Students' Views on the Use of Artificial Intelligence in Language for Specific Purposes (LSP) Courses

Tilen Smajla
Faculty of Criminal Justice and Security, Faculty of Tourism, University of Maribor, Slovenia, *tilen.smajla@um.si*

Eva Podovšovnik
Faculty of Tourism Studies -Turistica, Portorož, University of Primorska, Slovenia, *eva.podovsovnik@fts.upr.si*

 The study examines how Slovenian students perceive the application of AI tools in Language for Specific Purposes (LSP) courses. It focuses on determining whether the respondents' age, gender, and university of enrolment influence their use of AI tools in their LSP course, and whether the respondents' age, gender, and university enrolment impact their perception of their LSP teachers' influence on learning using AI tools. Conducted across four major Slovenian universities, the research involved 239 students and utilised an anonymous online survey. Findings reveal that students frequently utilize AI tools such as ChatGPT, Grammarly, and AI Writer to prepare assignments, enhance writing quality, and acquire new information. However, concerns about over-reliance, reduced critical thinking, and data accuracy continue. Gender differences were observed, with male students using AI tools more often for peer communication and assessment preparation. Teachers' attitudes varied across institutions, with some encouraging the use of AI for learning and others warning about potential ethical risks. The study highlights the need for structured guidelines on AI integration in language learning curricula, enhanced teacher training, and the promotion of balanced AI use alongside developing critical thinking skills. It also stresses the importance of fostering ethical awareness among students.

Keywords: artificial intelligence, foreign languages, views, language for specific purposes, learning and teaching, university students

INTRODUCTION

In recent years, higher education institutions (HEIs) have experienced a significant shift toward digitalization, a trend that has transformed the education landscape (Alenezi, 2023). This digital transformation covers a wide range of changes, from adopting online learning platforms to integrating advanced data analysis tools (Shard, Kumar, & Koul, 2024). Artificial intelligence (AI) is central to this transformation, an innovative force

reshaping educational practices. In daily life, we are surrounded by AI, with smartphones in our pockets, smart alarm clocks on our nightstands, and devices that clean our homes. The rise of AI is expanding and playing a crucial role across various fields to solve complex problems (Jindal, Kumar, Ishika, Santosh, & Kumar, 2021). The use of AI in education is therefore not surprising, given its many potential benefits such as innovation in teaching and learning, personalized education tailored to each student's needs and abilities (Wang et al., 2024), more efficient administrative tasks, greater access to educational resources, and increased engagement (Suryanarayana et al., 2024). AI is a branch of computer science dedicated to creating systems capable of performing tasks that typically require human intelligence (Korteling et al., 2021). As we navigate through this era of digital revolution, AI literacy becomes a critical component, especially in education (Roll & Wylie, 2016). Artificial intelligence (AI) is revolutionizing education by profoundly impacting various aspects of the learning ecosystem and transforming traditional teaching and learning paradigms. AI refers to the development of computer systems or machines that can perform tasks typically requiring human intelligence (Alkatheiri, 2022). These tasks include problem-solving, learning from experience, understanding natural language, recognizing patterns, and making decisions. AI holds the potential to revolutionize multiple aspects of our lives and industries. It also has a rich and multifaceted history, going back several decades (Shao et al., 2022). Officially, AI began in 1956 during a summer workshop organised by four American researchers: John McCarthy, Marvin Minsky, Nathaniel Rochester, and Claude Shannon at Dartmouth College in New Hampshire, United States (McCarthy, Minsky, Rochester, & Shannon, 2006). The term "artificial intelligence," probably first coined to make a striking impact, has become so popular that everyone has heard of it today. Over the years, developing tools to help learners became easier in the 1970s and 1980s when computers became available to more people (Dimulescu & Nechifor, 2022). This application of computer science has continued to expand, and the technologies it has spawned have significantly changed the world over the past 60 years. Since AI continues to permeate various aspects of life, the role of educators in shaping the next generation's understanding (Miller, 2023) and use of AI is becoming paramount (Akbar et al., 2024). AI technologies have entered various domains, including education, offering new possibilities for learning foreign languages. Modern AI tools like ChatGPT, Grammarly, and AI Writer are increasingly used to aid students in mastering foreign languages by enhancing their writing skills, correcting grammatical errors, and improving the overall learning experience (Almashy et al., 2024).

Recent studies in the field, such as Benek (2025), show positive learner attitudes toward personalization in AI-powered language tools, but uncover persistent instructor concerns about ethical and technological integration (Benek, 2025). Further, Ahmed et al. (2025) highlight the necessity of safety and privacy standards for AI tools, underscoring the broader educational need for critical synthesis beyond mere description (Ahmed et al., 2025; Kemouss & Khaldi, 2025). Expanding on these, Elgohary & Al-Dossary (2022) underscore the transformative impact of AI-infused virtual environments in developing teaching skills (Elgohary & Al-Dossary, 2022).

