in four aspects of their writing (accuracy, structure, language use and task achievement). They also advised their students to consider AI as a writing assistant and provided them with topic-related vocabulary and helpful phrases, which would simultaneously mitigate the risk of copying entire texts. To practice speaking, one BHS

teacher mentioned advising their students to use ChatGPT as a conversation partner to practice job interviews and demand feedback in terms of content and pronunciation.

4.1.4. Skill-specific AI use

In terms of specific teaching tasks, teachers expressed moderate to high likelihood to use AI tools for creating learning resources. The highest mean scores were recorded for generating grammar worksheets ($M = 3.88$, $SD = 1.25$), writing templates ($M = 3.88$, $SD = 1.21$), and speaking scripts ($M = 3.83$, $SD = 1.21$), all with a median of 4, suggesting a general tendency toward agreement as shown in Table 2. Language learning games ($M = 3.62$, $SD = 1.25$) and reading texts ($M = 3.43$, $SD = 1.45$) received moderately high ratings, with more varied responses. Quizzes and tests ($M = 3.33$, $SD = 1.22$) and vocabulary flashcards ($M = 3.29$, $SD = 1.54$) scored lower on average, with vocabulary generation showing the highest standard deviation, indicating the most divergent opinions among respondents. Across all categories, the percentage of respondents indicating that they were “very likely” to use AI ranged from 19 percent (quizzes/tests) to 45.2 percent (grammar).

Table 1

Teachers’ use of AI tools for teaching specific skills

Language skill area	very unlikely	somewhat unlikely	neutral	somewhat likely	very likely	<i>M</i>	<i>Mdn</i>	<i>SD</i>
Vocabulary: Generate flashcards with vocabulary words and their definitions, translations or synonym.	21.4%	9.5%	19%	19%	31%	3.29	3.50	1.54
Grammar: Generate worksheets with grammar rules, examples, and exercises.	4.8%	11.9%	19%	19%	45.2%	3.88	4	1.25
Writing: Generate templates for different types of writing, such as	7.1%	7.1%	14.3%	33.3%	38.1%	3.88	4	1.21

an essay, a letter, or a report.								
Reading: Generate reading passages or texts on different topics and levels of difficulty.	14.3%	11.9%	26.2%	11.9%	35.7%	3.43	3	1.45
Speaking: Generate scripts for role-playing activities.	7.1%	7.1%	16.7%	33.3%	35.7%	3.83	4	1.21
Quizzes and tests: Generate quizzes and tests on different language skills, such as vocabulary, grammar, reading comprehension, and listening.	7.1%	21.4%	21.4%	31%	19%	3.33	3.50	1.22
Games: Generate language learning games such as crossword puzzles, word searches, and hangman games.	7.1%	11.9%	23.8%	26.2%	31%	3.62	4	1.25

According to the interviews, teachers most frequently reported using AI for grammar, vocabulary and speaking-related purposes, which only partly reflects the survey results. Table 2 shows an overview of activities/tasks for which teachers reported using AI.

Table 2

Overview of AI task types used by teachers

Grammar	• Gap-fill exercises • Texts fostering the use of specific tenses • Explanations of grammar topics
Vocabulary	• Brainstorming topic-related vocabulary and expressions • Gap-fill exercises
Speaking	• Role cards • Pronunciation practice • Picture describing tasks

Reading	• Reading passages • Comprehension questions
Writing	• Flipped-classroom activities (students assess AI-generated output) • AI proof-reads students' texts
Quizzes & tests	• Vocabulary revisions • Quizlet

One BHS teacher explained that she used AI to generate additional practice materials for grammar topics, mostly gap-fill tasks. Similarly, an AHS teacher mentioned that she encouraged students who struggle with certain topics to work on their understanding individually rather than reteaching the concept to the entire class. This shows how AI can serve as a practical tool for learner differentiation. Another AHS teacher reported creating grammar and vocabular tasks based on the coursebook that she used for practice before a test.

Concerning vocabulary, several teachers highlighted AI's usefulness in creating both vocabulary tasks based on the coursebook unit and brainstorming topic-related vocabulary or phrases to serve as an introduction into a new topic or a speaking task. As one BHS teacher reported "sometimes I have a topic in a book. And so I, have a text, and I use the vocabulary of the text, very broad and then have an introduction, intro text built by AI". Creating vocabulary tasks also emerged in relation to tests, as one middle school teacher explained that she copied and pasted screenshots of the vocabulary list into ChatGPT to create vocabulary check-ups.

Reading was also emphasized in the interviews as a particularly effective skill area for AI integration. One BHS teacher mentioned practicality, as reading texts could be tailored to the needs of her learners and to a specific topic: "I like to use it for reading, because sometimes, depending on the context, ChatGPT can give you really appropriate and useful reading passages to use in your classroom". Another BHS teacher mentioned using AI to generate reading texts that include personal details about her students (e.g. names) to make reading more interesting and fun, explaining that AI can contribute to personalized learning. One middle school teacher explained that very often the book does not contain reading passages that are suitable for the language level of her learners or the specific areas in which they need to improve,

describing one situation where she used AI to generate a reading task that simultaneously aimed to practice the present simple tense: “We said like, create a detective story at that level and use this and that vocab that we had worked on and write it in the present simple tense. Yeah, and that worked out pretty well”. Another middle school teacher viewed the potential of AI mostly in creating reading tasks, pointing out that compiling reading tasks was a challenging and time-intensive process: “I think it's quite difficult to come up with your own reading tasks and sometimes I don't like the reading exercises in the school books”.

Speaking was mentioned less often in the interviews, although those teachers who claimed to integrate AI to practice speaking highlighted its versatility. For instance, one AHS teacher recalled a classroom situation in which she used AI to design a speaking task focusing on pronunciation:

What like, from the top of my mind, speaking is I think what I love using ChatGPT for, but also, pronunciation wise, that's what I did last year, I had a focus on pronunciation, different vowels even. And I wanted to create worksheets, but with texts that have that vowel in it, sort of. And so I couldn't, after searching from the web, I couldn't find, I couldn't find material that fit perfectly, like the way I wanted it to be.

Another AHS teacher also stressed the positive outcome when creating role cards for her students providing them with set positions in the dialogue (roles) and useful phrases and terminology they could use in the conversation. In middle schools, one teacher reported having used ChatGPT to design a picture description task in which students were intended to practice the present continuous by explaining what the people in the picture were doing. Although eventually the task was successful when introducing it to her students, she added that it required several attempts to achieve the desired outcome:

Not with the first try. I realized I had to be more specific with my prompt and sometimes the people had too many fingers or there were three sets of clocks on the wall, which is a little bit useless, but you could not get rid of it. So I just decided to keep the three clocks on the wall and there was a sign on the blackboard saying school, but school was written incorrectly. ChatGPT makes a lot of mistakes for the picture generation, so you need to redo and redo the prompt and make sure there are no errors or grammar mistakes.

One BHS teacher described how she had applied a flipped-classroom approach in which students had critically evaluated AI-generated texts with regard to structure, task

achievement, and grammatical accuracy. As she observed, students improved both their writing skills as well as their analytical skills. In terms of writing, she incorporated ChatGPT more indirectly by advising students to have their texts proof-read and assessed according to criteria of assessment that are relevant for the *Matura*, which is the final standardized exam at upper secondary level and represents the highest qualification obtained at school.

4.1.5. Perceived benefits of AI integration

The following survey items provide insight into teachers' perceptions of potential benefits of AI tools in ELT. Overall, the highest level of agreement was observed for the statement that AI tools can make teaching more efficient and effective, for example in areas such as lesson preparation and assessment as displayed in Table 3. This item received a mean score of 3.93 (SD = 0.95) and a median of 4, with 69.1 percent of participants indicating agreement and strong agreement. Similarly, the belief that AI tools have the potential to enrich traditional teaching materials, such as coursebooks, showed a clear tendency towards agreement among respondents (M = 3.88, SD = 1.04), with 64.3 percent selecting "agree" or "strongly agree". The majority of participants also agreed that AI could improve the accessibility of language education (M = 3.55, SD = 1.09), with 54.8 percent responding positively.

The item regarding the personalization of language learning through AI received a mean score of 3.45 (SD = 1.52), showing discrepancies among responses. While 47.6 percent agreed or strongly agreed with the statement about AI leading to more personalized language learning, over a quarter expressed disagreement or strong disagreement. Interestingly, the item inquiring about the potential of AI to promote more self-directed language learning was rated lower (M = 3.14, SD = 1.26), with responses evenly distributed across the scale as well. Thirty-five point seven percent remained neutral, 35.7 percent disagreed or strongly disagreed, and 35.7 percent agreed or strongly agreed.

Finally, the statement about AI potentially reducing the human aspects of language instruction yielded the lowest mean score (M = 2.96, SD = 1.26). Only 30.9 percent of participants agreed or strongly agreed with this statement, while a majority of 54.8 percent expressed disagreement.

Table 3

Perceived benefits of AI tools

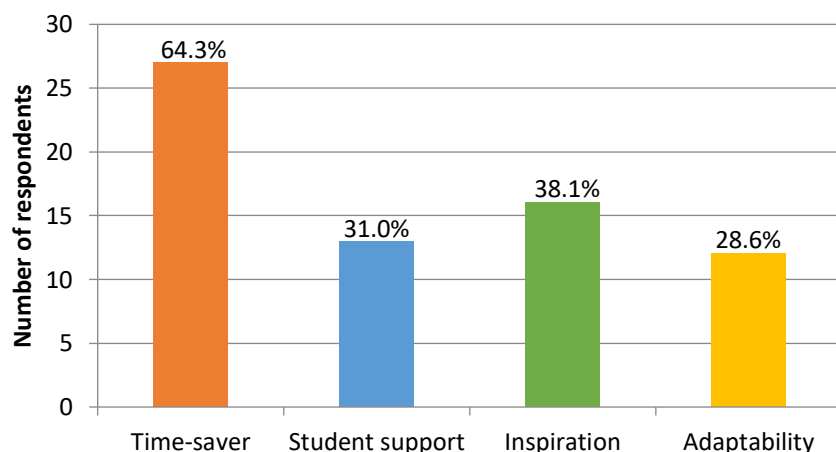
	strongly disagree	disagree	neutral	agree	strongly agree	M	Mdn	SD
<i>AI tools can make teaching more efficient and effective (e.g. lesson preparation, assessment).</i>	2.4%	2.4%	26.2%	38.1%	31%	3.93	4	0.95
<i>The use of AI tools will lead to more personalized language learning.</i>	7.1%	9.5%	35.7%	26.2%	21.4%	3.45	3	1.52
<i>The use of AI tools will lead to more self-directed language learning.</i>	11.9%	16.7%	35.7%	16.7%	19%	3.14	3	1.26
<i>The use of AI tools will lead to reduced dependence on human teachers for certain aspects of language instruction.</i>	16.7%	38.1%	14.3%	21.4%	9.5%	2.69	3	1.26
<i>The use of AI tools will lead to an improvement in the accessibility of language education.</i>	7.1%	7.1%	31%	38.1%	16.7%	3.55	4	1.09
<i>AI tools have the potential to enrich traditional teaching materials (coursebook).</i>		11.9%	23.8%	28.6%	35.7%	3.88	4	1.04

The analysis of the open-ended items shows alignment with the patterns observed in the questionnaire. The most frequently mentioned benefit of AI was its time-saving

potential (64.3%) as a “simple and quick way of creating new and engaging material”. This corresponded with the 69.1 percent of participants who agreed or strongly agreed that AI could make teaching more efficient and effective. Similarly, 38.1 percent of teachers considered AI as a source of inspiration or as a tool to brainstorm ideas, which supports the 64.3 percent who believed that AI tools had the potential to enrich traditional teaching materials, as some of the answers emphasized AI tool’s potential to customize materials for various needs and topics: “AI not only improves time efficiency, but also helps generate creative content”; “It’s more efficient and can be a great inspiration for topics and tasks” or “It’s a quicker way to think outside the box”. The benefit of AI supporting students in their learning process was mentioned by 31 percent, close to 28.6 percent of participants highlighting AI’s ability to provide efficient adaptation. “It’s a useful tool, especially for kids who have no support in their family”. In terms of personalization and self-directed learning, 35.6 percent and 47.6 percent of participants, respectively, perceived an advantage in using AI tools.

Figure 8

Most frequently mentioned benefits of AI in ELT



Teachers elaborated on this pattern in the interviews, highlighting that AI considerably shortened the time they dedicated to lesson preparation. However, all six teachers admitted that the initial phase of familiarizing oneself with the technology is a time-intensive prerequisite for efficient usage. Similarly, all teachers interviewed considered AI’s brainstorming aspect as particularly beneficial, implementing it to assemble general ideas on how to approach a topic or to generate lists of topic-related terminology. Adaptability was also mentioned frequently, as teachers stressed the

advantage of being able to create new or adapt materials from the coursebook that perfectly fit their groups of learners in terms of age, gender, language level and interests. For example, one teacher included her students' real names in ChatGPT-generated reading passages, which turned reading into a more personalized and motivating experience for younger students, as she pointed out.

Personalization of learning also emerged in relation to student use of AI, with AI tools representing a "second teacher" or additional "tutor" by providing students with individual feedback on their writing or speaking skills. Teachers underlined the advantage of AI creating additional practice opportunities outside the classroom, yet there have been raised concerns about AI gradually replacing teachers. In this respect, one teacher considered the potential decrease of human aspects of language education due to AI an advantage, pointing out that AI was able to correct itself, while human teachers are usually not aware when making mistakes.

