

GenAI–Supported Thesis Writing in English as a Foreign Language: Students’ Perceptions, Practices, and Attitudes

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ABSTRACT

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Although generative AI (GenAI) has been increasingly applied and investigated in FLE, research on its role in assisting final thesis writing remains scarce. This paper seeks to address this gap by mapping and analysing students’ perceptions, practices, and attitudes towards the use of GenAI in producing undergraduate theses written in English as a foreign language. Research data were collected through the online questionnaire administered in two phases. The first phase, conducted in September 2024, involved 53 MA students who had recently completed and successfully defended their theses in EFL programmes. The second phase, in January 2025, surveyed 84 undergraduate students who were in the process of writing their theses. The findings reveal rapid and significant shifts in students’ attitudes, modified practices, and perceptions of and attitudes towards GenAI. A sharp increase in positive perceptions and the widespread use of ChatGPT were observed, alongside a notable discrepancy between students’ ethical awareness and actual ethical compliance.

Introduction

Generative artificial intelligence (GenAI) is defined as “a form of AI that can autonomously generate new content, such as text, images, audio, and videos” (Lv, 2023, p. 208). By applying machine learning and deep learning models, GenAI systems learn patterns and relationships within datasets of human-created content, which are subsequently employed to generate new and original outputs. Prominent examples of widely used GenAI tools include ChatGPT, GPT-4, Gemini, Claude, Copilot, Playground, DALL-E, and Gen-2.

As GenAI becomes increasingly embedded in educational contexts, discussions on its pedagogical implications are expanding rapidly. Rather than resisting technological developments, the majority of educators, academics, and policymakers have shifted their focus towards identifying strategies to optimise the pedagogical value of these technologies, while also emphasising the importance of equipping all stakeholders—students, teachers, parents, and institutions—with the competences necessary to use them responsibly and ethically

Research to date highlights the substantial potential of GenAI to enhance educational processes. On the learners' side, GenAI can provide personalised learning support through adaptive feedback, which facilitates more effective knowledge acquisition, and can foster active engagement by enabling practical and interactive learning experiences (Ali, Shamsan, Hezam, & Mohammed, 2023; Chiu, 2023; Jeon & Lee, 2023; Zhai, 2022; Zhu, Sun, Luo, et al., 2023). In a systematic review, Zhang, Zou, and Cheng (2023) identified a wide range of learning situations in which GenAI can provide meaningful assistance, including presenting and explaining knowledge, scaffolding practice, and supervising or guiding diverse activities such as role-playing, collaborative product design, independent writing, storytelling, book reading, digital gameplay, and open-ended debates.

On the educators' side, GenAI tools have been shown to support teaching by generating lesson plans, producing engaging and interactive materials, organising gamified learning activities, developing quizzes and exercises, and creating test questions. Such applications can save teachers considerable time, enhance creativity in instructional design, and increase opportunities for differentiated teaching. However, the accessibility of open-source and open-access GenAI tools has simultaneously altered the teacher–learner dynamic. Learners can now independently access vast repositories of information and resources, adjusting them to their personal learning preferences and needs, which in some cases reduces their reliance on direct teacher guidance (Aktay, Seçkin, & Uzunoglu, 2023; Law, 2024; Yan, 2023).

Literature review

GenAI in foreign language education

Generative AI (GenAI) has the potential to transform language learning environments. Numerous scholars (e.g., Bonner, Lege, & Frazier, 2023; Law, 2024; Vera, 2023) have argued that AI, and GenAI tools in particular (e.g., chatbot-based learning systems, AI-mediated dialogue tools for EFL, and GenAI-powered platforms and applications), may radically reshape the ways in which languages are taught and learned. These tools can function as writing assistants, translation aids, and text or dialogue generators. They also provide teachers and learners with access to high-quality, customised, and personalised language learning materials, thereby making the foreign language learning experience more interactive and engaging through customisable input and instant feedback (Hong, 2023; Kohnke, Moorhouse, & Zou, 2023a; Loem, Kaneko, Takase, & Okazaki, 2023; Zounhin Toboula, 2023).

Language learners can engage in written or spoken interactions with GenAI tools to enhance interactivity, benefiting from additional practice and reinforcement of classroom content (Agustini, 2023; Zhai & Wibowo, 2023). GenAI applications can also act as virtual teachers, tutors, experts, or learning companions, offering immediate and detailed corrections, explanations, and examples across a wide range of topics (Zhu, Sun, Luo, et al., 2023). In this way, GenAI fosters learner autonomy and supports personalised learning through tailored language assistance. Moreover, learners are able to regulate their own learning processes by

setting individual objectives and making informed decisions about the content and procedures of their language acquisition.

GenAI-assisted foreign language writing

In a recent systematic review, Law (2024, p. 4) observed that “the most widely studied application of GenAI in language teaching and learning has been its use for writing instruction.” Empirical studies have shown that GenAI systems can support learners in developing their writing skills by providing real-time feedback on grammar, vocabulary, and sentence structure (Agustini, 2023; Alharbi, 2023; Lin & Chang, 2020; Schmidt-Fajlik, 2023; Yan, 2023; Yang, Zhou, Zhang, & Li, 2022). In addition, such systems facilitate vocabulary expansion and syntactic development by offering suggestions for alternative word choices and sentence rephrasings (Gayed, Carlon, Oriola, & Cross, 2022; Godwin-Jones, 2022; Guo, Li, Li, et al., 2024; Kangasharju, Ilomäki, Lakkala, & Toom, 2022; Schmidt-Fajlik, 2023; Utami, Andayani, Winarni, & Sumarwati, 2023; Woo, Susanto, Yeung, Guo, & Fung, 2023).

A related branch of research has examined the range of AI-powered writing tools and their effects on student writing performance (Alharbi, 2023; Tamilselvi, Dhanasakkaravarthi, Devi, et al., 2023). Examples of such tools include Chimp Rewriter, Grammarly, Quillbot, Rephrase, SpinBot, Spin Rewriter, WordAi, and Wordtune. Roe, Renandya and Jacobs (2023) classified digital writing tools into three categories: machine translators, digital writing assistants, and automated paraphrasing tools.

Most empirical classroom-based studies on the use of GenAI tools have focused on creative writing, where learners were supported by selected AI applications while composing poetry or fiction (Hutson & Schnellmann, 2023; Kangasharju, Ilomäki, Lakkala, & Toom, 2022; Woo, Susanto, Yeung, Guo, & Fung, 2023; Yang, Zhou, Zhang, & Li, 2022). The integration of chatbots into academic writing at secondary and tertiary levels of education has also been explored (e.g., Guo, Li, Li, et al., 2024; Kim, Yu, Detrick, et al., 2025; Stokel-Walker, 2022; Utami, Andayani, Winarni, & Sumarwati, 2023), with mixed results. Overall, these studies confirm both students’ strong interest in using GenAI tools and the potential of such tools to enhance academic research and writing processes, particularly in planning activities, identifying primary and secondary topics, and drafting and developing written work.