Our study focuses on understanding Slovenian students' perceptions of AI tools in foreign language education, specifically for learning foreign languages for specific

purposes (LSP). The rapid advancement of AI technologies has revolutionised numerous aspects of our day-to-day lives (Al-Shaboul, Al Rousan, Kalsoom, & Awawdeh, 2024), and education is no exception (Rashid and Kausik, 2024). In foreign language learning, AI tools have emerged as powerful allies (Setyaningsih et al. 2024), offering personalised learning experiences, immediate feedback, and adaptive content delivery (Oyebola Olusola Ayeni et al., 2024). These tools leverage natural language processing (NLP) and machine learning algorithms to analyse and understand human language, providing learners with tailored assistance on their language acquisition journey. The integration of AI in language learning has been particularly impactful in Languages for Specific Purposes (LSP). That has increased steadily in the past two decades (Fleischhauer & Friedrich, 2024), especially since the release of ChatGPT at the end of November 2022 (Huang et al., 2023). LSP focuses on teaching language skills tailored to specific professional or academic contexts, such as business English, medical Spanish, or legal French. AI tools have the potential to significantly enhance LSP learning by providing domain-specific vocabulary, contextual usage examples, and specialised grammar rules that are crucial for effective communication in these specialist fields (Nazari, 2020). In Slovenia, a country known for its multilingual population and emphasis on foreign language education, adopting AI tools in language learning brings opportunities and challenges (Zong & Yang, 2025).

Slovenian students, who often need to master multiple languages for their academic and professional pursuits, are increasingly using AI-powered language learning tools to supplement their traditional language education. However, these tools' effectiveness and impact on the learning process remain subjects of ongoing research and debate. This study aims to bridge the gap in understanding how Slovenian students perceive and utilise AI tools on their LSP learning journey. By examining students' views, usage patterns, and perceived benefits and drawbacks of AI-assisted language learning, we seek to provide valuable insights for educators, policymakers, and educational technology developers. The findings will add to the growing knowledge on integrating AI into education and help shape future strategies for improving language learning outcomes in Slovenia and beyond. The relevance of this research is underscored by the growing importance of LSP in today's globalized world. As international collaborations and cross-border communications become increasingly common in various professional fields, effectively communicating in a foreign language within specific contexts has become crucial for many students and professionals. Therefore, understanding how AI tools can support and enhance LSP learning is paramount while preparing students for future careers in an interconnected global marketplace. Moreover, this study addresses the need for context-specific research in AI-assisted language learning. While numerous studies have explored the use of AI in general language learning contexts (Huang et al., 2023), a dearth of research focused specifically on LSP and the unique educational landscape of Slovenia.

Purpose and Significance of the Study

This study aims to understand Slovenian students' attitudes to using AI in learning and teaching foreign languages. It explores how these attitudes vary based on the level and field of study and assesses students' perceptions of their teachers' reactions to AI use in

language learning. This research is vital for understanding how AI can be effectively integrated into foreign language education, highlighting the potential benefits and challenges.

Research questions

The following research questions were formulated on order to obtain the planned goals of the research: Do the respondents' age, gender, and university of enrolment influence their use of AI tools in their LSP course, and do the respondents' age, gender, and university enrolment impact their perception of their LSP teachers' influence on learning using AI tools?

Literature Review

The literature review discusses relevant studies that have explored AI in language learning, considering recent developments and insights in this rapidly evolving field.

AI in Foreign Language Learning

Recent studies looked at the potential of AI to enhance foreign language learning via automated feedback, adaptive learning platforms, and AI-driven writing assistance tools. Alharbi (2023) provides a comprehensive overview of automated writing assistance tools in foreign language classrooms, emphasising their pedagogical implications. Automated writing evaluation systems have shown promise in improving students' writing skills by providing instant, personalised feedback (Khan et al., 2024).

Fleckenstein et al. (2023) found that AI-driven automated writing evaluation systems provide timely feedback on students' learning progress, leading to improved writing skills. This real-time feedback capability is particularly valuable in language learning contexts where immediate correction and guidance can significantly enhance learning.

Integrating Natural Language Processing (NLP) into intelligent tutoring systems has improved the quality of feedback, making it more personalised and suitable for learners (Troussas et al., 2023). This advancement allows for more nuanced and context-aware language instruction, addressing individual learner needs more effectively.

Students' Perceptions and Attitudes toward AI

Previous research has revealed varied perceptions and attitudes to AI in language education. Some studies suggest that students view AI tools as valuable for enhancing learning efficiency and providing new ways to practise language skills (Moulieswaran & Kumar, 2023). Still, there are concerns about over-reliance on these tools and the potential loss of critical thinking and creativity (Abdalgane & Othman, 2023).

A recent study by Vo and Nguyen (2024) on English-major students' perceptions of ChatGPT in language learning revealed that most students view AI positively. They appreciate its ability to enhance their understanding of English materials, increase motivation, and provide real-time feedback. Many students stressed that AI tools offered interactive and flexible learning opportunities, although they did not see AI replacing conventional teaching.

Teachers' Reactions to AI in Language Education

Educators have responded to AI tools in language education with mixed feelings. While some embrace these technologies for their potential to support learning, others express concerns with ethical issues such as plagiarism and data privacy (Rahardyan et al., 2024). Research also suggests that the effectiveness of AI tools relies considerably on teachers' attitudes and willingness to integrate them into their pedagogy (Hodnik et al., 2024).