4.1.6. Perceived challenges and concerns

In addition to exploring potential benefits, the study also examined teachers' concerns and perceived challenges associated with the integration of AI tools in language teaching and learning. One of the most commonly expressed concerns was the issue of AI leading to an increase in cheating and academic dishonesty, as 78.6 percent of teachers showed agreement to strong agreement with this statement. Over-reliance on AI also represented a significant concern, with 71 percent believing that AI could potentially hinder the development of students' own language skills and critical thinking abilities. However, opinions were more divided concerning the potential reduction of human aspects such as collaboration and creative expression in language education. A mere half of participants (45.3%) agreed or strongly agreed, while 23.8 percent disagreed.

There was general consensus on the importance of preparing students to engage meaningfully and critically with AI. A notable proportion of 92.8 percent of participants agreed or strongly agreed that students should learn to work with and learn from AI, and 100 percent of all teachers confirmed the need for students to critically analyze AI-generated content. Likewise, 100 percent of participants agreed that teachers should

actively raise awareness of the pitfalls of using AI such as plagiarism or misinformation, which goes in line with teachers' responsibility to foster critical thinking abilities.

With 66.7 percent expressing concern about how AI tools handle personal information and student data opposed to a considerable 21.4 percent remaining neutral and 11.6 percent reporting no concern in this regard, only a scarce number of teachers considered privacy a risk factor when using AI. Similarly, only 9.5 percent would avoid certain AI tools due to uncertainty about data policies, with the majority (64.3%) remaining neutral on that item. A quarter of participants (25.3%) did not feel discouraged by potential data misuse from using AI tools for teaching purposes.

Table 4

Perceived challenges and concerns about AI in ELT

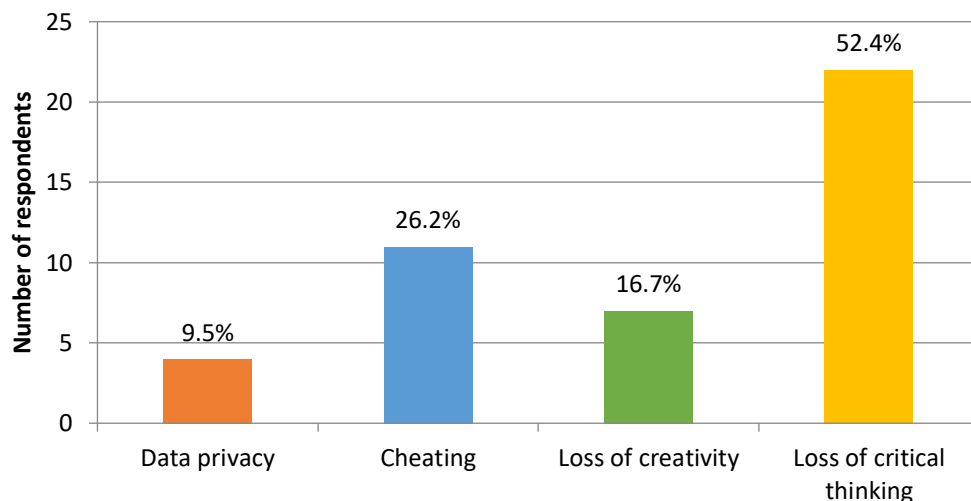
	strongly disagree	disagree	neutral	agree	strongly agree	M	Mdn	SD
The use of AI tools will lead to an increase in cheating and academic dishonesty.		7.1%	14.3%	31.0%	47.6%	4.19	4	0.94
<i>The use of AI tools will lead to a decrease in the human aspects of language education (e.g. collaboration, creative expression, critical thinking).</i>	4.8%	19.0%	31.0%	16.7%	28.6%	3.45	3	1.23
<i>The use of AI tools will lead to students becoming too reliant on it and not developing their own language skills and critical thinking abilities.</i>	2.4%	9.5%	16.7%	38.1%	33.3%	3.90	4	1.06
Students should learn how to work with and learn from AI in a meaningful way.	2.4%	2.4%	2.4%	21.4%	71.4%	4.57	5	0.86
Students should learn how to critically analyze AI				14.3%	85.7%	4.86	5	0.35

output (e.g. texts for real-life purposes).								
Teachers should raise students' awareness of the pitfalls of using AI (e.g. plagiarism, faulty information).			9.5%	90.5%	4.90	5	0.29	
I am concerned about how AI tools handle personal information and student data.		11.9%	21.4%	23.8%	42.9%	3.98	4	1.07
I avoid using certain AI tools mainly due to uncertainty about their data privacy policies.	11.9%	14.3%	64.3%	2.4%	7.1%	2.79	3	0.95

In the open-ended question on the most widely associated concerns or challenges with using AI in the classroom, four key issues were identified. Table 5 illustrates the data privacy, cheating, loss of creativity and loss of critical thinking.

Figure 9

Most frequently mentioned concerns and challenges



The most frequently mentioned issue was the potential loss of students' critical thinking skills, raised by 52.4 percent of respondents, closely aligning with the 71.4 percent who agreed or strongly agreed in the Likert-scale item that students may become too reliant on AI and not develop their own language and thinking abilities. Cheating was

mentioned by 26.2 percent of participants, supporting the 78.8 percent who expressed concern that AI might lead to an increase in academic dishonesty. Loss of creativity was noted by 16.7 percent of respondents and reflects the 45.5 percent who agreed that AI could reduce the human aspects of language education such as collaboration and creative expression. Finally, data privacy was named by only 9.5 percent of participants in the open comments, whereas 66.4 percent expressed concern about AI tools handle personal data in the corresponding Likert item. Overall, the open-ended responses generally reinforce the concerns highlighted in the closed-ended items, particularly regarding overreliance on AI and its impact on students' cognitive development.

In the interviews, five out of six participants agreed that they perceive cheating and academic dishonesty as one of the major challenges of AI in education which is in line with the results of the survey. Strategies to mitigate this risk encompassed to a shift of text writing to in-class tasks instead of limiting writing to homework assignments and awareness-raising appealing to students' motivation and independence. For instance, teachers reported emphasizing the necessity of their students being able to produce language on their own, as eventually their language skills would be assessed in exams and in real-life situations (university, professional career). Some teachers also pointed out that they actively integrated AI in writing by advising their students to use it for researching terminology and useful phrases to mitigate cheating or by applying a flipped-classroom methodology.

The negative impact that students' over-reliance on AI can have on their cognitive abilities was regarded as a substantial threat by interview participants, confirming the findings of the survey. Teachers pointed out that students not only risk losing their autonomy and self-confidence by relying on AI to fulfill their tasks but also insufficiently develop their critical thinking skills. Besides, particularly beginner learners do not have sufficient language knowledge to assess the accuracy and quality of AI generated output and need to develop a foundational skillset first. One teacher stressed that general problem-solving skills are at risk of being undermined due to students' excessive exposure to AI, competences that are built by solving tasks autonomously and that are vital in every area of life. All teachers agreed that it was their responsibility

as educators to teach students to use AI in a meaningful way and raise awareness about the pitfalls such as misinformation.

4.1.7. Demand for official guidelines & workshops

In addition to investigating attitudes and concerns, the survey also examined teachers' perceived need for institutional support and guidance regarding AI in education. The findings are reported in Table 6. There is a strong tendency towards the need for clearer guidance on the integration of AI in education, as a total of 71.4 percent of respondents agreed or strongly agreed that the curriculum should include an official guideline on the use of AI for teaching purposes, while only 11.9 percent disagreed, and 14.3 percent remained neutral. Another 73.9 percent of teachers expressed agreement or strong agreement with the statement that additional guidance such as workshops offered at their school would be helpful. Only 9.5 percent disagreed with this need, while 16.7 percent opted for a neutral standpoint, suggesting that the majority of teachers consider teacher training and official policies a valuable framework for optimizing the use of AI in the English language classroom.

Table 5

Teachers' attitude towards potential support for AI integration

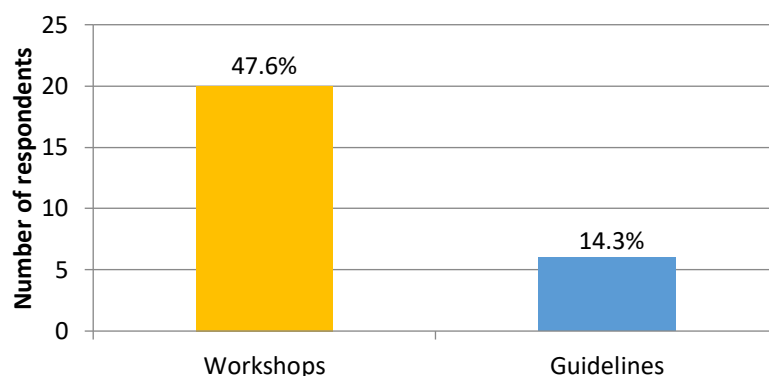
	<i>strongly disagree</i>	<i>disagree</i>	<i>neutral</i>	<i>agree</i>	<i>strongly agree</i>	<i>M</i>	<i>Mdn</i>	<i>SD</i>
The curriculum should include an official guideline on the use of AI for teaching purposes.	4.8%	7.1%	14.3%	33.3%	38.1%	3.95	4	1.14
Additional guidance (e.g. workshops) in using AI at my school would be helpful.		9.5%	16.7%	31.0%	42.9%	4.07	4	1.0

As shown in figure 9, open-ended responses concerning teachers' preferred type of support or training to enhance the effective use of AI further emphasized teachers'

demand for practical support in integrating AI into their teaching. Nearly half of the participants (47.6%) specifically mentioned workshops as a preferred form of assistance, while 14.3 percent underlined the importance of implementing official guidelines on AI use in the curriculum. It can be deduced from the alignment between the open-and closed-ended data that teachers are not only open to using AI but that there is a persisting demand for structured, institutional support to use it effectively.

Figure 10

Teachers' most demanded type of support



The qualitative data reveals that five out of six interview participants highly encouraged workshops and official guidelines. Workshops were seen as a valuable resource since they provide opportunities for exchange and need-specific education on the implementation of AI in ELT. Concerning official guidelines, teachers argued that they could contribute to mitigating cheating given the authoritative and legal character of a set of rules established by the ministry of education. Additionally, teachers claimed that an official framework would increase their confidence in using AI securely in the educational context.

4.2. Differences in perceptions across school types

To address RQ2, which examined whether teachers' perceptions of the impact of AI varied across different school types (AHS, middle school, BHS) a series of one-way ANOVAS were conducted. Due to unequal group-sizes (AHS = 17 participants, middle school = 19 participants, BHS = 6 participants), the Games-Howell test was used which does not assume equal variances or sample sizes. A comparative analysis was conducted to show mean scores, significance levels, and effect sizes (Cohen's d). For

between-group effect sizes, values of 0.40, 0.70. and 1.00 are considered as small, moderate, and large, respectively (Plonsky & Oswald, 2014).

4.2.1. AI use and familiarity by school type

Table 5 demonstrates the results of descriptive statistics and ANOVAs. The results reveal no statistically significant differences in terms of respondents' general familiarity with AI across groups ($p = 0.29$). However, medium to large effect sizes emerged for BHS teachers in contrast to AHS and middle school teachers respectively (AHS vs. BHS: $d = 0.76$; Middle school vs. BHS: $d = 0.97$), suggesting that BHS teachers were more familiar with AI tools in ELT.

Table 6

Teachers' self-reported level of familiarity with AI by school type

	School type	(SD) Mean	Sig.	Cohen's d
<i>How would you rate your familiarity with ChatGPT on a scale from 0 (completely unfamiliar) to 10 (extremely familiar)?</i>	AHS	(2.49) 6.53	0.29	AHS - Middle School 0.18
	Middle School	(2.80) 6.05		AHS - BHS -0.76
	BHS	(2.28) 8.00		Middle School - BHS -0.97

Qualitative data obtained through the interviews revealed a similar trend, with one BHS teacher expressing high familiarity with using AI tools:

I would say that I am pro AI so I am quite confident in using it and I love working with it [...] So right from the start I thought well this is an opportunity and not a drawback for our English teaching and so I started very early at our school with using AI.

Interestingly, in response to the fact that middle school teachers claim to be less experienced with using AI, one teacher stressed that most teachers at her school had been teaching for several years and therefore dispose of numerous teaching resources which is why they see no need in using AI to create materials:

I don't know why it is for middle schools in general (that they use AI less), but at our school we just have a lot of experienced teachers and we share a lot at our school, so we just share the material we have, so there's not such a high need for AI to create something because we work quite strong in teams.

Since team-teaching predominantly takes place in middle schools, this aspect potentially impacts the need for creating new materials. Additionally, teachers who

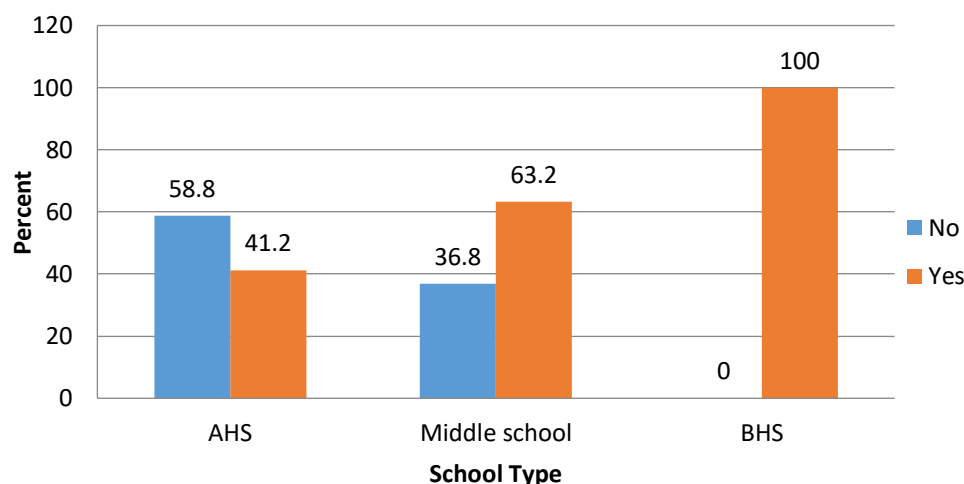
have accumulated a large number of teaching resources in the course of their career do not incorporate AI in lesson preparation to the same extent as the other groups of teachers.

