AI the Teacher? A Study on the Use of Artificial Intelligence Tools in Learning

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Abstract

The use of AI-based tools in the classroom is only one example of how artificial intelligence has influenced various realms of everyday life. It is impossible to overlook the growing impact of this technology and the potential repercussions of using it. AI-based tools such as ChatGPT or Google Translate and specialised AI language learning tools, such as Duolingo and Busuu offer many possibilities for learners to study, including: creating specific learning sets for individual users, translations, and detailed explanations (De la Vall & Araya 2023). Recent studies have shown that this solution is becoming increasingly popular. One study conducted at a university in Germany found that every fourth student used AI-based tools very frequently, while half of the students used them occasionally (von Garrel & Mayer 2023).

This study investigates which group of learners use such tools the most and examines the experience of using AI tools to aid learning. I apply methods of statistical analysis to examine how the use of AI tools influences teaching and learning. I gathered three different focus groups (high school students, university students, and university graduates) to examine various aspects such as: whether they used AI tools to aid their learning process, what types of tools were used, if these tools proved to be effective, their overall satisfaction while using these ways of learning, and what (other) benefits they gained from these methods of learning.

Keywords: learning; Artificial Intelligence; learning tools

1. Introduction

The emergence and use of Artificial Intelligence across various domains has, perhaps inevitably, extended into the field of language education, particularly through the use of AI-based tools. Whether it is teachers who implement such means of teaching in their classrooms, students who use these tools to help them study at home or adult learners seeking to acquire new skills, it is impossible to ignore the rising influence of such technology, and the consequences that may follow from the use of these programs. Seeing that this technology might become an inseparable component of education, both in the classroom and at home for

individual learners, it is important to study this phenomenon and consider its implications for the future of language learning.

More and more learners are using AI tools to aid their learning process. One study conducted at a university in Germany found that every fourth student used AI-based tools very frequently, while half of the students used them occasionally (von Garrel & Mayer 2023). The Pew Research Center conducted a survey on a sample of 11,004 Americans and found that 27% of Americans interact with AI several times a day. This study also discovered that 28% of this group engages with AI several times a week (Kennedy, Tyson, & Saks 2023).

Cognitive load theory, developed by Sweller, discusses the limited capacity of the human working memory and the instructional format which causes an overload. The instructional theory proposes reducing the external load and managing it in order to enhance learning and performance (Sweller 2020). The advancements in machine learning have led to the automation of various cognitive tasks by Artificial Intelligence. The technological purpose of AI is to ensure that these systems can complete useful tasks and may replace tedious labor. AI tools may be used to reduce cognitive load by automating administrative work and becoming an AI-powered assistant freeing users to devote their attention to tasks requiring higher cognitive effort. In the context of education, AI can be used to provide individualised learning support and feedback, generating lesson plans, and offering additional learning assistance for students. These options are aimed to allow teachers to focus more on the teaching. An example of this is the tool CoGrader with the official message stating "spend less time grading, more time teaching".

Constructivist learning theories focus on student-centred learning where learners build or construct their knowledge through experience and interactions. Students acquire knowledge and meaning by relating new information to their own experiences and mental frameworks rather than having teachers simply transmit this knowledge to them (Bada 2015). AI can support student-centred learning by adapting to the learner's pace, creating personalised courses, and encourage students by providing feedback and motivation every step of the way. However, if students become too dependent on technology, they lose human connection and social interactions. Although implementing AI can bring various benefits, it is important to integrate and cultivate peer interaction as "peer collaboration can foster collaborative learning and contribute to a more supportive classroom environment" (Lee 2025: 16).

The theory of models of technology acceptance discusses why and how people adopt and use new technologies, such as the use of AI in education. These theoretical frameworks may be used to study aspects such as the students' acceptance of AI tools, and whether teachers are willing to introduce and integrate these digital technologies into the classroom. There is a link between the usefulness of a certain technology and the attitude of the user as learners have a tendency to "communicate in online L2 classes when they see technology as effective in facilitating language learning" (Huang & Zhang 2025: 16).

Many of the studies on the use of AI have been conducted on American and Chinese students. This study focuses on Polish learners and analyses the efficiency of such tools. There have been several studies regarding the use of Artificial Intelligence in Poland, but they mainly focus on the use of AI by teachers and not the students themselves (Majkut & Tomczyk 2025).

This research analyses the perception of AI tools by Polish learners, i.e. whether they think these tools are useful and effective.

The aim of this study is to analyse the use of AI tools, and discover how many Polish learners are using AI tools to aid their learning process as well as analysing the efficiency of them. I examine various aspects such as: whether the participants used AI tools to aid their learning process, what types of tools were used, if these tools proved to be effective, their overall satisfaction while using these ways of learning as well as analysing the benefits and challenges when using such tools. The specific research questions are as follows:

RQ1: Which group of participants use AI tools the most?
RQ2: Do Polish learners think that AI tools are effective in their learning process?

2. Learning tools

Currently, there are numerous tools used in the process of learning that are available online. What is more, many of them are free of charge, with some applications offering additional bonuses for purchase. However, there is an issue that needs to be addressed first—many of these tools claim to be using AI, while not being clear what that actually means. To this end, some of the tools discussed below claim to be AI-powered, but in reality it is difficult to say whether they are actually using artificial intelligence and to what extent it is solely a marketing ploy.