Ethical Considerations and Challenges

Azzam and Charles (2024) emphasise the importance of establishing ethical guidelines and fostering ethical awareness among students to navigate the complexities of AI use responsibly. They stress the need for transparency and accountability in AI technologies, particularly in assessments and decision-making processes.

Future Directions

As AI continues to evolve, research by Kim and Lee (2024) and Jang et al. (2022) reveals the importance of experiential learning in shaping students' attitudes to AI. Their findings suggest that hands-on experiences with AI can positively influence students' perceptions, adding to their confidence in using AI tools and their understanding of the technology's relevance to their future endeavours.

Peng and Wan (2024) emphasize the significance of students' perceptions in determining the success of AI integration, highlighting that positive perceptions can lead to increased acceptance and engagement with AI technologies. This highlights the need for ongoing research into students' attitudes and experiences with AI in language learning contexts.

In conclusion, the literature reveals a complex landscape of AI integration in language education, with promising advancements and considerable challenges. As AI technologies continue to develop, ongoing research and careful consideration of ethical implications will be crucial for creating effective and responsible AI-enhanced language learning environments.

METHOD

The methodology section details the research design, research hypotheses, participants, data collection methods, sample description, and the data analysis approach.

This study used a survey design to explore how the Slovenian students view AI use in foreign language learning, and their perception of professional language teachers' influence on learning using AI tools. To this end, an anonymous online survey was distributed via the 1KA web application. The survey included 15 questions: 13 closed-ended questions and two open-ended questions for additional reflections.

Following the literature review presented above, the following research hypotheses were formulated:

Hypothesis 1. Respondents' age, gender, and university enrolment influence their use of AI tools for educational purposes.

Hypothesis 2. Respondents' age, gender, and university of enrolment impact their perception of professional language teachers' influence on learning using AI tools.

Participants

The participants included students from various faculties at four state universities in Slovenia: the University of Ljubljana, University of Maribor, University of Nova Gorica, and University of Primorska. The study concentrated on college, university, and master's degree students. Students attending a foreign language course in the 2023/2024 academic year were selected for the study. The sample was gathered by applying the snowball method through an email sent to LSP teachers at non-philological study programmes. This was done to ensure that the participants would not have acquired native-like English language competencies, because teaching students with native-like English language skills English or students with native German language skills German would be futile. Therefore, the study would miss its goals. Further, the reliance on only closed-end survey data is a limitation. Studies by Dertli & Yildiz (2025) illustrate how closed and open responses provide richer insights into user interactions with AI tools (Dertli & Yildiz, 2025). The participant selection rationale aligns with the requirement to match user background and expertise diversity, reflecting best practices in contemporary research designs (Benek, 2025).

Data Collection

Students received an invitation to participate in the online survey during their LSP course. Their foreign language teacher introduced the invitation. The online survey was available to students between March and April 2024. At the end of this period, 239 valid answers had been collected.

The sample includes 239 valid answers from respondents: 19.7% of them did not report their gender and were excluded from further statistical analysis; 64.6% of them were female, 34.9% were male, and 0.5% were non-binary. Further, 43.5% of respondents were enrolled at the University of Primorska, 27.6% at the University of Ljubljana, and 25.5% at the University of Maribor. In comparison, 1.7% were enrolled at the University of Nova Gorica, and 1.7% at other universities. They were excluded from further statistical analysis. The respondents' mean age was 24 years, with a standard deviation 6.8. Their median age was 21 years. The majority of respondents were aged 20 years. The age range of respondents was from 17 to 58 years. The sample includes 239 valid answers from respondents:

Data Analysis

The collected data were analysed using descriptive statistics to determine students' attitudes, usage patterns, and perceptions of AI tools in foreign language learning. The Mann-Whitney U-test, Kruskal-Wallis test, and Spearman's correlational coefficient were used to test the research hypotheses. The two open-ended questions in the instrument were analysed in a narrative form.

FINDINGS

This section presents the findings of the survey.

Use of AI Tools according to Their Purpose

Using a 5-point ordinal scale (1 meaning never, 5 meaning always), respondents were asked to evaluate the frequency of their use of AI tools for different purposes:

- Communication with my lecturers or on other formal occasions
- Communication with my peers (fellow students)
- Homework and various seminar papers
- Preparing written documents for assessment
- Correcting or improving my written assignments
- Learning new facts
- Comparative analysis of references
- Preparing my bachelor's thesis, master's thesis, and doctoral dissertation

Descriptive statistics are presented in the table below.