4.2.2. Teachers' perceptions of student AI use by school type

Figure 10 illustrates teachers' tendency to advise students to use AI for self-study across different school types. Among AHS teachers, the majority (58.8%) reported that they did not recommend the use of AI for self-study, whereas 41.2 percent indicated that they did. In middle schools, the trend was reversed, as 63.2 percent of teachers stated that they had encouraged students to use AI tools for self-study, compared to 36.8% who had not. BHS teachers expressed clear approval towards recommending AI to students as indicated by the highest level of endorsement (100%).

Figure 11

Teachers' tendency to advise students to use AI for self-study across school types



These findings show a clear difference between school types. While AHS teachers appear more critical in their approach, middle school teachers and BHS teachers demonstrate a greater openness toward recommending AI use. One possible explanation for this divergence lies in differences in students' cognitive maturity and academic demands across school types. AHS and BHS students are generally older and are expected to work more autonomously, particularly in preparation for the Matura, which may make AI tools more suitable for self-directed learning, revision, and

exam preparation. In contrast, teachers in middle schools may be more cautious due to students' younger age and lower levels of self-regulation, as AI use may risk superficial learning or overreliance on automated support.

Concerning teachers' perceptions of student AI use (see table 6), no statistically significant differences were found across different school types (all $p > 0.05$). Teachers expressed almost unanimous agreement on the importance of education fostering meaningful learning experiences from AI with values ranging from 4.53 (SD = 1.01) for AHS teachers to 4.67 (SD = 0.52) for BHS teachers. Small effect sizes in between-group comparisons suggest negligible variation between school types.

Similarly, supporting students' ability to critically analyze AI output was rated even higher across all groups, with mean scores of 4.82 (SD = 0.39) for AHS, 4.84 (SD = 0.38) for middle school, and 5.00 (SD = 0.00) for BHS teachers. Cohen's d values indicated small to medium effects between AHS and BHS ($d = 0.65$) and between middle school and BHS ($d = 0.60$).

A similar pattern was observed in teachers' attitudes towards the importance of raising students' awareness of the pitfalls of using AI such as plagiarism and misinformation, reaching the highest mean values across all school types.

Table 7

Teachers' perceptions of student AI use by school type

Student use	School type	(SD) Mean	Sig.	Cohen's d
<i>Students should learn how to work with and learn from AI in a meaningful way.</i>	AHS	(1.01) 4.53	0.41	AHS - Middle School -0.05
	Middle School	(0.84) 4.58		AHS - BHS -0.17
	BHS	(0.52) 4.67		Middle School - BHS -0.13
<i>Students should learn how to critically analyze AI output (e.g. texts for real life purposes).</i>	AHS	(0.39) 4.82	0.60	AHS - Middle School -0.05
	Middle School	(0.38) 4.84		AHS - BHS -0.65
	BHS	(0.00) 5.00		Middle School - BHS -0.60
<i>Teachers should raise students' awareness of the pitfalls of using AI (e.g. plagiarism, faulty information).</i>	AHS	(0.00) 5.00	0.76	AHS - Middle School 0.71
	Middle School	(0.42) 4.79		AHS - BHS 0.0
	BHS	(0.00) 5.00		Middle School - BHS -0.71

According to the interviews, teachers' opinions on student use of AI slightly diverged from the survey results. Not only did middle school teachers express a negative attitude toward recommending AI to their students, but AHS teachers' stance also proved to be more open to advising students to use AI for additional practice than the survey results suggested. Conversely, middle school teachers contended that they refrained from recommending their students to use AI tools.

One BHS teacher reported advising her students to use AI to practice speaking. For example, the students used ChatGPT as a conversation partner to practice conducting a job interview in English and received feedback on their statements afterwards. The teacher noted that: "this was a surprise effect for, for many pupils. I would hope that they, they would continue using that, and I told them for the A-levels that, yeah, they could easily use that if, if they want to perform well". Similarly, this teacher advised her students to use AI to improve their writing skills as well by applying a flipped classroom methodology:

I will do a flipped classroom methodology, so to speak. I will tell them, well, you give the prompt to AI, have your article written by AI, then look at it in terms of task achievement, yeah, did they integrate, did AI integrate all the three bullet points? Yes. Do you discover any grammar mistakes, yeah, or any, any flaws in structure? What about the layout? And so on.

For this method to be successful, namely letting students critically analyze AI's output, however, she added that students needed to have acquired genre-specific, grammatical and vocabulary knowledge. Another BHS teacher reported advising students to use AI for learning, specifically for practicing writing, but that demanded from them to be honest about which text passages/ideas were AI-generated:

I try to incorporate AI actively and tell the students that it's allowed to use AI, but then also make clear to my students that they have to highlight or underline or whatever, make clear to me what they took from AI and what they did themselves.

Besides advocating for a learning practice based on academic honesty, this teacher also highlighted the importance of teaching students how to critically analyze AI-generated output: "Critical thinking is something that has to be taught in school. It's not something that comes natural to students or to adults. It has to be taught by someone".

In contrast to the survey results, both the interviewed AHS teachers were in favor of recommending AI to their students, as captured by the following quote:

I, from the very beginning, have been very clear to my students to definitely use AI, because I think it is the future, first of all, and school should be a preparation of real life future things. And also, because I think it's so helpful. I think it's so helpful and useful for improving my English or my knowledge or whatever. And that's why I encourage them to use it, especially before exams.

The teacher reported advising her students mainly to use AI for practicing grammar by providing them with some example prompts that they could use to obtain adequate materials for additional practice. Likewise, this teacher observed a positive learning effect when encouraging her students to use AI for improving their writing skills:

I think it's helpful, and I don't want them to miss out on it. And I have the feeling that if you tell students in that age that they should not do something, they find ways around it. And that's why I wanted to encourage them to use it but show them how they can use it without losing their own spark, let's call it, or creativity level or skill. So I think it worked out better. Eventually, I did notice, like in some later homework assignments, that it was written better than they usually write, like their skill level was higher.

Another AHS teacher pointed out that due to the omnipresence of AI particularly in online search systems, students run the risk of using AI without being aware of it "If I say, please have a look online, I encourage them to use artificial intelligence without mentioning it". She considers AI as a useful help particularly for older students who lack grammatical knowledge they are supposed to master at their language learning level:

For example, if the older ones have got problems with... don't know passive voice and I don't want to reteach it because only two or three have got problems. I tell them to research it and have a look.

In contrast, both middle school teachers refrained from instructing their students to make use of AI for self-study except for learning apps (e.g. Anton) that are indirectly AI-enhanced. The main reason for this was seen in the necessity for the students to develop and improve their own cognitive skills, autonomy and self-reliance first before integrating AI that might potentially lead to over-reliance and a decrease in motivation. As one of the teachers pointed out:

I think we're trying to get the kids to do lots of things by themselves and to develop those skills, but also their own cognition and confidence and things like that. So I think in the classroom, it's less useful for the younger students in middle school. And also, yeah, I think it's more important for the weaker students to be able to, like, learn some self-reliance.

Another middle school teacher experienced that younger learners were lacking subject knowledge, a prerequisite to assess the quality of AI output which was why she had refrained from recommending the use of AI to her students:

I did not encourage them. I know they did do it, but so far most of the stuff they have produced with ChatGPT for music or English was just copy and paste and full of mistakes. So I did not encourage them to use it so far.

Apart from disposing insufficient subject knowledge, she added that middle school students lacked technological know-how in order to use AI enhanced technologies efficiently:

I think especially compared to BHS, where the students are 14, 15 or older, it is a lot more difficult with our students because they just come straight from primary school. They're very young. Most of them don't even have a phone yet or they don't have the iPads yet [...] So I think it's a lot more difficult to use AI with younger kids and students because they are not digital natives when it comes to really using a technical device. They are digital natives I think for playing and swiping and connecting in online games, but when it comes to real critical thinking and use of different apps, I think they need a lot of support and I think that's why it's easier to implement AI with older students”.

These interview findings provide further insights into why teachers advised their students to use AI for self-study and how their attitudes are informed by the conditions of each school type, their students' abilities and their personal experience with AI.

4.2.3. Perceived benefits of AI by school type

Concerning potential benefits of AI in ELT, the findings showed no significant difference in perception across all groups of teachers (all $p > 0.05$, except for item 6). However, effect size analyses revealed noteworthy patterns. Across all six items, BHS teachers consistently rated the benefits of AI higher than their AHS and middle school counterparts, as significantly large effect sizes were found between BHS teachers and the other groups. For instance, BHS respondents considered AI more efficient and effective in terms of time savings for lesson preparation ($M = 4.67$, $SD = 0.52$) compared to AHS ($M = 3.82$, $SD = 0.88$, $d = 1.18$) and middle school ($M = 3.79$, $SD =$

1.03, $d = 0.97$) teachers. Similarly, BHS teachers saw a higher potential in AI tools to enrich traditional teaching materials such as the coursebook ($M = 4.67$), compared to their AHS ($M = 3.41$, $d = 1.66$) and middle school ($M = 4.05$, $d = 0.74$) counterparts. This item was the only one that reached statistical significance ($p = 0.02$). Medium effect sizes were observed in AI's role in personalizing language learning (BHS vs. both AHS and middle school: $d = 0.55$) and in promoting self-directed learning (BHS vs. middle school, $d = 0.60$; BHS vs. AHS, $d = 0.72$). Overall, results suggest that vocational school teachers (BHS) tend to acknowledge a higher value in the potential benefits of AI to enhance language education than AHS and middle school teachers.

Table 8

Perceived benefits of AI in ELT by school type

	School type	(SD) Mean	Sig.	Cohen's d
<i>AI tools can make teaching more efficient and effective (e.g. lesson preparation, assessment).</i>	AHS	(0.88) 3.82	0.19	AHS - Middle School 0.03
	Middle School	(1.03) 3.79		AHS - BHS -1.18
	BHS	(0.52) 4.67		Middle School - BHS -0.97
<i>The use of AI tools will lead to more personalized language learning.</i>	AHS	(1.22) 3.35	0.46	AHS - Middle School -0.02
	Middle School	(1.12) 3.37		AHS - BHS -0.55
	BHS	(1.1) 4.00		Middle School - BHS -0.55
<i>The use of AI tools will lead to more self-directed language learning.</i>	AHS	(1.3) 2.94	0.33	AHS - Middle School -0.13
	Middle School	(1.24) 3.11		AHS - BHS -0.72
	BHS	(1.17) 3.83		Middle School - BHS -0.6
<i>The use of AI tools will lead to reduced dependence on human teachers for certain aspects of language instruction.</i>	AHS	(1.28) 2.53	0.73	AHS - Middle School -0.16
	Middle School	(1.28) 2.74		AHS - BHS -0.37
	BHS	(1.27) 3.00		Middle School - BHS -0.20
<i>The use of AI tools will lead to an improvement in the accessibility of language education.</i>	AHS	(1.15) 3.24	0.2	AHS - Middle School -0.26
	Middle School	(1.07) 3.53		AHS - BHS -0.96
	BHS	(0.75) 4.17		Middle School - BHS -0.69
<i>AI tools have the potential to enrich traditional teaching materials (coursebook).</i>	AHS	(0.94) 3.41	0.02	AHS - Middle School -0.63
	Middle School	(1.08) 4.05		AHS - BHS -1.66
	BHS	(0.52) 4.67		Middle School - BHS -0.74

According to teachers' responses in the interviews, similarities about beneficial aspects of AI in ELT have been observed across all school types, with BHS teachers

being particularly enthusiastic about using AI for lesson preparation. More specifically, one BHS teacher mentioned its usefulness for brainstorming ideas and for enriching the content of the coursebook, which is in line with the finding that specifically BHS teachers see AI's potential to improve traditional teaching materials. As one teacher remarked, "just to have a switch from the, the tediousness of the book sometimes [...] And then I have maybe also ideas given by AI. How could I approach this topic?"

One AHS teacher reported a similar experience, considering AI-enhanced brainstorming a useful resource in lesson preparation:

But also just thinking outside the box, kind of is for me a great benefit. Because most of the time when I'm working, like efficiently working on a topic, then I have this specific mindset. And I think, okay, that's what I want to practice. That's what I want to do. And sometimes when I then ask the AI tool to brainstorm, it comes up with ideas that I did not think of. And I think that's also really cool to see what else could be happening instead of just like this one line of idea.

Another AHS teacher also found that AI could be efficient in creating a set of topic-related terminology for brainstorming vocabulary with her students: "I try to get new ideas when I, for example, ask for certain terminology concerning a specific topic and then I'm offered a list of which I can use". She reported "vocabulary is my central part of what I use it for" besides using AI to create speaking tasks, which most often include role cards as a support, also generated by ChatGPT. For the younger students, this teacher also mentioned using AI to write up personalized stories, for example Christmas stories in which the elves carry the students' names. One of the main advantages, she pointed out, was the opportunity to adapt materials to different learner interests, levels, age and gender.