GenAI in higher education

The issue of GenAI’s impact on higher education has proved to be highly productive and has sparked debate in the public domain as well (Crompton & Burke, 2023; Dempere, Modugu, Hesham, & Ramasamy, 2023; Gimpel, Hall, Decker et al., 2023; Kohnke, Moorhouse, & Zou, 2023b; Laupichler, Aster, Schirch, & Raupach, 2022; Wu & Yu, 2024; Zhai & Wibowo, 2023), especially in link to the topic of final thesis writing. However, only a few research studies have been conducted on GenAI-assisted thesis writing (Krumsvik, 2024; Rim & Dou, 2024; Schwenke, Söbke, & Kraft, 2023) or GenAI-assisted writing of scholarly publications (Hosseini, Rasmussen, & Resnik, 2023; Watermeyer, Phipps, Lanclos, & Knight, 2023).

In the majority of universities, the final thesis (here used as an umbrella term for its various forms, such as undergraduate thesis, bachelor's thesis, master's thesis, graduation paper, etc.) is an extended piece of academic writing that the student must produce as a prerequisite for taking their state examinations. A bachelor's thesis (undergraduate thesis) is a scientific assignment that lasts several months, during which students, at the end of their studies, demonstrate their ability to carry out scientific work under the guidance of a tutor. Writing their final theses is typically the ultimate task for students of foreign languages. Typically, for the first time, they write a concise academic text in the foreign language they have been studying. These days, in response to the development of GenAI, questions arise as to the extent to which writing bachelor's theses is still a valid learning and assessment format.

GenAI tools can be applied to any step of planning and writing a bachelor's thesis. The research on individual processes has been investigated and discussed in literature on educational technology or academic writing, e.g. generating abstracts (Else, 2023; Gao, Howard, Markov et al., 2023), summarising texts (Saunders, Aleisa, Wield et al., 2024); paraphrasing texts (Prentice & Kinden, 2018; Tamilselvi, Dhanasakkaravarthi, Devi et al., 2023); generating research data (Knoechel, Schweizer, Acar et al., 2024); evaluating data (Watermeyer, Phipps, Lanclos, & Knight, 2023); summarising new results (Saunders, Aleisa, Wield et al., 2024); and editing the style and language accuracy (Schmidt-Fajlik, 2023; Jourdan, Boudin, Dufour, & Hernandez, 2023; Loem, Kaneko, Takase, & Okazaki, 2023).

Ethical considerations of GenAI-supported academic writing

From a higher education perspective, GenAI poses significant challenges to various learning and assessment formats, particularly when students are expected to produce original papers or theses (Hosseini, Rasmussen, & Resnik, 2023). As GenAI tools can swiftly generate drafts, compose short essays, correct grammatical errors, and refine sentences and paragraphs—thereby saving considerable time—many educators have voiced concerns about students' inclination to complete their assessments quickly and effortlessly. Such practices may result in substantial disruptions to the effectiveness of their learning (Gao et al., 2023; Gimpel et al., 2023; Stokel-Walker, 2022; Susnjak, 2022; Yan, 2023; Yeadon, Inyang, Mizouri et al., 2022), or, even more seriously, in breaches of academic integrity and honesty (Mohammadkarimi, 2023; Yan, Sha, Zhao, Li et al., 2024). Some scholars even predict that GenAI may render all written assignments, including final theses, obsolete (McMurtrie, 2022; Yeadon, Inyang, Mizouri et al., 2022).

Research Objective

The research objective is to analyse EFL university students' perceptions, practices, and attitudes towards using the support of Gen AI while writing their final undergraduate theses in English as a foreign language.

Research Questions

To fulfil the aim of the study, the survey sought to answer the following research questions:

RQ1: What is the prevailing attitude of EFL university students towards using GenAI while completing their study tasks?

RQ2: Which GenAI tools do EFL university students use?

RQ3: In which stages of bachelor's thesis writing do EFL university students use the support of GenAI?

RQ4: To what level do they trust the content generated by GenAI?

RQ5: What is their willingness to comply with the university's directives related to using GenAI?

Methods

Pedagogical Setting & Participants

The study was conducted at a teacher-training university in Slovakia. Participants were recruited through convenience sampling. In the first phase (15–30 September 2024), an invitation to complete an online questionnaire was distributed via university email to first-year MA students who had previously submitted and successfully defended their bachelor's thesis. In the second phase (15–31 January 2025), the invitation was sent to third-year Bc students who were in the process of writing their bachelor's theses. In both phases, only students enrolled in two study programmes with a focus on English as a foreign language were invited to participate: (1) teaching English language and literature (pre-service teachers), and (2) philological programmes in English language and Anglophone cultures (non-teachers) (inclusion criterion 1). Only fully completed questionnaires (inclusion criterion 2) and those submitted by students writing their bachelor's theses in English (inclusion criterion 3) were included in the dataset (N = 137; see Table 1). The sampling procedure ensured that each student could participate only once, as a member of a single cohort. Participation was entirely voluntary, with no incentives or penalties for non-participation. The questionnaire was anonymous, and the data were used exclusively for research purposes.

Table 1.

Research sample

	Teacher training study programme	Philology study programme	total
Cohort A	44	9	53
Cohort B	73	11	84
	117	20	137

Ethical approval

The study was conducted in full compliance with the principles of the Declaration of Helsinki. Approval from the Institutional Review Board was obtained (Decision KEIV 04/2025), even though no vulnerable subjects or groups were involved and no personal information was collected or stored. The participants were adult university students. Their participation was voluntary and anonymous, and it did not form part of any curricular activity. Respondents were informed of the nature and purpose of the questionnaire in its heading. Privacy and anonymity were safeguarded, as the instrument did not collect names or email addresses, thereby

preventing participant identification. The data were stored securely within the University of Trnava's digital systems for the required period, with access granted solely to the researcher via personal login credentials.

Design of the study, data collection, and analysis

An online self-administered survey was conducted to gather the necessary data. Data were collected in two phases: in September 2024 and January 2025. The research instrument (an online 10-item questionnaire in Google Forms) was constructed by the researcher and piloted in June 2024 by two experts and a group of 12 EFL university students. The final version of the questionnaire is presented in Appendix 1.