Table 1
Descriptive statistics concerning the use of AI tools by purpose

		Communication with my lecturers or on other formal occasions	Communication with my peers (fellow students)	Homework and various seminar papers	Preparing written documents for assessment	Correcting or embellishing my written assignments	Learning new facts	Comparative analysis of references	Preparing my bachelor's thesis, master's thesis, or doctoral dissertation
N	Valid	158	158	159	145	146	147	145	146
	Missing	81	81	80	94	93	92	94	93
Mean		1,89	1.62	2.73	2.52	2.62	2.58	2.15	1.95
Median		2,00	1.00	3.00	3.00	3.00	2.00	2.00	1.50
Mode		1	1	3	3	3	2	1	1
Std. Deviation		1,009	.955	1.029	1.087	1.116	1.152	1.076	1.143
Skewness		,984	1.450	-.036	.268	.141	.256	.643	.979
Kurtosis		,340	1.334	-.585	-.553	-.678	-.846	-.307	-.016
Minimum		1	1	1	1	1	1	1	1
Maximum		5	5	5	5	5	5	5	5

As one can see in Table 1, on average, respondents rarely use AI tools to communicate with lecturers or on other formal occasions, communicate with peers (fellow students), for comparative analysis of references, and for correcting a bachelor's thesis, master's thesis, or doctoral dissertation (with scores ranging from 1.62 to 2.15). Respondents often use, on average, AI tools to prepare homework and various seminar papers, prepare written documents for assessment, correct or embellish their written assignments, and learn new facts (with scores ranging from 2.52 to 2.73).

In the following (Table 2), gender differences were tested using the Mann-Whitney U test, corrected with Monte Carlo bootstrapping.

Table 2
Differences in the use of AI tools by purpose and by the gender of respondents

			Communication with my lecturers or on other formal occasions	Communication with my peers (fellow students)	Homework and various seminar papers	Preparing written documents for assessment	Correcting or embellishing my written assignments	Learning new facts	Comparative analysis of references	Preparing my bachelor's thesis, master's thesis, or doctoral dissertation
Mann-Whitney U			2642.000	2132.500	2493.000	1910.500	2124.000	2183.000	1903.500	2052.500
Wilcoxon W			7592.000	7082.500	7443.000	6281.500	6495.000	6554.000	6181.500	6423.500
Z			-.891	-3.135	-1.603	-1.998	-1.257	-1.182	-2.121	-1.623
Asymp. Sig. (2-tailed)			.373	.002	.109	.046	.209	.237	.034	.105
Monte Carlo Sig. (2-tailed)	Sig.		.380[b]	.002[b]	.107[b]	.045[b]	.209[b]	.248[b]	.031[b]	.108[b]
	99% Confidence Interval	Lower Bound	.368	.001	.099	.039	.199	.236	.027	.100
		Upper Bound	.393	.003	.115	.050	.220	.259	.036	.115

a. Grouping Variable: Gender
b. Based on 10,000 sampled tables with starting seed 1314643744.

The Mann-Whitney test shows statistically significant differences (at the 0.05 level) in some aspects of using AI for learning about the respondents' gender. More often than female respondents, male respondents use AI tools to communicate with their peers, prepare written documents for assessments, and perform comparative analyses of references.

Table 3 presents the differences among various Slovenian universities regarding the purposes of using AI tools. To test the research hypothesis, the Kruskal-Wallis test was used, corrected with Monte Carlo bootstrapping.

Table 3
Differences in the use of AI tools by purpose and by university.

			Communication with my lecturers or on other formal occasions	Communication with my peers (fellow students)	Homework and various seminar papers	Preparing written documents for assessment	Correcting or embellishing my written assignments	Learning new facts	Comparative analysis of references	Preparing my bachelor's thesis, master's thesis, or doctoral dissertation
Kruskal-Wallis H			6.623	2.398	5.613	2.753	4.952	8.643	10.867	8.090
df			2	2	2	2	2	2	2	2
Asymp. Sig.			.036	.301	.060	.252	.084	.013	.004	.018
Monte Carlo Sig.	Sig.		.035[c]	.300[c]	.057[c]	.257[c]	.083[c]	.012[c]	.005[c]	.014[c]
	99% Confidence Interval	Lower Bound	.030	.288	.051	.246	.076	.009	.003	.011
		Upper Bound	.040	.312	.063	.268	.090	.015	.006	.017

a. Kruskal-Wallis Test
b. Grouping Variable: You are currently enrolled in the following university:
c. Based on 10,000 sampled tables with starting seed 562334227.

The Kruskal-Wallis test reveals significantly varying views about using AI tools according to their purpose from respondents from different Slovenian universities. Respondents from the University of Maribor use AI tools more often than respondents

from the University of Ljubljana and the University of Primorska to communicate with lecturers or for formal communication, learn new facts, for comparative analysis of references, and for preparing their bachelor's, master's, or doctoral dissertations. The significant inter-university variation observed echoes recent calls for harmonized institutional policies and AI literacy curricula, which should be formulated in collaboration with faculty and learners. Research highlights that standardizing best practices can help bridge institutional divides in AI adoption, supporting technical and ethical competencies.

Below (see Table 4), differences in the use of AI tools by purpose are presented in relation to the age of respondents. The differences were tested using Spearman's correlation coefficient and corrected for multiple comparisons using Monte Carlo bootstrapping.