One of the interviewed middle school teachers equally underscored the positive effects of using AI for creating vocabulary check-ups: "and I figured out that if I screenshot the pages with the vocabulary and upload those, it can give me the test and that way I don't have to type a bazillion of them", highlighting time-efficiency in lesson preparation. The qualitative data confirmed the survey trend suggesting that time-efficiency is considered as one of the most beneficial aspects. As one AHS teacher put it: "that saves me a lot of time and resources. Yeah, resources and energy that you can otherwise dedicate to teaching". Similarly, one of the AHS teachers observed a shift in energy resources: "I'm not just a lazy teacher who doesn't want to work, but I'm

actually just using the energy that I have and putting more energy into something else". Although all teachers seem to agree with AI catering for time-efficient lesson preparation, they also pointed out that it requires a considerable amount of time and effort in the initial stages of familiarizing oneself with the technology. One BHS teacher mentioned, "So it's certainly, I wouldn't say timesaving, I would say more efficient, time efficient on the long run for my teaching once you get used to it". One AHS teacher mentioned that prompt-engineering played a pivotal role in relation to AI's time-efficiency:

I mean, sometimes you're lucky and ChatGPT or whatever AI you're using gives you exactly what you want with the first prompt that you feed the AI. But oftentimes that's not the case and you have to ask ChatGPT for another task, another idea, another example over and over again. So that also takes time. It takes time to then rewrite whatever the AI gave to you, etc. So it's not magic. It's not like your working time, your preparation time is going to cut down to 10 minutes a day instead of five hours. But yeah, now there's a shift in energy as well, I think. For me, at least my biggest benefit is that it saves me energy, I think.

This adds nuance to the survey results, taking into account factors such as teachers' technological knowledge and prompt-engineering that inform AI's beneficial effect. Besides time-efficiency as an essential benefit of AI, one middle school teacher also reported using it to embellish outdated materials by generating pictures and editing the layout and font.

Concerning a potential decrease in the human aspects of language education due to AI, respondents in the survey expressed average agreement with the statement about AI tools leading to reduced dependence on human teachers for certain aspects of language instruction. However, in the interviews one AHS teacher positively highlighted the accuracy of AI-generated output compared to human output. "Artificial intelligence is definitely more reliable than a teacher. Even if it makes mistakes, it can correct itself. Yeah, that is, that is something. If I make a mistake, I make it because I don't know it better". Another AHS teacher referred to AI as an extra tutor that can help students to improve their writing skills:

First of all, not only because they can create their own prompts to practice, and also use AI as a, let's call it second or private teacher, and just see their improvements without the actual teacher being physically there with them. So I think that's one way of them being able to use it. As an extra tutor.

As some teachers consider AI a potential learning aid that could partly substitute human teachers, one BHS teacher observed her students to develop more autonomy in their learning process when using AI for the assessment of their written texts. At the same time, she found that AI relieved her from the constant stress of correcting texts and explain to her students in which particular aspects their writing needed to be improved. With AI being an assistant in text assessment, she claimed that it proved to help students in the process of “finding out their weaknesses themselves and trying to improve them individually”. While AHS and BHS teachers praised AI for assisting them in student assessment, middle school teachers did not consider this aspect an advantage for their students, mainly due to their lack of subject and language knowledge, which represents a prerequisite for using AI successfully for self-improvement. One middle school teacher saw a high need in closely monitoring her students’ progress “I want to know what the kids are writing anyways. And I would have to double check it anyways. So I don't see the benefit in efficiency”. She pointed out that it was really important “to have an overview of what your kids have actually done”.

Overall, teachers across all school types perceived AI as a beneficial support tool in ELT, particularly in terms of enhancing lesson preparation, enriching teaching materials and reducing cognitive and emotional workload. AI was frequently valued for its ability to support brainstorming, generate adaptable resources, and facilitate more personalized and self-directed learning, especially with older and more advanced learners in AHS and BHS. Furthermore, several teachers highlighted AI’s potential to assist with formative feedback and assessment, enabling students to reflect on their learning processes more independently. These findings suggest that AI is primarily perceived as a tool that can enhance teaching practices and learner autonomy rather than replace the role of the teacher.

4.2.4. Perceived challenges and concerns by school type

The following set of items aimed to investigate the extent to which potential challenges and concerns towards the use of AI in ELT were perceived by teachers from different school types. The findings revealed ambiguity in perception among respondents for items 1 and 5 (both $p < 0.05$). Concerning cheating and academic dishonesty due to AI, middle school teachers ($M = 3.79$, $SD = 1.03$) considered this aspect a less severe

threat compared to AHS ($M = 4.59$, $SD = 0.62$, $d = 0.94$) and BHS teachers ($M = 4.19$, $SD = 1.03$, $d = 0.39$), showing small to medium effects between groups.

Equal statistical significance has been observed in the aspect of complete avoidance of AI tools due to uncertainty about data privacy policies. While middle school teachers ($M = 2.95$, $SD = 0.71$) and AHS teachers ($M = 2.94$, $SD = 1.09$) expressed an average tendency to avoid AI tools due to a lack of data privacy, BHS teachers did not consider data privacy an important issue when using AI for teaching purposes ($M = 1.83$, $SD = 0.75$). High values of between-group effect sizes when comparing BHS teachers to the other groups confirm this divergence in perceptions (AHS vs. BHS: $p = 1.19$; Middle School vs. BHS: $p = 1.54$). General concerns about data privacy appear to be slightly more present in academic school contexts ($M = 4.35$, $SD = 1.12$) than in middle school ($M = 3.68$, $SD = 1.06$; $d = 0.62$) and BHS contexts ($M = 3.83$, $SD = 0.75$; $d = 0.55$) as indicated by small to medium effect sizes, although no statistical significance was observed ($p = 0.16$).

Furthermore, item two shows a relatively high effect size ($p = 0.9$) when AHS and BHS teachers are compared, with the latter holding less strong beliefs about AI's negative role regarding the decrease in the human aspects of language education. Similarly, medium effect sizes were found between AHS teachers ($M = 4.24$, $SD = 0.90$) and BHS ($M = 3.67$, $SD = 1.03$, $d = 0.59$) and middle school teachers ($M = 3.68$, $SD = 1.16$, $d = 0.54$) on the issue of AI potentially impeding the development of students' own language and critical thinking abilities, suggesting that AHS teachers seem to be more concerned about this aspect.

Overall, the pattern across items illustrates a tendency towards AHS teachers' potentially expressing the highest levels of concerns across most aspects, particularly in relation to academic dishonesty, a decrease of human interaction in language education, student overreliance on AI and a lack of data protection when using AI tools in ELT. Middle school teachers reported moderate concern levels, while BHS teachers considered these issues less critical. Despite limited statistical significance, the predominantly medium to large effect sizes point to considerable differences among the school types.

Table 9*Perceived concerns and challenges of AI in ELT by school type*

	School type	(SD) Mean	Sig.	Cohen's d
<i>The use of AI tools will lead to an increase in cheating and academic dishonesty</i>	AHS	(0.62) 4.59	0.03	AHS - Middle School 0.94
	Middle School	(1.03) 3.79		AHS - BHS 0.47
	BHS	(1.03) 4.19		Middle School - BHS -0.39
<i>The use of AI tools will lead to a decrease in the human aspects of language education (e.g. collaboration, creative expression, critical thinking).</i>	AHS	(1.17) 3.88	0.13	AHS - Middle School 0.52
	Middle School	(1.24) 3.26		AHS - BHS 0.9
	BHS	(1.17) 2.83		Middle School - BHS 0.37
<i>The use of AI tools will lead to students becoming too reliant on it and not developing their own language skills and critical thinking abilities.</i>	AHS	(0.9) 4.24	0.25	AHS - Middle School 0.54
	Middle School	(1.16) 3.68		AHS - BHS 0.59
	BHS	(1.03) 3.67		Middle School - BHS 0.01
<i>I am concerned about how AI tools handle personal information and student data.</i>	AHS	(1.12) 4.35	0.16	AHS - Middle School 0.62
	Middle School	(1.06) 3.68		AHS - BHS 0.55
	BHS	(0.75) 3.83		Middle School - BHS -0.16
<i>I avoid using certain AI tools mainly due to uncertainty about their data privacy policies.</i>	AHS	(1.09) 2.94	0.03	AHS - Middle School -0.01
	Middle School	(0.71) 2.95		AHS - BHS 1.19
	BHS	(0.75) 1.83		Middle School - BHS 1.54

As revealed by qualitative data, interviewees across all groups expressed uncertainty regarding AI's threatening role in cheating and academic dishonesty compared to the survey results. Despite all teachers having experienced cases of cheating and specifically plagiarism in written assignments due to AI, their perspectives on dealing with the issue focuses more on finding possible ways to use AI than trying to ban it from their classroom. One AHS teacher attempted to mitigate the risk of cheating by continuously raising awareness about the importance of developing creativity and language knowledge through writing. Additionally, most written assignments she gave her students took place during the lesson which also hindered mere copying of texts from ChatGPT. Another AHS teacher claimed to be less concerned about the act of cheating, but more about students' loss of problem-solving skills due to their increasing over-reliance on AI:

The problem is more or less that they don't acquire a set of knowledge or skills that is necessary for problem-solving because they let the AI solve the problem

[..] and this is part of also their, part of other competences in life. It's, if I'm not, if I'm not able to solve problems in language learning, maths, history and so on, I'm also not able to do it in everyday life issues.

According to her, AI also impedes memorization: "I think it hinders the learning process in your brain", as the process of finding solutions by the learners themselves supports long-time memorization and more in depth-understanding. Conversely to what the survey results suggest about AHS teachers as being highly concerned about academic dishonesty, this AHS teacher questioned the relevance of practicing specific text types in school entirely:

But why losing so much time on text writing when it won't be necessary in the future anymore? You can offer text writing for those who are really interested in in kind of extra subject. But I cannot see the usefulness of including it in foreign language learning [...] I don't know whether it improves education if they can write a report. But if I could go away from text writing and let them write creative texts again, as we did in school, instead of writing all those text types, which are really unnecessary now.

Pointing to a shift in academic requirements and language skills in the future, she suggested that practicing speaking might gain importance in language learning:

But yeah, I'm not concerned. Let's give them other tools for life when we save time with not writing texts that are useless and so on. They don't have to know how to write a letter of application. I suppose that ChatGPT was also meant in the first place for applying and so on. You don't know the person behind the letter you get. Yeah, even which language he or she is using. Actually, we don't know anything. Therefore, we have to talk to people and so on. Times are changing and we cannot stop it.

BHS teachers reported concerns about cheating and loss of critical thinking skills as well. One BHS teacher considered practicing writing with older students a challenge: "It's very, it might be very tempting, especially for the older students. So yeah, it might be, it's not really an issue for me with my first graders yet, but for the older ones, surely". In this regard, another BHS teacher emphasized the need to "making them constantly aware of the fact that one day or other they have to produce language on their own without ChatGPT".

Middle school teachers reported applying similar strategies of raising awareness for mitigating the risk of cheating:

We do try to explain to them that the homework is there for a purpose [...] we try to explain to them that they are using their in order to be able to do a certain task and how it is related to the real life.

One of them emphasized the importance of training young learners' cognitive functions by having them complete tasks on their own and strongly discourage their students from using AI for their homework.

Besides the cognitive aspects involved in learning, emotional factors were also mentioned as playing an integral role:

So I think it's very important for them to also have good experiences, which they can only have, and they can only be proud of themselves if they've actually done something. And I think if they keep thinking that they can't do something, and they just rely on AI to do things for them, they will never develop that self-confidence, and they will never be proud of themselves for working hard on something. And I think this is such an integral part of growing up and learning that you can improve and that you can do something yourself.

Another middle school teacher highlighted the severity of her students' lack of critical thinking skills development when using AI, since they lacked the knowledge to assess the accuracy and quality of AI output: "I think it's a very high risk, especially for our younger students, because they do not double-check. They just copy and paste what ChatGPT gave to them and there is no critical thinking".

Despite raising average levels of concern according to the survey, data privacy issues were not mentioned in the interviews.

In summary, teachers across all school types identified several challenges related to the use of AI in ELT, with key concerns centering around academic dishonesty, students' overreliance on AI, and a potential loss of human and cognitive elements of language learning, such as critical thinking, creativity and problem-solving skills. Furthermore, teachers expressed concerns about learners' own development of language skills, particularly among younger students who are frequently exposed to AI. Some also noted that learners often lack the ability to critically evaluate AI-generated output, alongside the risk of sharing private data. Although data privacy was acknowledged as a general concern, it appeared to be less prominent in teachers' qualitative reflections. The risks associated with AI underscore the need for carefully mediated and pedagogically grounded AI use.

4.2.5. School-type-specific practices and constraints

The items in this section aimed to explore how teachers from different school types perceived the suitability of AI tools for their teaching context and whether there was a demand for institutional support in implementing them. While none of the between-group comparisons reached statistical significance ($p > 0.05$), several items revealed considerable differences with large effect sizes. For instance, BHS teachers ($M = 4.83$, $SD = 0.41$) rated the suitability of AI tools for their school context substantially higher than both AHS ($M = 3.53$, $SD = 1.01$, $d = 1.69$) and middle school teachers ($M = 3.47$, $SD = 1.17$, $d = 1.55$). A similar tendency emerged for the belief that AI tools allowed for better instructional adaptation to different learner needs, with BHS teachers ($M = 4.33$, $SD = 0.82$) expressing stronger agreement than AHS ($M = 3.18$, $SD = 1.18$, $d = 1.13$) and middle school teachers ($M = 3.21$, $SD = 1.23$, $d = 1.07$).