The researcher opted for a dominantly quantitative design. The research instrument consisted of a) a heading (with the explanation of the purpose of the study and informed consent), b) a demographic item (a study programme) and c) four Likert scales and five closed-ended items. Due to the limited number of respondents, the collected data were processed using simple descriptive statistical operations (means, percentages, standard deviations). The consistency of responses was measured by Cronbach's alpha ($\alpha = 0.7852$).

Results

The respondents' overall attitudes toward using generative AI (GenAI) in their UTs were measured using a 5-point Likert scale, with response options ranging from *very positive* (1) to *very negative* (5). In the first phase of the survey, students reported predominantly neutral attitudes (frequency mean = 3.01). Four months later, the attitudes of third-year students shifted significantly toward greater positivity (frequency mean = 2.12). Several factors may account for this rapid and substantial change in responses. First, students had access to GenAI tools for a longer period of time, allowing them to become more accustomed to their use. Second, students may have had sufficient time to overcome the initial anxiety or apprehension associated with GenAI. Third, as the range of available GenAI tools expanded, the likelihood increased that students would find a tool that met their individual needs. Further targeted qualitative research is required to explore the precise reasons underlying this attitudinal shift.

Table 2.

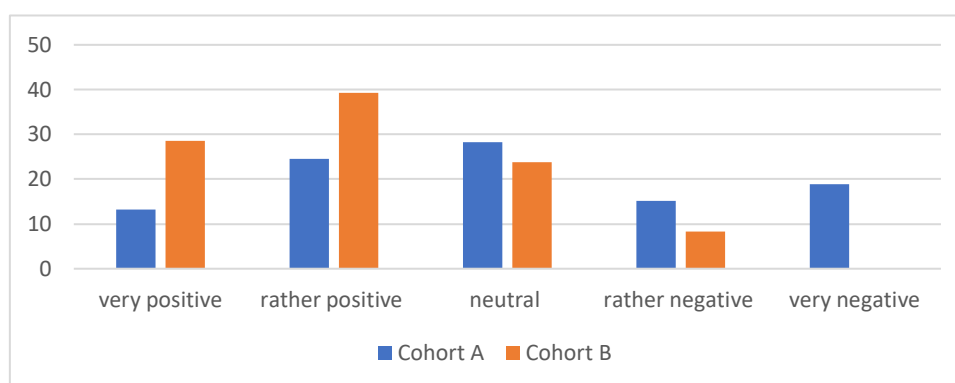
Students' Attitudes towards GenAI

What is your general attitude toward using generative AI for your study while completing various study tasks? (one option)*						
GenAI chatbots	Cohort A		Cohort B		Total	
	N	%	N	%	N	%
very positive, it should be acknowledged as a regular study tool	7	13.21	24	28.57	31	22.63
rather positive	13	24.53	33	39.28	46	33.58
neutral	15	28.30	20	23.81	35	25.55

rather negative	8	15.09	7	8.33	15	10.94
very negative, it should be forbidden completely	10	18.86	0	0.00	10	7.30
frequency mean	3.01		2.12		2.47	
Total	53	100.00	84	100.00	137	100.00

Graph 1

Change in student responses between Cohort A and Cohort B (in %)



When asked about the role of generative AI (GenAI) in contemporary education, the majority of students (69.34% overall) primarily perceived it as a time-saving tool. More than half of the respondents also reported viewing GenAI as a source of information (56.93%) and as a writing assistant (51.09%). The most pronounced difference between cohorts was observed in the category “a helper in any profession”, which increased markedly from 11.32% in Cohort A to 51.19% in Cohort B. Approximately one quarter of students in each cohort regarded GenAI as a means of cheating (28.30% in Cohort A and 23.81% in Cohort B), reflecting a slight decline between groups. In addition, 21.43% of students in Cohort B (n = 20) perceived GenAI as a dangerous tool. Taken together, these findings point to both positive and negative orientations toward GenAI, underscoring the need for further research to examine the underlying factors shaping these perceptions.

Table 3.

Students’ perceptions of GenAI roles in higher education

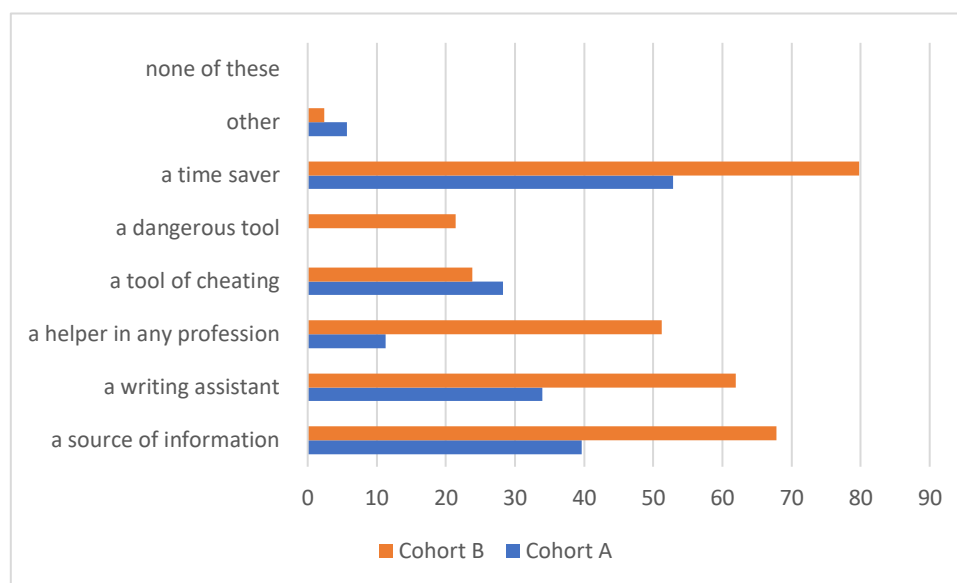
How do you perceive the position of GenAI in contemporary higher education? (more options) *						
GenAI chatbots	Cohort A		Cohort B		Total	
	N	%	N	%	N	%
a source of information	21	39.62	57	67.85	78	56.93
a writing assistant	18	33.96	52	61.90	70	51.09
a helper in any profession	6	11.32	43	51.19	49	35.76
a tool of cheating	15	28.30	20	23.81	35	25.55
a dangerous tool	0	0.00	18	21.43	18	13.14
a time saver	28	52.83	67	79.76	95	69.34
other	3	5.66	2	2.38	5	3.65

none of these	0	0.00	0	0.00	0	0.00
Total	53	100.00	84	100.00	137	100.00

Results of t test indicated that there is a significantly large difference between Before ($M = 11.4$, $SD = 10.6$) and After ($M = 32.4$, $SD = 25.7$), $t = 3.4$, $p = 0.012$.