Table 4
Differences in the use of AI tools by purpose are shown with regard to the age of respondents

				Age
Spearman's rho	Communication with my peers (fellow students)	Correlation Coefficient		.052
		Sig. (2-tailed)		.538
		N		143
		Bootstrap	Bias	.003
			Std. Error	.086
			95% Confidence Interval	Lower	-.114
				Upper	.227
	Homework and various seminar papers	Correlation Coefficient		-.122
		Sig. (2-tailed)		.146
		N		143
		Bootstrap	Bias	.005
			Std. Error	.085
			95% Confidence Interval	Lower	-.285
				Upper	.052
	Preparing written documents for assessment	Correlation Coefficient		-.024
		Sig. (2-tailed)		.780
		N		143
		Bootstrap	Bias	.001
			Std. Error	.085
			95% Confidence Interval	Lower	-.201
				Upper	.144
	Correcting or embellishing my written assignments	Correlation Coefficient		.063
		Sig. (2-tailed)		.456
		N		143
		Bootstrap	Bias	.002
			Std. Error	.084
			95% Confidence Interval	Lower	-.100
				Upper	.239
	Learning new facts	Correlation Coefficient		-.028
		Sig. (2-tailed)		.738
		N		143
		Bootstrap	Bias	.000
			Std. Error	.085
			95% Confidence Interval	Lower	-.195
				Upper	.144
	Comparative analysis of references	Correlation Coefficient		-.063
		Sig. (2-tailed)		.456
		N		143
		Bootstrap	Bias	.001

			Std. Error		.085
			95% Confidence Interval	Lower	-.224
				Upper	.108
Preparing my bachelor's thesis, master's thesis, or doctoral dissertation	Correlation Coefficient				.115
	Sig. (2-tailed)				.172
	N				143
	Bootstrap	Bias			-.003
		Std. Error			.082
		95% Confidence Interval		Lower	-.049
				Upper	.278

Using bootstrapping to test the differences in using AI tools for various purposes by respondents' age, as measured by Spearman's correlational coefficients, did not reveal any statistically significant differences at the 0.05 level. Nevertheless, experiential and project-based learning design advancements point to increased benefits for all age groups as students become exposed to hands-on AI applications over time. Embedding real-world, scenario-based AI use within LSP courses will likely accelerate proficiency gains irrespective of age.

Teachers' Influence on AI Use

In this part of the paper, we are interested in teachers' influence on using AI tools. Respondents were asked to evaluate on a 5-point scale (1-never and five 5-always) if any of their foreign language teachers had done any of the following:

•   encouraged AI users to compare AI text with their own text;

•   encouraged AI use to write homework or other written assignments;

•   encouraged AI USE to learn more about written compositions;

•   warned about the risk of cheating;

•   warned about plagiarism;

•   encouraged the citing of the AI tool as a reference in your written assignments; or

•   warned about the high risk of untrue statements.

Table 5 presents the results of the descriptive statistics of teachers' influence on the use of AI tools.

Table 5

Descriptive statistics concerning teachers' influence on the use of AI tools

	Encouraged AI use to compare AI text with your own text	Encouraged AI to write your homework or other written assignments	Encouraged AI USE to learn more about written composition	Warned about the risk of cheating	Warned about plagiarism	Encouraged to cite the AI tool as a reference in your written assignments	Warned about the high risk of untrue statements
N Valid	133	132	132	132	132	131	133
Missing	106	107	107	107	107	108	106
Mean	2.04	1.94	1.93	3.31	3.30	2.40	3.16
Median	2.00	2.00	2.00	3.00	3.00	2.00	3.00
Mode	1	1	1a	3	5	2	3
Std. Deviation	1.083	.979	.959	1.297	1.391	1.251	1.284
Skewness	.942	.867	.982	-.257	-.268	.675	-.126
Kurtosis	.310	.000	.602	-.961	-1.121	-.430	-.987
Minimum	1	1	1	1	1	1	1
Maximum	5	5	5	5	5	5	5

a. Multiple modes exist. The smallest value is shown

On average (average referring to scores from 3.16 to 3.31), respondents agree that foreign language teachers had often warned them about the risk of cheating, plagiarism, and the high risk of untrue statements while using AI tools. On average (scores ranging from 1.93 to 2.4), respondents assessed that their foreign language teachers had rarely encouraged AI use to compare AI text with their own text, encouraged AI use to write their homework or other written assignments, encouraged AI use to learn more on written composition, and encouraged them to cite the AI tool as a reference in their written assignments. Recent pedagogical frameworks advocate that teacher attitudes toward AI—and their explicit encouragement or caution—play a decisive role in shaping responsible tool use. Future-oriented professional development should empower educators with scenario-based AI ethics training and mechanisms for transparent AI integration into learning workflows.

In the following (Table 6), gender differences were tested using the Mann-Whitney U test, corrected by employing Monte Carlo bootstrapping.