Attitudes towards institutional support for the integration of AI in the classroom followed the same pattern, with BHS teachers ($M = 2.83$, $SD = 1.60$) reporting more agreement than AHS ($M = 1.94$, $SD = 0.97$, $d = 0.67$) and middle school teachers ($M = 2.11$, $SD = 0.99$, $d = 0.54$). Regarding the overall attitude among colleagues, mean scores were comparably low, indicating an ambiguous standpoint toward AI among teachers across school types. A moderate effect size was observed between middle school and BHS teachers ($p = 0.86$), the latter feeling that the implementation of AI is less welcomed by their colleagues.

The item inquiring the demand for official curriculum guidelines for AI use achieved high agreement among teachers across all school types, yet with small effect sizes. Finally, the perceived usefulness of additional guidance, such as workshops, was rated the highest by BHS teachers ($M = 4.50$, $SD = 0.55$), showing medium to small effects when compared to AHS ($M = 3.82$, $SD = 1.02$, $d = 0.83$) and middle school teachers ($M = 4.16$, $SD = 1.07$, $d = 0.40$), respectively. Overall, the findings point to consistently higher ratings among BHS teachers, suggesting that the use of AI tools might be perceived as more suitable in a vocational school context and that there is a stronger demand for official support measures as well than in AHS and middle schools.

Table 10*School type specific use of AI and demand for support*

	School type	(SD) Mean	Sig.	Cohen's d
<i>AI tools are suitable for use in my school context.</i>	AHS	(1.01) 3.53	0.21	AHS - Middle School 0.05
	Middle School	(1.17) 3.47		AHS - BHS -1.69
	BHS	(0.41) 4.83		Middle School/BHS -1.55
<i>My school provides adequate support for the integration of AI in teaching.</i>	AHS	(0.97) 1.94	0.23	AHS - Middle School -0.17
	Middle School	(0.99) 2.11		AHS - BHS -0.67
	BHS	(1.60) 2.83		Middle School - BHS -0.54
<i>AI tools allow for better instructional adaptation to different learner needs.</i>	AHS	(1.18) 3.18	0.09	AHS - Middle School -0.02
	Middle School	(1.23) 3.21		AHS - BHS -1.13
	BHS	(0.82) 4.33		Middle School - BHS -1.07
<i>The overall attitude toward AI among my colleagues is positive.</i>	AHS	(0.85) 2.71	0.78	AHS - Middle School -0.23
	Middle School	(1.22) 2.95		AHS - BHS -0.15
	BHS	(0.75) 2.83		Middle School - BHS 0.86
<i>The curriculum should include an official guideline on the use of AI for teaching purposes.</i>	AHS	(0.96) 4.13	0.54	AHS - Middle School 0.34
	Middle School	(1.28) 3.74		AHS - BHS -0.04
	BHS	(1.17) 4.17		Middle School - BHS -0.35
<i>Additional guidance (e.g. workshops) in using AI for teaching purposes at my school would be helpful.</i>	AHS	(1.02) 3.82	0.32	AHS - Middle School -0.33
	Middle School	(1.07) 4.16		AHS - BHS -0.83
	BHS	(0.55) 4.50		Middle School - BHS -0.4

The qualitative data obtained from the interviews confirm the survey trend, suggesting that teachers across all school types, except for one AHS teacher, were in favor of participating in workshops and implementing official guidelines from the ministry for education. One reason why an official set of rules for AI integration in the classroom was considered useful is its potential to tackle the issue of plagiarism, as one BHS teacher noted. Students could be less tempted to use AI if it was officially forbidden. Another AHS teacher pointed out that she would feel more secure in using AI if there were official guidelines provided by the ministry or by the university's teacher education programs: "So that would be really helpful to have this secure spot where I'm like, okay, well, it's sort of like a safety net, because it comes from the actual people who, you know, teach you how to teach". Similarly, one middle school teacher emphasized the need for official guidelines:

Because then you can feel on the safe side if you have some guidelines. But I think we'll need to wait some more years because the Bildungsministerium (ministry of education), I think, will need some time to come up with guidelines. So I think we as individuals have to come up with some ideas ourselves and I think it's a good idea that our school decided to implement AI into our four-year plan.

Given the oftentimes lengthy process of implementing new regulations and principles, individual schools and teachers seemed to have adapted to AI use by establishing their own guidelines.

Concerning the demand for workshops, one AHS teacher stated that a combination of workshops and official guidelines could prove to be very helpful in the future: "I think that's one of the most important aspects for the next months, years, I guess. An official framework and a supporting hand". One of the BHS teachers reported having participated in a more general workshop about how to use ChatGPT for teaching. She expressed interest in subject-specific workshops, highlighting the importance of exchange among colleagues: "And because with communication with a network of very interested teachers, this could come into process and into progress". Likewise, one AHS teacher showed enthusiasm about participating in AI-related workshops: "Yes, I would love to have some workshops. I would love to see what I'm missing", implying that training could help broaden teachers' knowledge considerably. This was, however, different from another AHS teacher's perspective that teachers are responsible to educate themselves about using AI: "I think you should get the basics and then try to find out yourself. If you don't want, it's your fault anyway, because it saves quite a lot of time and so on. And you cannot avoid it", referring to AI integration and self-education as inevitable.

Among middle school teachers, opinions seemed to be unanimous about the demand for workshops, although one middle school teacher reported prioritizing other school-related topics when it came to receiving additional training:

I think it wouldn't hurt, like any sort of development and training can be useful in certain circumstances [...] There are other things that I would prioritize over it. But on the other hand, I don't know what I don't know. I do have to admit that I'm not super into it. So I'm sure that if there was an offer like that, I would learn something. And maybe I would try something out. Yeah. I don't see why it would be a bad idea. But also, I don't think it's the most pressing issue.

Another middle school teacher mentioned that there was an upcoming workshop planned at her school “I think it will be quite useful to get someone in from outside who's going to tell us about AI and how to use it at school and what we have to be careful about”. This shows that most teachers had a positive and open attitude towards participating in AI-specific workshops for ELT.

4.3. The role of teaching experience in teachers' attitude towards AI

The third research question addressed the impact of teaching experience on teachers' attitudes towards AI use. For this purpose, teachers were grouped into four categories based on their years of teaching experience: novice (0 - 5 years), proficient (5 - 10 years), and expert (>10 years). This categorization was applied to the descriptive analysis of responses in the online questionnaire. For the qualitative phase of the study, however, only teachers from the novice and expert groups agreed to take part in the interviews. Consequently, the qualitative analysis draws on perspectives from novice and expert teachers. Nevertheless, this distribution represents a distinct contrast between teachers at early and advanced stages of their professional careers, offering valuable insights into the quantitative patterns observed.

4.3.1. AI familiarity and usage by years of teaching experience

In terms of familiarity with AI, results showed statistically significant variance across groups ($p = 0.01$), indicating that teachers' experience did have an impact on their perceived level of familiarity with integrating AI into the classroom (see Table 10). Proficient teachers reported the highest familiarity ($M = 7.75$, $SD = 2.35$), closely followed by novices ($M = 7.50$, $SD = 1.85$). Despite having the longest teaching experience, expert teachers rated their level of familiarity lower on average ($M = 5.17$, $SD = 3.02$).

Effect size comparisons further revealed a medium to large difference between novice and expert teachers ($d = 0.93$) as well as between proficient and expert teachers ($d = 1.12$), suggesting that less experienced teachers tend to feel substantially more familiar with AI than more experienced groups.

This finding may be explained by generational differences in digital socialization, as less experienced teachers are more likely to have grown up with modern technologies

due to their young age. Consequently, this might increase their perceived familiarity with AI. Additionally, recent curricula in university teacher education are more likely to address AI and digital tools, giving novice teachers greater exposure to new technologies. By contrast, experienced teachers may have developed greater awareness about the legal, ethical and pedagogical implications of AI, as they have accumulated a more comprehensive experience with technology integration over the years. Consequently, they may be more cautious about implementing AI in their teaching. Another reason may be that the more experienced generation of teachers apply stricter criteria when evaluating their own familiarity and skill level, as they associate this type of knowledge with deeper technical understanding rather than everyday use.

Table 11

Teachers' self-reported level of familiarity with AI in ELT at different career stages

	Teaching experience	(SD) Mean	Sig.	Cohen's d
<i>How would you rate your familiarity with ChatGPT on a scale from 0 (completely unfamiliar) to 10 (extremely familiar)?</i>	0 – 5 years	(1.85) 7.50	0.01	Novice – Proficient -0.01
	5 – 10 years	(2.35) 7.75		Novice – Expert 0.93
	> 10 years	(3.02) 5.17		Proficient – Expert 1.12

In the interviews, all participants mentioned that they had been integrating AI into their teaching to varying extents, as outlined in the previous sections (RQ1 and RQ2). Interestingly, interview data reveal general awareness across all experience groups about the knowledge required to not only implement AI, but also to use it efficiently. One novice teacher highlighted the importance of prompt-engineering skills: “I think it depends very much on the prompt that you use. You can’t just type something in and expect a good result – you really have to know what you’re doing”. Similarly, an expert teacher’s stance follows the same direction: “Many teachers use it but using it properly and knowing its limits are two very different things”. These perspectives show that AI implementation does not follow a linear pattern but rather depends on teachers’ level of readiness and technical knowledge.

Interview responses further indicated a similar tendency of expert teachers reporting lower levels of familiarity with AI compared to novice teachers. One novice teacher

asserted, “I think younger teachers are more confident because they are used to trying things out digitally”, suggesting that novice teachers’ higher ratings may be due to greater confidence in experimenting with digital tools. At the same time, more experienced teachers tended to assess their AI knowledge more critically compared to novice teachers, which confirms the findings obtained from the questionnaire. Two expert teachers further elaborated on their understanding of the AI experience : “For me, being familiar with it doesn’t just mean using it, but really understanding what it does and where the problems are”, as well as “I wouldn’t say I’m unfamiliar, but I also wouldn’t say I really master it. There’s a lot going on in the background that I don’t fully understand”. These perspectives clearly indicate that expert teachers’ self-reported level of familiarity with AI may be due to more stringent assessment criteria. Clearly, while expert teachers defined familiarity based on pedagogical, ethical and technical assumptions accumulated within years of experience, novice teachers were more inclined towards equating familiarity with practical usability.

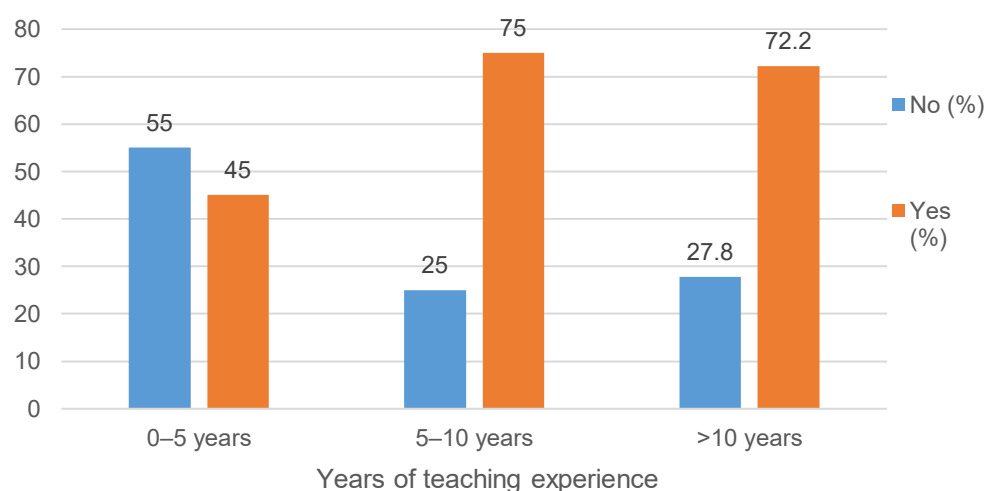
4.3.2. Teachers’ perceptions of student AI use across career stages

Figure 11 illustrates teachers’ tendency to ask their students to use AI for self-study in relation to their teaching experience in years. The results indicate a clear pattern: proficient teachers with 5-10 years of experience were most likely to encourage AI-assisted self-study, with 75 percent responding “yes” compared to 25 percent responding “no.” Responses of expert teachers follow a similar tendency, with 72.2 percent advising self-study versus 27.8 percent who do not encourage their students to use AI. In contrast, novice teachers (0 - 5 years of experience) showed a reversed trend, with a slightly higher proportion indicating that they had never encouraged students’ AI use for self-study (55.5%) than those who had (45%). These findings could be attributed to numerous reasons. Since novice teachers’ were still in the process of establishing their professional identity and their routines, they may have adopted a more cautious approach in order to maintain clear structures and boundaries. Recommending AI for self-study to students might have been perceived as a potential loss of control over learning processes and outcomes. Proficient and expert teachers, on the other hand, could rely on past experiences with technology integration and may have contextualized AI as simply another tool and thus perceived it as less destabilizing. Expert teachers may have trusted their ability to adapt their practices

over time, whereas novice teachers lacked this long-term perspective and may have therefore overestimated the disruptive potential of AI.

Figure 11

Teachers' tendency to advise students to use AI for self-study at different career stages



Teachers' opinions concerning students' AI use were relatively consistent across different professional development stages ($p > 0.05$ for all items). For the item "Students should learn how to work with and learn from AI in a meaningful way," mean scores ranged from 4.33 (SD = 1.14) for teachers with more than 10 years of experience to 5.00 (SD = 0.00) for those with 5-10 years of experience. Small effect sizes indicate slight variation between novice and expert ($d = 0.48$) and proficient and expert teachers ($d = 0.49$), with novice and proficient teachers attributing seemingly more importance to meaningful AI education for students.