Graph 2

Differences in responses between Cohort A and Cohort B (in %)



Most students reported using GenAI while writing their bachelor's thesis (82.48% overall; see Table 4). In Cohort A, 24 students did not engage with GenAI tools, whereas in Cohort B all students reported using them. These results align with the changing attitudes and practices identified earlier (see Table 1). This questionnaire item also served a distribution function: the 24 questionnaires completed by students who did not use GenAI while writing their bachelor's thesis were excluded from further analysis. Consequently, from this point onward, Cohort A consisted of 29 respondents.

Table 4.

Students' use of GenAI while writing their bachelor's theses

Did you use/Have you been using generative AI while writing your bachelor's thesis? (one option) *						
GenAI chatbots	Cohort A		Cohort B		Total	
	N	%	N	%	N	%
Yes	29	54.72	84	100.00	113	82.48
No	24	45.28	0	0.00	24	17.52
Total	53	100.00	84	100.00	137	100.00

Over the four months between Phase 1 and Phase 2, an increase in the number of GenAI tools

used by respondents was recorded (see Table 5). While students in Cohort A reported using only ChatGPT and Gemini, the range of tools in Cohort B expanded to include ChatGPT, Gemini, and Microsoft Copilot. In addition, five students from Cohort B reported using other GenAI tools. These results reflect the rapid pace of GenAI development, the growing availability of tools, and the increasing diversification of their use among students.

Table 5.

GenAI tools used by respondents

Which of these AI tools did you use/have you been using while writing your bachelor's thesis? (more options)*						
GenAI chatbots	Cohort A		Cohort B		Total	
	N	%	N	%	N	%
ChatGPT	29	100.00	81	96.43	110	97.34
Gemini	3	10.34	8	9.52	11	9.73
Microsoft Copilot	0	0.00	3	3.57	3	2.65
Claude	0	0.00	0	0.00	0	0.00
Other	0	0.00	5	5.95	5	4.42
Total	29	100.00	84	100.00	113	100.00

To examine the purposes for which students used GenAI tools while writing their bachelor's theses and the stages of academic writing in which they employed them, the researcher designed a chart with 15 options. Nearly two-thirds of students (63.72% overall) reported using GenAI for summarising texts, followed by paraphrasing texts (60.18%), editing style and language accuracy (59.29%), and searching for sources (56.64%). Notable increases between Cohort A and Cohort B were observed in two categories: editing style and language accuracy (rising from 55.17% to 60.71%) and generating keywords (from 13.79% to 22.62%). Two categories were reported exclusively in Cohort B: summarising new results (26.19%) and evaluating data (11.90%). Conversely, decreases were recorded in three categories: searching for sources (a marked decline from 72.41% to 51.19%), structuring sources into the theoretical part (a substantial decline from 24.14% to 3.57%), and generating a Slovak résumé (a slight decline from 51.72% to 49.43%).

Table 6.

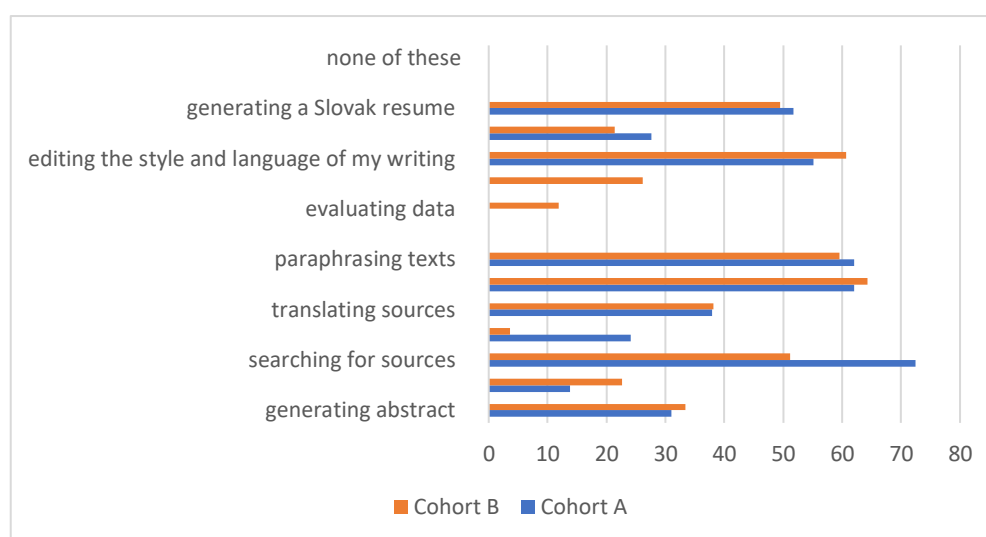
Reported purposes of using GenAI

For what purposes did you use/have you been using generative AI while writing your bachelor's thesis? (more options) *						
GenAI chatbots	Cohort A		Cohort B		Total	
	N	%	N	%	N	%
generating abstract	9	31.03	28	33.33	37	32.74
generating keywords	4	13.79	19	22.62	23	20.35
searching for sources	21	72.41	43	51.19	64	56.64
structuring sources into a theoretical part	7	24.14	3	3.57	10	8.85

translating sources	11	37.93	32	38.09	43	38.05
summarising texts	18	62.07	54	64.28	72	63.72
paraphrasing texts	18	62.07	50	59.52	68	60.18
generating research data	0	0.00	0	0.00	0	0.00
evaluating data	0	0.00	10	11.90	10	8.85
summarising new results	0	0.00	22	26.19	22	19.47
editing the style and language of my writing	16	55.17	51	60.71	67	59.29
managing references	8	27.59	18	21.43	26	23.00
generating a Slovak resume	15	51.72	44	49.43	59	52.21
other	0	0.00	0	0.00	0	0.00
none of these	0	0.00	0	0.00	0	0.00
Total	29	100.00	84	100.00	113	100.00

Graph 3.

Change in student responses between Cohort A and Cohort B (in %)



The previous results indicate that students frequently used GenAI to search for sources and to summarise and paraphrase texts. Working with accurate and verified information is crucial when producing a final thesis. Therefore, when assisted by GenAI tools, it is essential to check the quality and relevance of generated content in order to detect and avoid so-called “AI hallucinations” (Alkaissi & McFarlane, 2023). When asked about this aspect of GenAI collaboration, the findings suggest that students, as thesis authors, generally adopted a responsible approach. Only six students (5.31% overall) reported that they never checked GenAI-generated content.

Table 7.