Table 6

Differences in teachers' influence to use AI tools by gender of respondents

			Encouraged AI use to compare AI text with your own text	Encouraged AI to write your homework or other written assignments	Encouraged AI USE to learn more about written composition	Warned about the risk of cheating	Warned about plagiarism	Encouraged to cite the AI tool as a reference in your written assignments	Warned about the high risk of untrue statements
Mann-Whitney U			1857.000	1820.500	2016.000	1756.000	1583.500	1885.500	1792.000
Wilcoxon W			5260.000	5141.500	3291.000	3031.000	2858.500	3160.500	3067.000
Z			-.954	-1.029	-.045	-1.308	-2.147	-.567	-1.241
Asymp. Sig. (2-tailed)			.340	.304	.964	.191	.032	.571	.215
Monte Sig.			.339b	.309b	.965b	.198b	.032b	.574b	.215b
Carlo Sig. (2-tailed)	99% Confidence Interval	Lower Bound	.327	.297	.960	.188	.027	.561	.205
		Upper Bound	.352	.321	.969	.208	.037	.586	.226

a. Grouping Variable: Gender
b. Based on 10000 sampled tables with starting seed 303130861.

As shown in Table 6, only in the case of teachers warning students about plagiarism were statistically significant differences confirmed at the 0.05 level. We may thus assume the female respondents reported a higher rank (and as such, the perception of more frequent warnings about plagiarism) than the male respondents.

Table 7 presents differences among different Slovenian universities regarding teachers' influence on the use of AI tools. The Kruskal-Wallis test was used to test the research hypothesis, and it was corrected by applying Monte Carlo bootstrapping.

Table 7
Differences in teachers' influence on the use of AI tools by university

			Encouraged AI use to compare AI text with their own text	Encouraged AI to write your homework or other written assignments	Encouraged AI USE to learn more about written composition	Warned about the risk of cheating	Warned about plagiarism	Encouraged to cite the AI tool as a reference in your written assignments	Warned about the high risk of untrue statements
Kruskal-Wallis H			5.032	5.559	7.264	4.331	6.943	.218	3.909
df			2	2	2	2	2	2	2
Asymp. Sig.			.081	.062	.026	.115	.031	.897	.142
MonteSig.			.083c	.060c	.026c	.116c	.032c	.897c	.144c
Carlo Sig.	99% Confidence Interval	Lower Bound	.076	.054	.021	.108	.028	.889	.135
		Upper Bound	.090	.066	.030	.124	.037	.905	.153

a. Kruskal-Wallis Test
b. Grouping Variable: You are currently enrolled in the following university:
c. Based on 10,000 sampled tables with starting seed 2048628469.

Table 7 shows that only teachers' encouragement to use AI to learn more about written composition, and warnings about plagiarism were perceived differently by respondents from different Slovenian universities. Respondents from the University of Maribor answered that teachers encourage them more often than respondents from the University of Ljubljana and those from the University of Primorska to use AI to learn more about written composition. Respondents from the University of Primorska indicated that teachers had warned them more often about plagiarism while using AI than respondents from the University of Ljubljana and those from the University of Maribor. Differences in teacher influence across universities reflect the importance of context-specific faculty development and institutional support systems. Cutting-edge research recommends the formation of cross-university task forces involved in co-designing AI integration standards, peer mentoring networks, and shared resource repositories.

The following (see Table 8) presents differences in teachers' influence on the use of AI tools by the age of the respondents. The differences were assessed using Spearman's correlational coefficient and corrected using Monte Carlo bootstrapping.

Table 8
Differences in teachers' influence on the use of AI tools by the age of the respondents.

				Age
Spearman's rho	Did any of your language teachers encourage AI use to compare the AI text with your text	Correlation Coefficient		-.044
		Sig. (2-tailed)		.615
		N		131
		Bootstrap	Bias	.005
			Std. Error	.089
			95% Confidence Interval	Lower -.217
				Upper .133
	Did any of your language teachers encourage AI use to write your homework or other written assignments	Correlation Coefficient		-.004
		Sig. (2-tailed)		.964
		N		131
		Bootstrap	Bias	.001
			Std. Error	.089
			95% Confidence Interval	Lower -.175
				Upper .164
	Did any of your language teachers encourage AI use to learn more about written composition	Correlation Coefficient		-.061
		Sig. (2-tailed)		.490
		N		131
		Bootstrap	Bias	.003
			Std. Error	.094
			95% Confidence Interval	Lower -.243
				Upper .129
	Did any of your language teachers warn you about the risk of cheating	Correlation Coefficient		-.188
		Sig. (2-tailed)		.031
		N		131
		Bootstrap	Bias	-.001
			Std. Error	.086
			95% Confidence Interval	Lower -.360
				Upper -.024
	Did any of your language teachers warn about plagiarism	Correlation Coefficient		-.081
		Sig. (2-tailed)		.357
		N		131
		Bootstrap	Bias	-.001
			Std. Error	.086
			95% Confidence Interval	Lower -.254
				Upper .087
	Did any of your language teachers encourage you to cite the AI tool as a reference in your written assignments	Correlation Coefficient		-.004
		Sig. (2-tailed)		.961
		N		131
		Bootstrap	Bias	.000
			Std. Error	.090
			95% Confidence Interval	Lower -.187
				Upper .168
	Did any of your language teachers warn about the high risk of untrue statements	Correlation Coefficient		-.073
		Sig. (2-tailed)		.407
		N		131
		Bootstrap	Bias	-.003
			Std. Error	.089
			95% Confidence Interval	Lower -.251
				Upper .108

Using bootstrapping for Spearman's correlational coefficients to assess the differences in teachers' influence on using AI tools by respondents' age did not reveal any statistically significant differences at the 0.05 level.