The importance of training students' analytical abilities to deal with AI output was considered highly important across all groups of teachers, with means ranging from 4.83 to 5.00. Effect sizes revealed only minor differences, with the largest contrasts between novice and proficient/developing teachers ($d = 0.63$).

Similarly, there was consensus among teachers on the item "Teachers should raise students' awareness of the pitfalls of using AI (e.g., plagiarism, faulty information)", as indicated by mean values ranging between 4.98 (SD = 0.35) and 5.00 (SD = 0.00), with small effect sizes.

Overall, results illustrate that teachers across all experience groups highly agreed on the importance of awareness-raising in education for students to use AI in appropriate ways.

Table 12

Teachers' perceptions of student AI use at different career stages

Student use	Teaching experience	(SD) Mean	Sig.	Cohen's d
<i>Students should learn how to work with and learn from AI in a meaningful way.</i>	0 – 5 years	(0.55) 4.75	0.37	Novice – Proficient 0.00
	5 – 10 years	(0.50) 4.75		Novice – Expert 0.47
	> 10 years	(1.14) 4.33		Proficient – Expert 0.48
<i>Students should learn how to critically analyze AI output (e.g. texts for real life purposes).</i>	0 – 5 years	(0.37) 4.85	0.70	Novice – Proficient -0.57
	5 – 10 years	(0.00) 5.00		Novice – Expert 0.05
	> 10 years	(0.38) 4.83		Proficient – Expert 0.63
<i>Teachers should raise students' awareness of the pitfalls of using AI (e.g. plagiarism, faulty information).</i>	0 – 5 years	(0.31) 4.90	0.80	Novice – Proficient -0.47
	5 – 10 years	(0.00) 5.00		Novice – Expert 0.03
	> 10 years	(0.32) 4.89		Proficient – Expert 0.09

Quantitative results revealed that novice teachers were less likely to encourage students to use AI for self-study, whereas proficient and expert teachers showed a stronger tendency to do so. Interview data helped explain this patterns by highlighting the less experienced teachers concerns. Several participants expressed unease about supervision and student cheating when AI was used outside the classroom: “Once they use it at home, you can’t really see how much is theirs anymore”. Another novice teacher recognized a high potential among students to use AI for assignments, particularly in the initial stages of language learning where considerable effort and dedication is required: “It’s very tempting for students to just let ChatGPT do everything for them, especially at the beginning”. Expert teachers appeared to be more open towards student AI use while also showing awareness about student behavior: “They will use it anyway, whether we like it or not, so it’s better to deal with it openly”. This statement reflects a certain realism to teaching and learning that can be seen as characteristic of teachers whose inferences are based on past experiences, both with newly emerging technologies and students’ reactions.

Concerning the importance of fostering critical engagement with AI, the strong consensus illustrated by quantitative findings persisted in the interviews. Both novice and expert teachers emphasized the pedagogical responsibility to teach meaningful use of AI tools. For instance, one novice teacher remarked that: “If you guide them properly, it can actually help them become more independent”, implying that critical engagement with AI is inevitable for unfolding its potential to enhance learning. Two expert teachers equally highlight their responsibility to foster critical thinking among students: “I think it’s our job to show them where the limits are and what they can’t trust” as well as “Ignoring AI would be unrealistic. We have to teach students how to question it”. These claims highlight the inevitable nature of teachers’ engagement with new technologies and their pedagogical approaches to cater for meaningful integration. One novice teacher recognized how AI and critical thinking mutually influenced each other: “Critical thinking becomes even more important when tools like this exist”. The interviews highlight that teachers acknowledged their responsibility to streamline AI integration by explicitly raising awareness among students about the pitfalls of AI (e.g., misinformation) and setting clear rules for AI usage to avoid the risk of over-reliance.

4.3.3. Perceived benefits of AI across career stages

The items in Table 12 examine how teachers at different stages of their career perceived the potential benefits of AI in ELT. Across all five categories, no statistically significant differences were found among groups, except for item four addressing reduced dependence on human teachers for certain aspects of language instruction ($p = 0.01$). While proficient teachers ($M = 3.75$, $SD = 1.26$) expressed the highest agreement, novice teachers rated this potential consequence considerably lower, resulting in medium to large effect sizes for several in between group comparisons (e.g. novice – proficient: $d = 1.57$; novice – expert: $d = 0.88$; proficient – expert: $d = 0.48$).

Concerning the perceived efficiency and effectiveness of AI in teaching (e.g. lesson preparation, assessment), proficient teachers expressed the strongest agreement ($M = 4.25$, $SD = 0.96$), followed closely by novice teachers ($M = 4.05$, $SD = 0.83$). In

contrast, expert teachers ($M = 3.72$, $SD = 1.07$) showed lower means, with a medium effect between proficient and expert ($d = 0.52$) teachers.

Similarly, novice teachers believed that AI use would lead to personalized language learning to a larger extent ($M = 3.55$, $SD = 1.05$) than proficient teachers ($M = 3.00$, $SD = 0.82$; $d = 0.58$), although these differences were not statistically significant. Perceptions of AI supporting more self-directed language learning were relatively similar across groups as indicated by small effect sizes. A similar pattern was observed in responses on AI's potential to enrich traditional teaching materials. Teachers at all stages in their career expressed similar levels of agreement, with means ranging between 3.00 and 3.55.

Finally, the belief that AI could improve the accessibility of language education was highest among novice teachers ($M = 3.55$, $SD = 0.99$), closely followed by expert ($M = 3.50$, $SD = 1.15$) and proficient teachers ($M = 3.25$, $SD = 1.50$). Small effect size patterns indicated a uniform agreement on AI potentially rendering language education more accessible.

Table 13

Perceived benefits of AI use in ELT at different career stages

Benefits	Teaching experience	(SD) Mean	Sig.	Cohen's d
<i>AI tools can make teaching more efficient and effective (e.g. lesson preparation, assessment).</i>	0 – 5 years	(0.83) 4.05	0.45	Novice – Proficient -0.22
	5 – 10 years	(0.96) 4.25		Novice – Expert 0.34
	> 10 years	(1.07) 3.72		Proficient – Expert 0.52
<i>The use of AI tools will lead to more personalized language learning.</i>	0 – 5 years	(1.05) 3.55	0.37	Novice – Proficient 0.58
	5 – 10 years	(0.82) 3.00		Novice – Expert 0.09
	> 10 years	(1.34) 3.44		Proficient – Expert -0.40
<i>The use of AI tools will lead to more self-directed language learning.</i>	0 – 5 years	(1.12) 3.00	0.79	Novice – Proficient -0.21
	5 – 10 years	(1.26) 3.25		Novice – Expert -0.22
	> 10 years	(1.45) 3.28		Proficient – Expert -0.02
<i>The use of AI tools will lead to reduced dependence on human teachers for certain aspects of language instruction.</i>	0 – 5 years	(0.79) 2.10	0.01	Novice – Proficient -1.57
	5 – 10 years	(1.26) 3.75		Novice – Expert -0.88
	> 10 years	(1.41) 3.11		Proficient – Expert 0.48

<i>The use of AI tools will lead to an improvement in the accessibility of language education.</i>	0 – 5 years	(0.99) 3.55	0.89	Novice – Proficient 0.24
	5 – 10 years	(1.50) 3.25		Novice – Expert 0.05
	> 10 years	(1.15) 3.50		Proficient – Expert -0.19
<i>AI tools have the potential to enrich traditional teaching materials (coursebook).</i>	0 – 5 years	(0.85) 4.10	0.44	Novice – Proficient 0.39
	5 – 10 years	(0.96) 3.75		Novice – Expert 0.40
	> 10 years	(1.24) 3.67		Proficient – Expert 0.07

According to quantitative results, proficient teachers expressed the strongest agreement regarding AI's potential to increase efficiency and effectiveness, while expert teachers appeared to be more reserved. Responses in the interviews draw a slightly more nuanced picture, as teachers neither expressed clear approval of the benefits in question nor undermined AI's potential. For instance, one novice teacher reported: "I mainly use it to get ideas or variations – not to replace my teaching, but to support it". Likewise, two experienced teachers defined the role of AI as an assisting tool that required pedagogical control rather than a simple replacement of their own planning: "I wouldn't let it plan my lessons, but it's great for inspiration" and "you still need to adapt everything, otherwise it doesn't fit your class". This shows that teachers at different career stages exploit the potential benefits of AI, yet acknowledge that several cases require additional adjustments.

4.3.4. Perceived challenges and concerns across career stages

Concerning the perception of potential challenges and risks associated with using AI in ELT, no statistically significant differences emerged across groups for any item ($p > 0.05$), yet effect size patterns pointed to diverging standpoints among teachers at different stages in their career. For instance, proficient teachers ($M = 4.75$, $SD = 0.50$) expressed the strongest agreement for the concern that AI will lead to an increase in cheating and academic dishonesty. In contrast, expert teachers ($M = 3.50$, $SD = 0.96$) and novice teachers ($M = 4.00$, $SD = 0.97$) reported lower concern levels, producing large effect sizes in comparisons such as proficient – expert ($d = 1.63$) and novice – proficient ($d = 0.97$).

Teachers at a proficient stage also indicated the highest levels of concern about AI's impact on the role of teachers in language teaching ($M = 4.50$, $SD = 1.00$) compared to novice teachers ($M = 3.02$, $SD = 1.28$, $d = 1.29$). Similarly, students' overreliance on AI and thereby the decrease in their critical thinking skills was viewed as a potential

risk particularly by proficient teachers ($M = 4.75$, $SD = 0.50$), compared to expert ($M = 3.78$, $SD = 1.17$, $d = 0.93$), novice teachers ($M = 3.85$, $SD = 0.99$, $d = 1.15$).

Teachers who had been teaching for 5 - 10 years expressed the highest levels of concern about how AI tools handled personal information and student data ($M = 4.25$, $SD = 0.96$), closely followed by novice ($M = 4.10$, $SD = 0.97$) and expert teachers ($M = 3.78$, $SD = 1.22$). A small effect size ($d = 0.42$) in comparison of proficient and expert teachers was observed, implying slightly diverging views among these groups of teachers.

The next item follows a similar trend, with proficient teachers showing the highest inclination to refrain from certain AI tools for reasons of uncertainty about their data privacy policies ($M = 3.25$, $SD = 0.50$). Responses from the other groups did not deviate significantly as shown by small to medium effect sizes (proficient – expert: $d = 0.57$; proficient - novice: $d = 0.74$). Overall, the findings revealed that mid-career teachers expressed the strongest concerns about AI use, particularly regarding students' academic development and data protection, while the least and most experienced teachers tended to be somewhat less apprehensive.

Table 14

Perceived challenges and concerns of AI use in ELT at different career stages

Challenges and concerns	Years of teaching experience	(SD) Mean	Sig.	Cohen's d
<i>The use of AI tools will lead to an increase in cheating and academic dishonesty</i>	0 – 5 years	(0.97) 4.00	0.32	Novice – Proficient -0.97
	5 – 10 years	(0.50) 4.75		Novice – Expert 0.52
	> 10 years	(0.96) 3.50		Proficient – Expert 1.63
<i>The use of AI tools will lead to a decrease in the human aspects of language education (e.g. collaboration, creative expression, critical thinking).</i>	0 – 5 years	(1.28) 3.02	0.15	Novice – Proficient -1.29
	5 – 10 years	(1.00) 4.50		Novice – Expert -0.39
	> 10 years	(1.15) 3.50		Proficient – Expert 0.93
<i>The use of AI tools will lead to students becoming too reliant on it and not developing their own language skills and critical thinking abilities.</i>	0 – 5 years	(0.99) 3.85	0.24	Novice – Proficient -1.15
	5 – 10 years	(0.50) 4.75		Novice – Expert 0.06
	> 10 years	(1.17) 3.78		Proficient – Expert 1.08

<i>I am concerned about how AI tools handle personal information and student data.</i>	0 – 5 years	(0.97) 4.10	0.58	Novice – Proficient -0.16
	5 – 10 years	(0.96) 4.25		Novice – Expert 0.29
	> 10 years	(1.22) 3.78		Proficient – Expert 0.42
<i>I avoid using certain AI tools mainly due to uncertainty about their data privacy policies.</i>	0 – 5 years	(0.92) 2.70	0.58	Novice – Proficient -0.74
	5 – 10 years	(0.50) 3.25		Novice – Expert -0.08
	> 10 years	(1.06) 2.78		Proficient – Expert 0.57

According to the questionnaire results, mid-career teachers expressed the strongest concerns across all risk areas. In the interviews, both novice and expert teachers mentioned concerns about academic dishonesty, overreliance on AI and the erosion of human aspects of language education. Since perspectives across groups overlap, it cannot be deducted to which extent these perceived areas of concern prevail at the respective stage of their career. With respect to cheating, one novice teacher noted that: “It’s very hard to know whether a text is still the student’s own work”. Expert teachers also drew attention to their worries about students’ cognitive development: “I’m afraid they stop thinking for themselves if they rely on it too much” and “I’m worried that students stop struggling, but struggling is part of learning”. These remarks go hand in hand with AI causing a decrease in the human aspects of language education, as tools do not only affect the instruction, but also the learning processes. Another expert teacher’s view focuses on errors as an inevitable part of the human process of acquiring new knowledge: “Language learning is also about interaction and mistakes – AI can’t replace that”. One expert teacher also referred to creativity as a human dimension of language learning that could potentially be diminished: “There’s a risk that interaction and creativity get lost if we’re not careful”. Overall, these findings indicate that teachers show a heightened awareness towards the potential risks of AI in education regardless of their career stage.