Students’ reported practices in checking AI-generated content

Do you check the relevance or plausibility of the responses the generative AI provides?
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(one option) *						
GenAI chatbots	Cohort A		Cohort B		Total	
	N (29)	%	N(84)	%	N(113)	%
always	9	31.03	26	30.95	35	30.97
often	9	31.03	43	51.19	52	46.02
sometimes	7	24.14	12	14.28	19	16.81
rarely	0	0.00	0	0.00	0	0.00
never	4	13.79	2	2.38	6	5.31
Frequency mean	2.34		1.88		1.95	
Total	29	100.00	84	100.00	113	100.00

The final part of the survey examined the ethical conduct of thesis authors as users of GenAI. Nearly all respondents (95.58% overall) reported being aware of university regulations governing the use of GenAI, with 69.03% indicating that they were well informed about these rules. In the category “*well aware*”, a substantial increase was observed, rising from 44.83% in Cohort A to 77.38% in Cohort B (see Table 8).

Table 8.

Students’ reported awareness of AI-related ethical regulations

Are you aware of the university regulations on using generative AI while writing students’ assignments, including final theses? (one option) *						
GenAI chatbots	Cohort A		Cohort B		Total	
	N	%	N	%	N	%
Yes, I am well aware	13	44.83	65	77.38	78	69.03
Yes, partially	11	37.93	19	22.62	30	26.55
No	5	17.24	0	0.00	5	4.42
Total	29	100.00	84	100.00	113	100.00

However, only 18.58% of respondents overall reported that they would acknowledge the use of GenAI in their bachelor’s theses. Nearly half of the respondents (42.48% overall) indicated that they did not, or would not, mention GenAI assistance in their theses (see Table 9). Although a substantial decline was observed among these “*deniers*” (from 86.20% in Cohort A to 27.38% in Cohort B), the results still suggest that more than a quarter of respondents would not comply with university directives of which they are already aware—or even well aware.

Table 9.

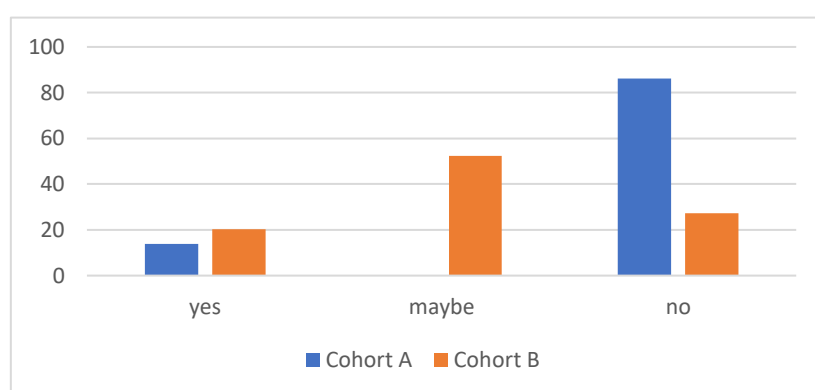
Students’ willingness to acknowledge GenAI assistance

Did you / are you going to acknowledge the generative AI tool in your bachelor’s thesis? (one option) *						
GenAI chatbots	Cohort A		Cohort B		Total	
	N	%	N	%	N	%

yes	4	13.79	17	20.24	21	18.58
maybe	0	0.00	44	52.38	44	38.94
no	25	86.20	23	27.38	48	42.48
frequency mean	2.72		2.07		2.24	
Total	29	100.00	84	100.00	113	100.00

Graph 4.

Comparison of Cohort A and Cohort B responses (in %)



Although the majority of students in both cohorts (79.24% overall) reported being aware of university regulations regarding the use of GenAI (see Table 8), compliance with these regulations was limited. In Cohort A, only four students (13.79%) acknowledged the use of ChatGPT in their theses as required, while in Cohort B the number was higher (17 students, 20.24%). Nevertheless, this still represents only one fifth of the cohort adhering to the rules. A positive shift in students' intentions was observed, as reflected in the change in mean frequency from 2.72 to 2.07 (where a response of "yes" equals 1 and "no" equals 3). However, this result remains far from the ethical ideal, with values closer to 1 indicating stronger compliance.

Discussion

Observing various aspects of integrating GenAI into foreign language education remains a promising area of research. The present study confirmed that GenAI tools are widely used by EFL university students when writing their bachelor's theses, thereby addressing Research Question 1. Students predominantly perceived GenAI as a time-saving tool, a practical writing assistant, and a source of information. These findings are consistent with those of Bin-Nashwan, Sadallah, Bouteraa et al. (2023) and other recent studies.

Regarding Research Question 2, the results show that ChatGPT was by far the most frequently used GenAI tool, in line with previous research (Agustini, 2023; Chiu, 2023; Hong, 2023). At the same time, evidence of diversification emerged, as some students reported using Gemini, Microsoft Copilot, and other tools, suggesting a trend towards broader adoption.

In response to Research Question 3, students reported using GenAI at different stages of thesis writing and for multiple purposes, particularly for summarising, paraphrasing, and editing for style and language accuracy. These patterns mirror findings from earlier studies (Else, 2023; Gao et al., 2023; Saunders et al., 2024). Importantly, many students also relied on GenAI when searching for sources. However, in line with Research Question 4, students generally adopted a responsible approach, as nearly all reported checking the accuracy and relevance of GenAI-generated content to avoid so-called “AI hallucinations” (Alkaissi & McFarlane, 2023).

The most concerning finding relates to Research Question 5. Despite their awareness of institutional rules, a considerable proportion of students indicated that they would not acknowledge GenAI assistance in their theses. Although the proportion of such “deniers” declined from Cohort A to Cohort B, more than one quarter of respondents still disregarded academic directives. This raises serious concerns about academic integrity. As Nogueira and Rein (2024) argue, undergraduate and graduate students are expected to uphold the highest standards of academic conduct by transparently declaring any use of GenAI tools. Failure to do so risks plagiarism and undermines research ethics (Yan, 2023).

Overall, the findings of this study highlight both the opportunities and the risks associated with integrating GenAI into academic writing in higher education. While students clearly value GenAI as a practical support tool that facilitates summarising, paraphrasing, and improving language accuracy, their limited willingness to formally acknowledge its use raises important ethical and pedagogical concerns. These results underscore the urgent need for universities to provide explicit guidelines on the acceptable use of GenAI tools, alongside training that fosters both digital literacy and academic integrity. Future research should therefore not only continue to monitor how students’ practices evolve in response to rapid technological developments but also explore effective strategies for embedding responsible GenAI use into curricula for EFL teacher education and related programmes.