While results clearly show the majority support for AI in LSP learning, findings should be interpreted in light of similar outcomes on engagement in special and mainstream populations (Ahmed et al., 2025; Benek, 2025). The importance of hands-on, experiential AI-guided learning is emphasized by Kemouss & Khaldi (2025), suggesting further research into personalized and inclusive applications. No significant age effects are reported. However, the move toward universal design and differentiated instruction highlights that teacher influence can be optimized through adaptive, student-centred strategies scaffolded by AI-driven analytics. Institution-wide investment in such structures can pave the way for practical, lifelong AI literacy among all learner cohorts.

The following are the results of the two open-ended questions from the instrument that sought to ascertain the respondents' opinions regarding the possible benefits and drawbacks of using AI in LSP instruction: based on the respondents' answers to the two open-ended questions, the benefits of utilizing AI tools are primarily found in increased assignment support, grammar assistance, assistance with data analysis, and high effectiveness with easily accessible resources. The respondents listed the following drawbacks: an excessive dependence on AI tools impairs critical thinking; the output of AI tools is shallow; research is cut short; academic integrity is jeopardized; originality is hampered; and accuracy is a problem due to the fear of false and fabricated data.

DISCUSSION

The findings of this study reveal a nuanced perspective on Slovenian students' attitudes to the use of AI tools in Language for Specific Purposes (LSP) courses. According to the survey, students are quickly adopting AI for activities like language learning and assignment preparation, with significant advantages including time savings and better writing quality. But it highlights enduring worries about an over-reliance on AI, a decline in critical thinking, and inconsistent data quality, which mirror discussions about the role of technology in education throughout the world. Most respondents demonstrated a positive inclination to AI tools, such as ChatGPT, Grammarly, and AI Writer, primarily for time-saving benefits and to improve the quality of their written assignments. However, concerns persist that over-reliance on AI tools reduces critical thinking and data veracity. These findings align with global trends observed in recent research on AI in education. For instance, (Alharbi 2023) emphasises the pedagogical value of automated writing assistance tools in foreign language classrooms, noting their ability to provide instant feedback and enhance writing skills. Similarly, Fleckenstein et al. (2023) study stresses how AI-driven systems improve learning outcomes through timely and personalised feedback. Nonetheless, concerns about dependency on AI tools and their potential to hinder creativity and independent thought were raised by Abdalgane and Othman (2023), which parallels the apprehensions voiced by Slovenian students in this study. The gender-based differences observed in using AI tools for specific purposes also merit attention. Male students more frequently use AI for peer interaction and preparing formal documents, suggesting deeper engagement or higher

tech comfort—though the causes, such as possible gender-related digital divides or distinct peer dynamics, warrant further research. This aligns with findings from Moulieswaran and Kumar (2023), who observed gender-based variations in attitudes to AI-assisted learning. Such disparities may be attributed to differences in digital literacy or comfort levels with technology, calling for further investigation. Teachers in Slovenian institutions frequently caution students about the dangers of artificial intelligence (AI), but they hardly ever actively encourage its strategic integration. Instructors' more frequent cautions about plagiarism were recorded by female students, indicating complex gender perspectives and maybe more careful use of AI by female cohorts. Research by Rahardyan et al. (2024) points to similar apprehensions among educators globally, emphasising the need for clear ethical guidelines and teacher training programmes to address these issues effectively. Regarding the pedagogical implications, the findings underscore the importance of integrating AI tools into LSP courses in a structured and pedagogically sound manner. While students acknowledge the benefits of AI, their concerns show the need for balanced use that complements traditional learning methods rather than replacing them. Educators should focus on fostering critical thinking skills alongside AI-assisted learning to mitigate over-reliance risks. Moreover, the study reveals significant variations in teachers' attitudes to AI across the different universities. For instance, inter-university differences are pronounced, with the University of Maribor students ranking highest in AI use across formal academic and research tasks. This variation demonstrates the effect of institutional support, resource availability, and faculty attitudes toward innovation. The ethical conundrums of algorithmic prejudice, plagiarism, data privacy, and disinformation are prevalent. The report urges faculty and administrative bodies to create cross-institutional networks for AI best practices and assistance, and it advocates for uniform policy norms and open, moral principles for AI integration. To address these disparities, educational institutions should consider developing standardised guidelines for integrating AI into language learning curricula. These guidelines should include best practices for using AI tools ethically and effectively while promoting critical thinking and creativity among students.

The ethical challenges associated with AI use in education cannot be overlooked. AI has the potential to revolutionise teaching and learning in higher education. Still, to ensure a correct application of AI, preliminary challenges in the AI-education binomial context should be addressed, such as data privacy and security, equal access to all students, and ethical considerations (Zarei et al., 2024), quality, and effectiveness (Chiu, Xia, Zhou, Chai, & Cheng, 2023).

Concerns about plagiarism, data privacy, and misinformation are prevalent among students and educators. Azzam and Charles (2024) stress the need for transparency and accountability in AI technologies to address these issues effectively. Institutions must establish clear policies on the responsible use of AI tools while fostering ethical awareness among students. At the same time, the potential for bias in AI algorithms poses another significant challenge. As Troussas et al. (2023) note, ensuring that AI systems provide equitable support to all learners is crucial for promoting inclusivity in education.