4.3.5. Demand for official guidelines & workshop across career stages

In terms of demand for support, mean scores across all groups indicated a general agreement ($p > 0.05$) on the need for clearer guidance and additional training regarding AI use in language education. Responses on the item about implementing official guidelines into the curriculum were relatively consistent with means ranging from 3.88

for experts to 4.00 for novice and proficient teachers, respectively. No significant effect sizes indicate unambiguous views across all groups.

Similarly, all groups showed high agreement on the usefulness of additional guidance such as workshops in using AI for teaching purposes, with means ranging from 3.89 for experts to 4.15 for proficient teachers with 5-10 years of experience. Small to medium effect sizes emerged between novice and proficient teachers ($d = 0.43$) and between proficient and expert teachers ($d = 0.71$), suggesting that experts may have felt slightly less need for training.

Table 15

Demand for support in AI use at different career stages

Demand for support	Teaching experience	(SD) Mean	Sig.	Cohen's d
<i>The curriculum should include an official guideline on the use of AI for teaching purposes.</i>	0 – 5 years	(1.03) 4.00	0.95	Novice – Proficient 0.00
	5 – 10 years	(2.00) 4.00		Novice – Expert 0.11
	> 10 years	(1.11) 3.88		Proficient – Expert 0.07
<i>Additional guidance (e.g. workshops) in using AI for teaching purposes at my school would be helpful.</i>	0 – 5 years	(1.00) 4.15	0.49	Novice – Proficient -0.43
	5 – 10 years	(0.57) 4.50		Novice – Expert 0.25
	> 10 years	(1.08) 3.89		Proficient – Expert 0.71

Responses in the interviews appeared to underline the need for guidance and institutional support, shedding light on teachers' concrete expectations on what these should fulfil. For instance, one novice teacher commented that “workshop could be useful, but they should be very practical”, which emphasizes the need for hands-on training opportunities in AI literacy. Expert teachers addressed the legal and ethical dimensions with regard to official guidelines, stating that “clear guidelines would really help especially regarding what is allowed and what isn't”. Similarly, another expert teacher identified a positive impact that concrete policies could have on justified reasoning in front of parents and students: “Clear rules would make it easier to justify decisions to students and parents”. These findings indicate that both practical workshops and clear guidelines would help teachers manage AI integration on instructional, pedagogical and professional levels.

5. Discussion

In this chapter, the results of the survey and the semi-structured interviews will be discussed in relation to the three research questions. The findings are interpreted in relation to the theoretical frameworks on the use of technology in general and AI in particular as well as in light of the existing studies on AI use for language teaching purposes. Subsequently, the study's implications for classroom practice and directions for future research will be presented.

5.1. Teachers' perceptions of the use of AI in ELT

The first research question in this study was concerned with how Austrian English teachers perceived the growing presence/intentional use of AI tools (e.g., ChatGPT) in language teaching and learning. The findings showed that teachers' perceptions of AI in ELT were neither uniformly positive nor negative but rather characterized by a cautious yet pragmatic approach. Teachers recognized a range of pedagogical benefits associated with AI use, while simultaneously expressing clear concerns regarding its impact on L2 cognitive development, assessment and ethical responsibility.

With regard to perceived benefits, teachers positively highlighted AI's support in lesson preparation and material design. AI was perceived as facilitating the rapid generation and adaptation of teaching materials, including texts, tasks, and exercises tailored to specific topics and CEFR levels. This was considered particularly advantageous regarding heterogeneous groups of learners, as AI enables differentiation and personalization by providing multiple versions of learning materials suited to learners with varying proficiency levels. Additionally, many teachers underlined AI's time-saving potential, which allowed them to shift their focus from preparatory tasks towards learner-centered interaction in the classroom. Teachers' perceptions examined in the current study are mostly in line with the findings of previous research. AI is perceived as highly useful for brainstorming and lesson preparation (Alm & Ohashi, 2024), differentiation and flipped learning (Christina & Panagiotidis, 2024), and can provide feedback in writing and speaking tasks (Barrot, 2023; Han & Sari, 2024; Tai & Chen, 2023; Zhou et al., 2025). However, teachers in the interviews acknowledged that they

needed to dedicate time and effort in their initial attempts of prompt-engineering and revising AI output. Once they had reached basic level of familiarity with technology, teachers claimed to observe an increase in time-efficiency in lesson preparation, leading to a shift in energy that enabled them to focus more on teaching itself and monitoring their students' learning process.

Regarding AI's impact on teaching specific skills, the results of this study only partly align with existing literature. In writing, AI feedback was reported to positively impact students' development of writing skills in combination with an assessment rubric, enhancing students' metalinguistic awareness when students receive immediate feedback on their language production (Barrot, 2023; Han & Sari, 2024). Moreover, AI-generated feedback was found to decrease the workload of correcting texts on the teacher-side, which holds potential for AI as a valuable support in assessment practices. However, teachers in the interviews pointed out that closely monitoring students' work was a vital component of their teaching approach, as they need to be aware of the students' strengths and weaknesses to adapt instruction accordingly.

In speaking, teachers mentioned integrating ChatGPT as a conversation partner (e.g. for practicing job interviews) and feedback provider, practicing aspects of spoken language such as accuracy and pronunciation. Based on the teachers' perspectives, this aspect enabled students to gain autonomy in their learning process, which is supported by previous studies as well (Tai & Chen, 2023; Mahmoud, 2022; Zhou et al., 2025). In terms of reading, AI's benefit in creating personalized reading passages, allowing for scaffolding according to students' needs and levels was mentioned most frequently (Koraishi, 2023; Liu et al., 2022; Chavez, 2024).

Further benefits were identified regarding feedback and error correction, especially in the context of written production. AI-enhanced feedback was seen as supporting learners in identifying areas for improvement. This finding resonates with research on intelligent computer-assisted language learning environments, which suggests that graduated and individualized corrective feedback can facilitate learners' ability to notice linguistic errors and engage in self-correction, thereby supporting language development (Ai, 2017). At the same time, AI was considered as providing practice opportunities outside the classroom, which was particularly useful for students whose educational development lacked resources and parental support. Such technology-mediated feedback can extend learning beyond classroom boundaries and offer

adaptive support, although previous research also emphasizes that teacher mediation remains important when automated systems fail to address learners' specific needs (e.g., Elsayed et al., 2024).

Concerning challenges around AI implementation, the most frequently reported concern was cheating and academic dishonesty, particularly in relation to homework and written assignments outside the classroom. Teachers expressed concerns about AI impeding learners' development of language competencies and cognition, warning that excessive or unguided use may weaken learners' problem-solving abilities. These concerns have also been acknowledged in several studies conducted by Nguyen and Goto (2025) and Surahman and Wang (2022), which emphasize the need for both supportive measures, such as student guidance on responsible AI use, and preventive strategies, including enhanced monitoring and adaptive assessment methods, to mitigate AI-facilitated academic dishonesty while preserving its educational benefits. Another central challenge identified was young learners' limited ability to critically evaluate AI output. Teachers reported that students often struggle to assess the accuracy, appropriateness, and reliability of information, therefore risking adopting errors without reflection, particularly at lower proficiency levels. This finding aligns with previous research highlighting that AI literacy among younger learners is still emerging and that both students and teachers frequently lack sufficient knowledge, pedagogical guidance, and structured curricula to support critical engagement with AI technologies (Su et al., 2023). Furthermore, uncertainty regarding data privacy and ethical implications of AI use reflects broader concerns about responsibility in educational contexts, reinforcing calls for age-appropriate AI literacy education that explicitly addresses ethical awareness alongside technical skills. Closely related to this issue is the students' increasing over-reliance on AI, leading to a loss of critical-thinking and problem-solving skills. These concerns once again mirror the ethical guidelines established by the OECD report, raising the importance of protecting the social and human aspects of learning, ensuring data privacy and teaching students to use AI critically rather than enforcing a complete ban (OECD, 2023).

Overall, teachers perceived AI as a useful but potentially problematic pedagogical tool. The ambivalent nature of teachers use of ' technology in their teaching is shaped by a myriad of factors including learners, colleagues, technological equipment and

knowledge, school policies, exam requirements, and level of teaching experience. This perspective views beliefs and patterns as socially constructed rather than fixed dispositions and helps explain why contradictions in the survey results of the present study were found. Some of the contradictory findings included teachers' highlighting the need for fostering students' AI literacy alongside expressing skepticism and avoidance in recommending AI for self-study. For instance, teachers mentioned limiting writing practice to in-class assignments to avoid plagiarism but also provided their students with concrete examples of using ChatGPT for enhancing their writing skills in terms of vocabulary and grammar. These findings suggest that AI use needs to be carefully thought in relation to specific teaching and learning contexts, as each group of learners, topic and targeted skill require a different approach. Teachers' abilities to AI thus depend on the intersection of their pedagogical, content, and technological knowledge.

This perspective aligns closely with TPACK's account of technology integration as being informed by technology knowledge (TK), content knowledge (CK) and pedagogical content knowledge (PCK) (Koehler et al., 2013). As shown by the survey, teachers did not simply adopt AI in general, but they integrated it depending on the affordances it potentially offers in relation to different target skills (speaking, writing, listening, reading) and task-formats (e.g. role cards, reading comprehension, gap-fill exercises).

5.2. AI in different school types

RQ2 aimed to examine the extent to which the perceived impact of AI varied in different school types (AHS, vocational school, middle school). While the four core language skills remain consistent across school types, significant differences lie in the curricular objectives for AHS, BHS and MS, respectively. Teachers' responses to AI integration have proven to differ significantly in different school settings, primarily due to diverging curricula and learner needs.

In vocational schools (BHS), where curricula aim at educating students' skills in business contexts with genres including formal emails, reports, letters of application, job interviews and customer communication, AI's affordances are more in accordance

with content and task demands than with the curricular objectives of middle schools, with the latter focusing on reaching a more general and foundational language proficiency

BHS teachers described a strong fit between AI's affordances and the business-related genres they teach (emails, reports, job interviews), which helps explain why BHS teachers rated AI's benefits consistently higher. BHS teachers explained that they efficiently implemented AI in preparation and student work (e.g., rehearsing interviews with a chatbot, drafting and then revising written assignments or analyzing AI generated texts), to meet the learning objectives which are set in the BHS curriculum.

Another reason is that BHS students are older and have already reached a more advanced level of cognitive maturity and language competences compared to MS students, who are still in the crucial stages of cognitive development. Therefore, while BHS and AHS teachers showed higher tendencies to integrate AI in both lesson preparation, assessment, and advised their students to use it for additional practice, middle school teachers reported limiting its use to preparing materials, mainly due to learners' lack of language and technological knowledge for self-study.

Concerning the use of AI for assessment and student self-study purposes, BHS teachers integrated AI as an additional feedback assistant, explaining that an initial review of students' texts through AI would significantly lighten the workload of text correction. Text types in upper secondary schools such as BHS and AHS usually tend to be longer, more detailed and evaluation is based on rubrics that teachers need to apply when correcting. Consequently, text correction is a more time-intensive process in AHS and BHS than in middle schools, which explains teachers' inclination towards implementing AI in assessment.

However, AHS teachers adopted a slightly diverging view on implementing AI for evaluating student work or on encouraging self-study. Compared to BHS teachers, AHS teachers expressed skepticism concerning the use of AI for writing assignments due to plagiarism risks. To mitigate this pitfall, some of them reported moving writing practice into class. Again, this tendency might be due to curricular objectives, with the AHS curriculum fostering students' creativity, self-expression and analytical and critical thinking abilities, aiming to prepare students for an academic path.

With regards to AI-enhanced assessment and self-study, Middle school teachers emphasized that many learners are still building foundational language, learning routines and the critical skills needed to evaluate AI output, conditions under which students' advised AI use would risk copy-paste work and frustration. This also underscores the importance of close-monitoring students' work, thus rendering AI potential support as an assessment support irrelevant.

Nevertheless, middle school teachers specifically praised AI's potential in creating tasks that are adapted to cater for diverse learner needs and levels, facilitating differentiation which is central in heterogenous classrooms.

Another dimension that was investigated in RQ2 is teachers' perceived need for AI specific training, given that digital literacy is crucial to the effective implementation of AI as illustrated by the DigCompEdu model. Findings are in line with the core components of the model, as teachers across all school types agreed on the importance of critical engagement with AI output. This involves evaluating AI output in terms of accuracy, suitability and developing prompt-engineering skills (e.g., by developing prompt-patterns) to obtain desired outcomes. According to the survey, the majority of teachers welcomed the opportunity to participate in workshops on subject-specific AI use, which could support teachers in developing both digital competences and confidence and in mitigating potential challenges such as data privacy issues and plagiarism. These findings emphasize the need for digital education as a prerequisite for responsible AI use, which has also been underscored by previous research (Alm & Ohashi, 2024).

Furthermore, teachers' demand for clear institutional guidelines implies that the current framework provided by the ministry of education offers insufficient support for day-to-day instructional practices. Particularly AHS teachers expressed high agreement on the need for clear guidelines as a supportive measure, arguably due to this school type's focus on academic preparation and the Matura as a standardized high-stakes exam.