Conclusion

This article explores an emerging and highly relevant area within CALL: the integration of generative AI tools in EFL academic writing, specifically undergraduate thesis production, with a focus on students’ perceptions, practices, and attitudes. It further contributes to ongoing discussions on learner autonomy and ethical considerations in AI-assisted learning environments. By examining the practical, cognitive, and ethical dimensions of GenAI use in formal academic writing contexts, the study provides insights that are both timely and innovative within the field of CALL.

The findings add to the growing body of research on GenAI in foreign language education and offer practical implications for EFL educators in higher education. Given the rapid evolution of GenAI technologies, continued investigation in this area remains both urgent and necessary. At this early stage of GenAI development and its application in higher education, studies of this kind are crucial and valuable. The results shed light on the potential impact of GenAI on thesis-

writing processes and can inform pedagogical decision-making by EFL educators in higher education institutions.

Limitations

A notable limitation of the present study is its relatively small sample size. Combined with the use of convenience sampling, this considerably restricts the generalisability of the findings. Accordingly, no generalised conclusions were drawn.

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Declaration of Generative AI and AI-assisted technologies in the writing process

During the preparation of this work, the author used Grammarly to improve readability and language. After using this tool, the author carefully reviewed and edited the content as needed and assumes full responsibility for the final version of the manuscript.

Declaration of Competing Interest

The author declares no known competing financial interests or personal relationships that could have influenced the work reported in this paper.

CRedit Authorship Contribution Statement

The author was solely responsible for the research, including study design, data collection, analysis, manuscript preparation, and revisions.

Statements on Open Data and Ethics

The author confirms that the data supporting the findings of this study are available within the paper. No private or confidential data were accessed or used in this research. The collected data were securely stored within the University of Trnava's digital systems for the required period, with access granted only to the researcher through personal login credentials. The datasets generated and/or analysed during the study are available from the corresponding author upon reasonable request.

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References

- Agustini, N. P. O. (2023). Examining the role of ChatGPT as a learning tool in promoting students' English language learning autonomy relevant to Kurikulum Merdeka Belajar. *EDUKASIA: Pendidikan Dan Pembelajaran*, 4(2), 921–934.

<https://jurnaledukasia.org/index.php/edukasia/article/download/373/281>

- Aktay, S., Seçkin, G., & Uzunoglu, D. (2023). ChatGPT in education. *Türk Akademik Yayınlar Dergisi*, 7(2), 378–406. <https://doi.org/10.29329/tayjournal.2023.543.03>
- Alharbi, W. (2023). AI in the foreign language classroom: a pedagogical overview of automated writing assistance tools. *Education Research International*, 1. <https://doi.org/10.1155/2023/4253331>
- Ali, J., Shamsan, M., Hezam, T., & Mohammed, A. (2023). Impact of ChatGPT on learning motivation: teachers and students' voices. *Journal of English Studies in Arabia Felix*, 2(1), 41–49. <https://doi.org/10.56540/jesaf.v2i1.51>
- Alkaissi, H., & McFarlane, S. (2023). Artificial hallucinations in ChatGPT: Implications in scientific writing. *Cureus*, 15(2). <https://doi.org/10.7759/cureus.35179>
- Bin-Nashwan, S. A., Sadallah, M., & Bouteraa, M. (2023). Use of ChatGPT in academia: Academic integrity hangs in the balance. *Technology in Society*, 75. <https://doi.org/10.1016/j.techsoc.2023.102370>
- Bonner, E., Lege, R., & Frazier, E. (2023). Large language model-based artificial intelligence in the language classroom: practical ideas for teaching. *The Journal of Teaching English with Technology*, 23(1), 23–41. <https://doi.org/10.56297/BKAM1691/WIEO1749>
- Chiu, T. K. F. (2023). The impact of Generative AI (GenAI) on practices, policies and research direction in education: A case of ChatGPT and Midjourney. *Interactive Learning Environments*, 32(10). <https://doi.org/10.1080/10494820.2023.2253861>
- Crompton, H., & Burke, D. (2023). Artificial intelligence in higher education: the state of the field. *International Journal of Educational Technology in Higher Education*, 20(1), 22. doi.org/10.1186/s41239-023-00392-8
- Dempere, J., Modugu, K., Hesham, A., & Ramasamy, L. K. (2023). The impact of ChatGPT on higher education. *Frontiers in Education*, 8. <https://doi.org/10.3389/feduc.2023.1206936>
- Else, H. (2023). Abstracts written by ChatGPT fool scientists. *Nature*, 613(7944), 423–423. <https://doi.org/10.1038/d41586-023-00056-7>
- Gao, C. A., Howard, F. M., Markov, N. S., et al. (2023). Comparing scientific abstracts generated by ChatGPT to original abstracts using an artificial intelligence output detector, plagiarism detector, and blinded human reviewers. *Digital Medicine*, 6(75). <https://doi.org/10.1038/s41746-023-00819-6>
- Gayed, J. M., Carlon, M. K. J., Oriola, A. M., & Cross, J. S. (2022). Exploring an AI-based writing assistant's impact on English language learners. *Computers and Education: Artificial Intelligence*, 3, 100055. <https://doi.org/10.1016/j.caeai.2022.100055>
- Gimpel, H., Hall, K., Decker, S., et al. (2023). *Unlocking the power of generative AI models and systems such as GPT-4 and ChatGPT for higher education: A Guide for Students and Lecturers*. University of Hohenheim: Stuttgart.