Future directions and limitations of the study

This study offers valuable insight into Slovenian students' attitudes towards artificial intelligence in language education, but also highlights essential limitations and avenues for future exploration. A key limitation is that the current research provides only a snapshot in time, focusing on attitudes rather than long-term behavioural changes or academic outcomes. Future studies should adopt longitudinal designs that follow students' development over extended periods to honestly assess the impact of AI tools on language proficiency and critical thinking. For example, Scherer et al. (2023) emphasize the importance of tracking attitudinal shifts and skill acquisition to understand the sustained effects of educational technologies.

Another limitation concerns the generalizability of the findings. The study is context-specific, examining Slovenian learners, while cultural, institutional, and curricular factors vary widely across different countries and educational systems. Future research should therefore take a comparative approach, as suggested by Lister et al. (2024), analyzing how diverse cultural and academic contexts shape students' perceptions and experiences with AI tools.

Additionally, this study pays limited attention to educators' perspectives, yet teachers play a decisive role in successfully integrating AI into language teaching. Yang (2024) highlighted that understanding teacher attitudes and identifying training needs is crucial for developing effective support systems and instructional strategies. Further research should engage with teachers directly to design professional development programs that prepare them for AI-powered instruction's ethical and practical challenges. The study admits its cross-sectional approach and recommends longitudinal research in the future to monitor academic and behavioural effects over time. Furthermore, the findings' context-specificity and absence of teacher-focused insights imply that comparative study and increased faculty involvement will be essential to changing the conversation and regulations around AI in language instruction.

Finally, building on Kim et al.'s (2025) observation that firsthand experiences with AI positively influence student attitudes, future studies should explore innovative approaches to experiential learning within LSP (Language for Specific Purposes) courses. For instance, interactive AI projects or simulations foster deeper engagement and skill development, enhancing competence and confidence in AI tools.

CONCLUSION

This study comprehensively overviews Slovenian students' attitudes regarding using AI tools in LSP courses. The findings reveal the widespread adoption of these tools for tasks like preparing written assignments and improving language skills. However, concerns with over-reliance on technology, diminished critical thinking abilities, and ethical challenges persist. Gender-based differences in tool use patterns indicate the need for targeted interventions to ensure equitable access to technology. In addition, variations in teachers' attitudes across institutions underscore the importance of standardised policies and training programmes for educators.

RECOMMENDATIONS

The findings suggest a path emphasizing structure and responsibility in integrating artificial intelligence into language learning. A first step is the development of structured guidelines that can serve as a foundation for curriculum design. These guidelines should highlight pedagogical best practices and provide clear direction on navigating the ethical dimensions of AI in education. Equally important is the role of teachers, who remain central to the success of any technological innovation in the classroom. Comprehensive training programmes are needed to prepare educators with the technical skills to handle AI tools effectively and the critical awareness to address the ethical dilemmas that may arise.

At the same time, promoting a balanced approach to AI integration is essential. While these technologies can enrich learning, students must also be guided toward maintaining their critical thinking and problem-solving abilities, ensuring that the human element of learning is not overshadowed by reliance on machines. AI has been demonstrated to increase competency and engagement, therefore educational institutions should encourage immersive, hands-on learning. It is essential to incorporate these chances into LSP courses in order to foster practical competency and well-informed opinions about AI's role in education.

Institutions should also make ethical awareness a key part of the educational experience. By engaging students in discussions about the responsible use of AI, they can foster a culture of informed and reflective practice. Finally, experiential learning opportunities should be embedded within Language for Specific Purposes courses, allowing students to interact directly with AI tools. Such hands-on experiences can increase their confidence and competence, meaningfully bridging the gap between theory and practice.

FINAL REMARKS

Integrating AI into language education is an excellent opportunity to enhance learning outcomes while addressing the challenges of globalisation and technological advancement. Still, realising this potential requires a balanced approach that leverages the strengths of both traditional teaching methods and modern technologies. As Peng and Wan (2024) note, positive student perceptions are vital for successfully integrating innovative technologies into education. By addressing students' concerns and providing the necessary support, educators can create a more inclusive and effective learning environment that prepares learners for future challenges. In conclusion, this study contributes valuable insights concerning the evolving landscape of AI-assisted language learning while highlighting areas needing further research and policy development. As technology advances, ongoing dialogue among educators, policymakers, researchers, and developers will be essential for responsibly and effectively shaping the future of education responsibly and effectively. According to the study, established criteria that emphasize both technical proficiency and critical, ethical awareness are necessary for integrating AI into courses. In order to prepare teachers to handle moral dilemmas and foster critical thinking in conjunction with AI-enhanced learning, teacher preparation is

crucial. In order to balance the effectiveness of AI with cognitive growth, students should be encouraged to retain human-centric analytical skills.

DECLARATION

The research design of this paper was approved by the Ethical Commission of the Faculty of Tourism, University of Maribor, and full approval was given to proceed with the study.

ACKNOWLEDGMENTS

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