5.3. Impact of teaching experience on teachers' attitude towards AI

Finally, RQ3 addressed the extent to which teaching experience impacted teachers' attitude and adaptation to the growing presence of AI. The findings indicated that teachers' career stage played a fundamental role in shaping how AI was perceived and used, although attitudes did not differ uniformly across groups. Across all experience groups, respondents shared the view that students needed to learn to use AI meaningfully and responsibly. Beyond this common ground, however, opinions differed with regard to teachers' readiness to recommend AI for students' self-study, as well as their perceptions of AI-related benefits and challenges. The most experienced teachers were more inclined towards recommending AI for self-study, suggesting a higher level of confidence in evaluating when and how AI support can support learning without undermining pedagogical aims. This aligns with the interdependence principle of different knowledge types by the TPACK model, as they have developed the abilities to judge in which areas AI genuinely supports learning without undermining core aims, whereas novice teachers' lack of experience might lead to increased caution in students' engagement with AI.

At the same time, novice teachers tended to be the most optimistic about AI's benefits, especially in terms of efficiency, personalization and accessibility. This finding is in accordance with previous studies linking perceived digital competence to positive adoption (Galindo-Domínguez et al., 2024; Nyudak et al., 2025; Bibi & Shahzad, 2025). A plausible explanation for this is that novice teachers are more likely to have grown up with digital technologies or to have received training in educational technology integration during their initial teacher education.

Moreover, novice teachers typically cannot rely on a broad repertoire of self-developed materials, unlike their more experienced colleagues who have accumulated resources and routines over many years. Furthermore, early-career teachers often experience high workload, time pressure, and cognitive overload due to the social skills required in teaching (e.g., classroom management, parent meetings, administrative tasks). AI's perceived efficiency may thus be especially attractive as a means of managing lesson-planning demands, thereby reducing cognitive and emotional workload. This pragmatic motivation may explain why teachers in earlier career stages are more inclined to draw

on AI-generated materials, perceiving AI as a supportive resource rather than a disruptive factor.

By contrast, mid-career teachers voiced the strongest concerns about cheating, over-reliance, and the disappearance of human aspects of language education. These concerns closely align with priorities outlined in the DigCompEdu and the OECD's frameworks, which emphasize the importance of human mediation and pedagogical responsibility in technology-enhanced learning. One factor for this skepticism may be that AI disrupts well-established routines and assessment practices without yet guaranteeing reliable quality or offering official guidelines and consistent support. Unlike novice teachers, they may not experience an immediate need for AI-generated materials, while unlike highly experienced teachers, they may not yet feel secure enough professionally to absorb the risks associated with experimentation.

According to the TPACK model, adopting a new type of technological knowledge can increase cognitive load for those whose content knowledge/pedagogical content knowledge approaches are already optimized, making risks appear more salient than benefits, particularly in the early stages of adoption.

5.4. Limitations and suggestions for future research

Several limitations of the study should be acknowledged when interpreting the findings. First, the study is based on a non-random, voluntary sample of Austrian English teachers, which may have resulted in self-selection bias and therefore limits the generalizability of the results. Future studies are encouraged to address this limitation by employing larger, more representative samples or applying stratified sampling in specific school types. Second, as the data rely primarily on self-reported perceptions gathered through questionnaires and semi-structured interviews, the findings reflect teachers' beliefs rather than their actual classroom practices. Future research could therefore investigate how specific AI tools impact students' learning outcomes and how teachers' and students' stance evolve over the time of the intervention. Third, given the rapidly evolving nature of AI technologies, this study captures teachers' perceptions at a specific point in time. In this regard, longitudinal research would be particularly valuable to examine how attitudes, competencies, and classroom practices develop

as institutional guidelines, teacher training, and AI tools continue to change. Future research could benefit from providing education for teachers on the effective use of AI for young learners, as education is crucial and we cannot expect teachers to navigate these challenges on their own. It would also be valuable to track how their skills and use of AI develop over time.

6. Conclusion

This study set out to explore how Austrian secondary school teachers perceived and navigated the growing presence of AI in ELT, and how those perceptions varied across different school types (AHS, BHS, Middle school) and at different career stages. The findings suggest that English teachers are not simply for or against AI but they are rather negotiating its presence in relation to thematic content, task format, learner needs and the institutional context in which they work. Consequently, teachers' beliefs emerged not as fixed positions but as stances shaped by everyday practice, across interactions with students, colleagues, institutional conditions (e.g. in terms of assessment), and teachers' digital knowledge in a rapidly evolving technological environment. This perspective helps to explain the tensions that surfaced through the study and underlines why context plays a crucial role in meaningful AI integration in language classrooms.

The results show that the majority of teachers already integrate AI into their teaching practice, particularly for preparation purposes, while remaining cautious about assessment and AI-enhanced self-study in learners' early proficiency levels. In that regard, teachers stressed their need for AI-specific workshops and guidelines as well as a support system for efficient and safe AI implementation. While positive aspects of AI implementation were found in terms of efficiency in preparation, material differentiation and enhancement, concerns mainly concentrated on academic dishonesty and students' over-reliance. Simultaneously, there was strong agreement among teachers that students should learn how to use AI meaningfully and critically, which paves new ways for guided implementation of AI rather than strict prohibition.

The current policies around AI implementation in education reflect the balance of opportunities and risks, with national recommendations and strategy documents acknowledging AI's potential but still providing little support for concrete classroom practice.

The findings of this study also underscore that official guidelines need to take into account the existing differences among school types. In other words, differences that exist on the level of learner needs, task format, language level and high-stakes exams such as the Matura need to be taken into account. These contextual nuances show why AI integration cannot be prescribed across school forms and thus point towards the need for differentiated workshops and guidelines. Such guidelines should clearly distinguish between AI use for lesson preparation, guided classroom activities, and independent student use, and specify how these domains may be framed differently depending on school type and maturity of the learners.

Moreover, the results of this study indicated that teachers' professional experience also informed their perceptions. Novice teachers were generally optimistic about efficiency and personalization, mainly due to their familiarity with digital tools and a smaller repertoire of ready-made materials. More experienced colleagues have grown to be more confident in judging where AI does and does not add value. The strongest concerns were voiced by mid-career teachers in relation to cheating, over-reliance and the erosion of human aspects of language education. It is an understandable reaction that teachers who established well-working routines were more likely to consider rapidly evolving tools as a potential threat to their everyday teaching and assessment practices. Besides, adopting new technologies requires time and considerable effort unless comprehensive support is provided.

Ultimately, the findings hold several implications for classroom practice. First, AI literacy should become an integral part of ELT, not as a replacement for reading, listening, writing and speaking, but as a tool that holds a myriad of advantages to support teachers and learners alike, e.g., through personalized reading passages, scaffolded listening tasks, assisted writing and speaking practice.

Second, assessment needs to keep pace with the rapidly evolving landscape of AI technologies, which might consist of moving emphasis toward in-class production, oral tasks and process-focused portfolio work to protect the integrity of evaluation while fostering language competence and critical thinking. Third, the second language teaching profession needs specific AI training as an integral part of teacher education that consists of concrete examples for AI use as well as an extended and updated offer in subject-related workshops. Simultaneously, teachers voiced demand for more

specific curricular guidance, particularly in terms of data privacy and assessment, implying a willingness to adapt AI provided that an official “safety net” ensures purposeful and secure use rather than banning it. Regardless of the technological developments the future holds, it is crucial to focus on the joyful and enriching qualities of language education teachers and learners can experience in collaboration.

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8. Appendix

8.1. Online questionnaire

This questionnaire was developed for the purpose of a Master thesis project at the University of Vienna investigating the role of artificial intelligence (AI) in English language teaching. All the information you provide in this questionnaire will be kept strictly confidential.

General information

1. How many years of experience do you have as an English L2 instructor?

0-2 2-5 5-10 ☐ 10 > ☐

2. Which levels have you taught?

lower secondary ☐ upper secondary ☐ all levels ☐

3. What levels are you currently teaching?

4. What is your age?

5. What is your gender?

male ☐ female ☐ non-binary ☐ choose not to respond ☐

PART 1: AI use and awareness

Please answer the following questions about your familiarity with and the use of AI tools in your teaching.

1. Have you used AI tools (e.g. ChatGPT) for teaching purposes?

yes ☐ no ☐

2. How would you rate your familiarity with ChatGPT on a scale from 0 to 10? Note that 0 is completely unfamiliar and 10 is extremely familiar.

3. Which AI tool(s) do you use? e.g. ChatGPT, Grammarly, Canva, Quizizz (more answers possible)

4. Have you ever advised students to use AI tools for self-study?

yes ☐ no ☐

PART 2: The impact of AI on language learning skills

ChatGPT claims it can be used to create the following language learning resources.

Please indicate how likely you are to use it for specific teaching tasks?

1 – very unlikely, 2- somewhat unlikely, 3 – neutral, 4- somewhat likely, 5 – very likely

	1 –very unlikely	2- somewhat unlikely	3- neutral	4- somewhat likely	5- very likely
1. Vocabulary: Generate flashcards with vocabulary words and their definitions, translations or synonym.					
2. Grammar: Generate worksheets with grammar rules, examples, and exercises.					
3. Writing: Generate templates for different types of writing, such as an essay, a letter, or a report.					
4. Reading: Generate reading passages or texts on different topics and levels of difficulty.					
5. Speaking: Generate scripts for role-playing activities.					
6. Quizzes and tests: Generate quizzes and tests on different language skills, such as vocabulary, grammar, reading comprehension, and listening.					
7. Games: Generate language learning games such as crossword puzzles, word searches, and hangman games.					

PART 3: The impact of AI on language learning

AI tools potentially impact the way students learn and process language. To what extent do you agree or disagree with the following statements?

1 – strongly disagree, 2- disagree, 3 – neutral, 4 – agree, 5 – strongly agree

	1 – strongly disagree	2- disagree	3- neutral	4- agree	5 – strongly agree
8. AI tools can make teaching more efficient and effective (e.g. lesson preparation, assessment).					
9. The use of AI tools will lead to more personalized language learning.					
10. The use of AI tools will lead to more self-directed language learning.					
11. The use of AI tools will lead to reduced dependence on human teachers for certain aspects of language instruction.					
12. The use of AI tools will lead to an improvement in the accessibility of language education.					
13. AI tools have the potential to enrich traditional teaching materials (coursebook).					

PART 4 : Challenges and ethical concerns of AI use in English language education

Please indicate how much you agree with the following statements about potential challenges and concerns related to AI use in English language education.

1 – strongly disagree, 2- disagree, 3 – neutral, 4 – agree, 5 – strongly agree

	1- Strongly disagree	2 – disagree	3 – neutral	4 – agree	5 – strongly agree
14. The use of AI tools will lead to an increase in cheating and academic dishonesty.					
15. The use of AI tools will lead to a decrease in the cultural and human aspects of language education.					
16. The use of AI tools will lead to students becoming too reliant on it and not developing their own language skills and critical thinking abilities.					
17. Students should learn how to work with and learn from AI in a meaningful way.					
18. Students should learn how to critically analyze AI output (e.g. texts for real-life purposes).					
19. Teachers should raise students' awareness of the pitfalls of using AI (e.g. plagiarism, faulty information).					
20. I am concerned about how AI tools handle personal information and student data.					

PART 5: AI in specific teaching contexts

The following set of questions is concerned with the use of AI in your school and teaching context. Please indicate your level of agreement with the following statements.

1 – strongly disagree, 2- disagree, 3 – neutral, 4 – agree, 5 – strongly agree

	1 – Strongly disagree	2 - disagree	3- neutral	4 – agree	5 – strongly agree
21. AI tools are suitable for use in my school context.					
22. My school provides adequate support for the integration of AI in teaching.					
23. AI tools allow for better instructional adaptation to different learner needs.					
24. The overall attitude toward AI among my colleagues is positive.					
25. The curriculum should include an official guideline on the use of AI for teaching purposes					
26. Additional guidance (e.g. workshops) in using AI for teaching purposes at my school would be helpful.					

PART 5: Final reflections.

Please answer the following questions in your own words. Your responses will help deepen the understanding of teachers' perspectives on AI in English language education.

1. In your opinion, what are the biggest benefits of using AI tools in English language teaching?
2. What concerns or challenges do you associate with using AI in your classroom?
3. What kind of support or training would help you use AI tools more effectively?
4. Do you have any other comments to add?

Thank you for your cooperation!

8.2. Interview

PART 1: General questions for all teachers

Personal AI use

- Can you describe a recent example of when you used AI for your English lesson preparation and/or assessment? How did it work out?
- In which skills (writing, speaking, reading, listening, grammar, vocabulary) do you see the most potential for AI to help students?

Student use of AI

- The survey showed that fewer teachers encourage students to use AI. How do you approach student use of AI for self-study? Do you have any guidelines or boundaries?

Benefits

- The survey showed “timesaving” as the most mentioned benefit. Would you agree? Are there other benefits you find more important?

Concerns

- Teachers across all school types mentioned concerns about over-reliance on AI and loss of critical thinking. How do you see this risk in your own classroom? How do you try to mitigate these risks with your students?

Support & training

- The majority of survey participants wanted workshops or official guidelines. What kind of training or resources would be most useful for you?

PART 2: School type specific questions

AHS teachers

- The data showed that AHS teachers are more concerned about academic dishonesty than other groups. Have you experienced AI-related cheating? How have you dealt with it?
- How do you see AI fitting into the AHS focus on academic and Matura preparation?

BHS teachers

- The survey indicated BHS teachers feel AI fits their school context particularly well. What makes AI a helpful tool for your vocational teaching environment?
- How do you see AI helping students with career-specific language needs (e.g., business English, technical terminology)?
- BHS teachers scored highest on “AI tools enrich coursebook materials.” Can you share examples of how you adapt materials with AI?

Middle school teachers

- Survey results suggest that middle school teachers are less familiar with using AI for teaching. Where do you see the most challenges and benefits of AI use in your teaching environment specifically?
- Are there specific AI tools or features you feel are particularly suited, unsuited—to middle school learners?