<http://dx.doi.org/10.13140/RG.2.2.20710.09287/2>

- Godwin-Jones, R. (2022). Partnering with AI: Intelligent writing assistance and instructed language learning. *Language Learning & Technology*, 26(2), 5–24.
<http://doi.org/10125/73474>
- Guo, K., Li, Y., Li, Y., et al. (2024). Understanding EFL students' chatbot-assisted argumentative writing: An activity theory perspective. *Education and Information Technologies*, 29, 1–20. <https://doi.org/10.1007/s10639-023-12230-5>
- Hong, W. C. H. (2023). The impact of ChatGPT on foreign language teaching and learning: opportunities in education and research. *Journal of Information Technology Education: Innovations*, 5(1), 37–45. <https://jeti.thewsu.org/index.php/cieti/article/view/103/64>
- Hosseini, M., Rasmussen, L. M., & Resnik, D. B. (2023). Using AI to write scholarly publications. *Accountability in Research*, 31(7), 1–9.
<https://www.tandfonline.com/doi/full/10.1080/08989621.2023.2168535>
- Hutson, J., & Schnellmann, A. (2023). The poetry of prompts: the collaborative role of generative artificial intelligence in the creation of poetry and the anxiety of machine influence. *Global Journal of Computer Science and Technology*, 23(1).
<https://digitalcommons.lindenwood.edu/cgi/viewcontent.cgi?article=1462&context=faculty-research-papers>
- Hwang, G.-J., & Chang, C.-Y. (2023). A review of opportunities and challenges of chatbots in education. *Interactive Learning Environments*, 31, 4099–4112.
<https://doi.org/10.1080/10494820.2021.1952615>
- Hwang, G. J., & Chen, N. S. (2023). Editorial position paper: exploring the potential of generative artificial intelligence in education: applications, challenges, and future research directions. *Educational Technology and Society*, 26(2).
[https://doi.org/10.30191/ETS.20230426\(2\).0014](https://doi.org/10.30191/ETS.20230426(2).0014)
- Jeon, J., & Lee, S. (2023). Large language models in education: a focus on the complementary relationship between human teachers and ChatGPT. *Education and Information Technologies*, 28, 15873–15892. <https://doi.org/10.1007/s10639-023-11834-1>
- Jourdan, L., Boudin, F., Dufour, R., & Hernandez, N. (2023). Text revision in scientific writing assistance: an overview. *arxiv.org*. <https://arxiv.org/abs/2303.16726>
- Kangasharju, A., Ilomäki, L., Lakkala, M., & Toom, A. (2022). Lower secondary students' poetry writing with the AI-based Poetry Machine. *Computers and Education: Artificial Intelligence*, 3, 100048. <https://doi.org/10.1016/j.caeai.2022.100048>
- Kim, J., Yu, S., Detrick, R., et al. (2025). Exploring students' perspectives on generative AI-assisted academic writing. *Education and Information Technologies*, 30, 1265–1300.
<https://doi.org/10.1007/s10639-024-12878-7>
- Knoechel, T.-D., Schweizer, K., Acar, O. A., et al. (2024). Principles for responsible AI usage in research. *Open Science Framework*. <https://doi.org/10.31234/osf.io/g3m5f>

- Kohnke, L., Moorhouse, B. L., & Zou, D. (2023a). ChatGPT for language teaching and learning. *RELC Journal*, 54(3).
<https://journals.sagepub.com/doi/abs/10.1177/00336882231162868>
- Kohnke, L., Moorhouse, B., & Zou, D. (2023b). Exploring generative artificial intelligence preparedness among university language instructors: a case study. *Computers and Education: Artificial Intelligence*, 5. <https://doi.org/10.1016/j.caeai.2023.100156>
- Krumsvik, R. J. (2024). Chatbots and academic writing for doctoral students. *Education and Information Technologies*, 30, 9427–9461. <https://doi.org/10.1007/s10639-024-13177-x>
- Laupichler, M. C., Aster, A., Schirch, J., & Raupach, T. (2022). Artificial intelligence literacy in higher and adult education: a scoping. *Computers and Education: Artificial Intelligence*, 3. <https://doi.org/10.1016/j.caeai.2022.100101>
- Law, L. (2024). Application of generative artificial intelligence (GenAI) in language teaching and learning: A scoping literature review. *Computers and Education Open*, 6. <https://doi.org/10.1016/j.caeo.2024.100174>
- Lin, M. P.-C., & Chang, D. (2020). Enhancing post-secondary writers' writing skills with a chatbot: a mixed-method classroom study. *Journal of Educational Technology & Society*, 23(1), 78–92. <https://www.jstor.org/stable/26915408>
- Loem, M., Kaneko, M., Takase, S., & Okazaki, N. (2023). Exploring effectiveness of GPT-3 in grammatical error correction: a study on performance and controllability in prompt-based methods. *arXiv*. <https://arxiv.org/pdf/2305.18156>
- Lv, Z. (2023). Generative artificial intelligence in the metaverse era. *Cognitive Robotics*, 3, 208217. <https://doi.org/10.1016/j.cogr.2023.06.001>
- Marzuki, M., Widiati, U., Rusdin, D., et al. (2023). The impact of AI writing tools on the content and organisation of students' writing: EFL teachers' perspective. *Cogent Education*, 10(2). <https://doi.org/10.1080/2331186X.2023.2236469>
- McMurtrie, B. (2022). AI and the future of undergraduate writing. *The Chronicle of Higher Education* (13 December 2022). <https://www.chronicle.com/article/ai-and-the-future-ofundergraduate-writing>
- Mohammadkarimi, E. (2023). Teachers' reflections on academic dishonesty in EFL students' writings in the era of artificial intelligence. *Journal of Applied Learning and Teaching*, 6(2). <https://doi.org/10.37074/jalt.2023.6.2.10>
- Nogueira, L. A., & Rein, J. O. (2024). Chatbots: to cite or not to cite? (Part 1). *The Scholarly Kitchen* (19 June 2024). <https://scholarlykitchen.sspnet.org/2024/06/19/chatbots-to-cite-or-not-to-cite-part-1/>
- Prentice, F. M., & Kinden, C. E. (2018). Paraphrasing tools, language translation tools and plagiarism: An exploratory study. *International Journal for Educational Integrity*, 14, 11. <https://doi.org/10.1007/s40979-018-0036-7>
- Ren, B., & Zhu, W. (2023). A Chinese EFL student's strategies in graduation thesis writing:

- An Activity Theory perspective. *Journal of English for Academic Purposes*, 61(3).
<https://doi.org/10.1016/j.jeap.2022.101202>
- Rim, K., & Dou, A. (2024). Investigating PhD students' attitudes towards using chatbots for thesis correction. *ATRAS*, 5 (Special Issue on AI and Education, Online Learning and Education), 529-540. <https://atras-univ-saida.dz › article › download>
- Roe, J., Renandya, W. A., & Jacobs, G. M. (2023). A review of AI-powered writing tools and their implications for academic integrity in the language classroom. *Journal of English and Applied Linguistics*, 2(1). <https://doi.org/10.59588/2961-3094.1035>
- Saunders, T., Aleisa, N., Wield, J., Sherwood, J., & Qu, X. (2024). Optimising the literature review process: evaluating generative AI models on summarising undergraduate data science research papers. *Proceedings of KDD Undergraduate Consortium (KDD-UC '24)*. ACM, New York, NY, USA.
https://faculty.cs.gwu.edu/xiaodongqu/papers/KDD_2024_Evaluating_Tse.pdf
- Schmidt-Fajlik, R. (2023). ChatGPT as a grammar checker for Japanese English language learners: a comparison with Grammarly and ProWritingAid. *AsiaCALL Online Journal*, 14(1), 105–19. <https://doi.org/10.54855/acoj.231417>
- Stokel-Walker, C. (2022). AI bot ChatGPT writes smart essays-should professors worry? *Nature* (9 December 2022). <https://doi.org/10.1038/d41586-022-04397-7>
- Susnjak, T. (2022). ChatGPT: The End of Online Exam Integrity? *arXiv*.
<http://arxiv.org/abs/2212.09292>
- Tamilselvi, C., Dhanasakkaravarthi, B., Devi, R., et al. (2023). A comprehensive study of AI-powered writing assistance tools and content spinning applications. *2023 7th International Conference on Electronics, Communication and Aerospace Technology (ICECA)*, Coimbatore, India, pp. 1104-1111.
<https://ieeexplore.ieee.org/document/10395164/>
- Utami, S. P. T., Andayani, Winarni, R., & Sumarwati (2023). Utilisation of artificial intelligence technology in an academic writing class: how do Indonesian students perceive? *Contemporary Educational Technology*, 15(4).
<https://doi.org/10.30935/cedtech/13419>
- Vera, F. (2023). Integrating artificial intelligence (AI) in the EFL classroom: benefits and challenges. *Transformar Electronic Journal*, 4(2).
https://revistatransformar.cl/index.php/t_ransformar/article/download/93/49
- Watermeyer, R., Phipps, L., Lanclos, D., & Knight, C. (2023). Generative AI and the automating of academia. *Postdigital Science and Education*, 6(2), 446-466.
<https://doi.org/10.1007/s42438-023-00440-6>
- Woo, D., Susanto, H., Yeung, C., Guo, K., & Fung, A. (2023). Exploring AI-Generated text in student writing: How does AI help? *arXiv*. <https://arxiv.org/pdf/2304.02478>
- Wu, R., & Yu, Z. (2024). Do AI chatbots improve students learning outcomes? Evidence from a meta-analysis. *British Journal of Educational Technology*, 55(1), 10-33.

<https://doi.org/10.1111/bjet.13334>

- Schwenke, N., Söbke, H., & Kraft, E. (2023). Potentials and challenges of chatbot-supported thesis writing: an autoethnography. *Trends in Higher Education*, 2, 611–635. <https://doi.org/10.3390/higheredu2040037>
- Yan, D. (2023). Impact of ChatGPT on learners in a L2 writing practicum: an exploratory investigation. *Education and Information Technology*, 28, 13943–13967. <https://doi.org/10.1007/s10639-023-11742-4>
- Yan, L., Sha, L., Zhao, L., Li, Y., et al. (2024). Practical and ethical challenges of large language models in education: A systematic scoping review. *British Journal of Educational Technology*, 55, 90–112. <https://doi.org/10.48550/arXiv.2303.13379>
- Yang, D., Zhou, Y., Zhang, Z., & Li, T. J.-J. (2022). AI as an active writer: interaction strategies with generated text in human-AI collaborative fiction writing. *Joint Proceedings of the ACM IUI Workshops 2022*, 10. <https://ceur-ws.org/Vol-3124/>
- Yeadon, W., Inyang, O.-O., Mizouri, A., et al (2022). The death of the short-form physics essay in the coming AI revolution. *arXiv*. <http://arxiv.org/abs/2212.11661>
- Zhai, C., & Wibowo, S. (2023). A systematic review on artificial intelligence dialogue systems for enhancing English as foreign language students' interactional competence in the university. *Computers and Education: Artificial Intelligence*, 4. <https://doi.org/10.1016/j.caeai.2023.100134>
- Zhai, X. (2022). ChatGPT user experience: implications for education. *SSRN*, 1–18. <https://ssrn.com/abstract=4312418> or <http://dx.doi.org/10.2139/ssrn.4312418>
- Zhang, R., Zou, D., & Cheng, G. (2023). A review of chatbot-assisted learning: pedagogical approaches, implementations, factors leading to effectiveness, theories, and future directions. *Interactive Learning Environments*, 32(8), 4529–4557. <https://doi.org/10.1080/10494820.2023.2202704>
- Zhu, C., Sun, M., Luo, J., et al. (2023). How to harness the potential of ChatGPT in education? *Knowledge Management & E-Learning*, 15(2), 133–52. <https://doi.org/10.34105/j.kmel.2023.15.008>
- Zounhin Toboula, C. M. (2023). Exploring the impact of AI-Powered collaborative and interactive NLP apps on EFL teaching in the post-Covid-19 era. *IJCI Conference Proceedings - International Conference on Education in Post Pandemic (EDUPAN 2023)*, Vol. 12, No 2. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4398817

Appendix: Questionnaire: GenAI and writing a bachelor's thesis

Dear students,

I kindly ask you to fill in the questionnaire on the research on the application of intelligent text generators (GenAI) by the authors of final theses at universities. Your participation is entirely voluntary and anonymous.

Please answer honestly, but refrain from including any information in the questionnaire that could lead to your identification. The research results will be used to develop a research study and improve the quality of the educational process at KAJL PdF TU. Thank you.

* Compulsory item

1. Your study programme (one option) *
2. What is your general attitude toward using generative AI for your study while completing various study tasks? (one option) *
 - positive, it should be acknowledged as a regular study tool
 - rather positive
 - neutral
 - rather negative
 - negative, it should be forbidden completely
3. How do you see the position of AI in contemporary higher education? (more options)*
 - a source of information
 - a writing assistant
 - a helper in any profession
 - a tool of cheating
 - a dangerous tool
 - a time saver
 - other
4. In what language are you writing your bachelor's thesis? (one option) *
 - Slovak
 - English
 - other
5. Did you use/Have you been using generative AI while writing your bachelor's thesis? (one option) *
 - Yes
 - no

6. Which of these AI tools did you use/have you been using while writing your bachelor's thesis? (more options)*
 - ChatGPT
 - Gemini
 - Microsoft Copilot
 - Claude
 - other
 - none

7. For what purposes did you use/have you been using generative AI while writing your bachelor's thesis? (more options)
 - generating abstract
 - generating keywords
 - searching for sources
 - structuring sources into a theoretical part
 - translating sources
 - summarising texts
 - paraphrasing texts
 - generating research data
 - evaluating data
 - summarising new results
 - editing the style and language of my writing
 - managing references generovanie slovenského resumé
 - generating a Slovak resume
 - other
 - none of these

8. Do you check the relevance or plausibility of the responses the generative AI provides? (one option) *
 - always
 - often
 - seldom
 - rarely
 - never

9. Are you aware of the university regulations on using generative AI while writing students' assignments, including final theses? (one option) *
 - yes, well aware
 - yes, partially
 - no

10. Did you / are you going to acknowledge the generative AI tool in your bachelor's thesis?
(one option) *

- yes
- I am not sure
- no

Biodata

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