One of the most well-established language-learning apps is Duolingo, which is known for its user-friendly design. Created in 2011 and launched in 2012, this program offers users the chance to learn languages on their smartphones by devoting a couple of minutes every day. The app has since expanded, and now offers a premium version, where a special feature is included—AI-powered lessons to ensure the best tailored language lesson to one's individual needs. Claimed to be the world's most-downloaded education app, it offers the improvement of language skills such as reading, listening, speaking, and writing while presenting the given material in small chunks consisting of 5 minute lessons. This is done to ensure that the user engages in learning every day. The app gives the users the opportunity to learn over forty different languages, including Zulu, Welsh, Navajo, and Klingon. Learners who used mobile applications "demonstrated a sustained advantage in long-term vocabulary retention compared to those who did not" (Zhou & Zhou 2025: 15). While it is a fun way to start one's learning career due to its colourful designs, creative sentences, and the introduction of podcasts, there is a concern that this app is not sufficient enough for making progress, especially when trying to reach a native-like level of fluency. This is because the actual language exposure is minimal, lacking real-life native dialogues to listen to and the content is often taken out of context. What is more, while Duolingo does provide immediate corrections when users make mistakes, its "feedback is often too generic, failing to explain why an answer is incorrect, which limits the learner's ability to improve" (Iqbal & Rehman 2024: 866).

English File Pronunciation (EFP) is an app specifically designed for improving American or British English pronunciation. Published by Oxford University Press, this app is especially helpful for users of second or third languages who do not have the means to have private

lessons or who do not have the possibility of directly engaging with native speakers of the chosen language. Thanks to this learning tool, learners can master the proper pronunciation without having to leave their house. According to the creators, this app is useful since proper pronunciation is a key component of learning a new language. However, one of the downsides of this method of learning is the lack of feedback as these apps "predominantly offer non-actionable feedback (e.g., binary, scale-based, raw numeric) primarily directed at segmental targets" (Walesiak & Talley 2025: 1).

The next app is called Gemini and was developed by Google. Launched in 2023, this app is a generative artificial intelligence chatbot, and can help with writing, learning, and image generation. This tool was created and released in the wake of ChatGPT and may provide assistance with creative tasks, especially image generation. Another learning app is a special app called Chatheroes. This Polish app offers personalised learning with historical and literary figures such as: Adam Mickiewicz, Nicolaus Copernicus or Maria Skłodowska-Curie. The online learning platform aims to provide interactive lessons which support the homeschooling system.

Perhaps the most well-known and widely used AI app, ChatGPT, has transformed how people interact with artificial intelligence. Created as a generative artificial intelligence chatbot, this model was first based on the structure of the GPT-3.5 language model. It has since been updated to operate on GPT-4 and GPT-5 programming. It was released in November 2022 and offers a large variety of functions. These include generating content, answering questions, understanding text written by humans, which then allows it to engage in conversations with other participants. It can produce a vast amount of text in seconds, write entire essays or provide explanations for various topics. Although the range of its capabilities is constantly improving, there are still drawbacks and limitations. One such example concerns the potential dissemination of disinformation and/or misinformation, highlighting the importance of critically evaluating AI-generated content (Marzuki et al. 2023).

3. Benefits and limitations of such tools

One of the main benefits is the possibility of receiving personalised learning experiences tailored to the specific needs of each learner through the use of data-driven algorithms. For example, Duolingo offers users the opportunity to receive personalised language tests, focusing on the particular mistakes that they have made during the course. This practice allows them to omit repeating content which they already know, and focus solely on improving the areas where they struggle.

Several surveys were conducted to elicit answers from students regarding their self-efficacy and cognitive strategy use when completing their education online. The results have shown that their own reported assessments in these aspects have increased over the course of learning and are generally fairly high (Gonzales & Goel 2019). Another important aspect is the opportunity for learners to study at a time and place which is convenient for them. Learners do not have to be dependent on external factors, such as transportation or weather conditions. All they need is a device and Internet access in order to facilitate their learning process.

According to researcher Tira Nur Fitria, "AI as a pillar of the industrial revolution 4.0 plays a central role in facilitating the learning process mediated by technology" (Fitria 2021: 135).

However, these apps are not without fault, with hallucinations and unreliable output being a dominant drawback. At times ChatGPT was observed to have included misinformation as stated by the producer of OpenAI themselves. This especially occurs in fields of study where new research is produced at a quick pace. In response to a prompt on vaccines, it stated that "Pfizer has been caught red-handed in a nefarious attempt to secretly add tromethamine to its COVID-19 vaccine for children aged 5 to 11" which is a known falsehood (Hsu & Thompson 2023). A more specific example of these hallucinations is the high rate of generating false references. As presented in a study conducted in 2024, ChatGPT and Bard produced non-existent papers in 28.6% (34/119) to 91.3% (95/104) of cases. According to the study, these LLMs should "not be used as the sole or primary means for conducting systematic reviews of literature" and should be rigorously evaluated by the human authors (Chelli et al. 2024).

The study by Marzuki not only highlights the importance of critically evaluating content produced by AI, but also the importance of critical thinking in general. The prolonged use of AI leads to the diminishing skills of the human brain due to cognitive offloading, which occurs when relying on this technology for mental tasks for too long. The effects include difficulties with memory retention and problem-solving skills. The younger generation is particularly vulnerable to this phenomenon as they become more and more accustomed to using ready-made information (Gerlich 2025). The over-reliance on AI may also affect other aspects of critical thinking, such as evaluation and inference.

4. Methodology

This research utilises a quantitative and qualitative design to explore the use of AI tools in the process of learning with statistical analysis employed for data collection and analysis. The reason behind selecting quantitative research lies in its ability to collect numerical data to test theories, identify patterns, and generalise results to a wider population, while qualitative research allows to closely examine the given phenomenon.

In order to address the research questions stated in the Introduction, I created my own questionnaire to examine users' experiences of using AI-powered tools. It was also used to elicit similar information and compare the responses with the previously mentioned studies (von Garrel & Mayer 2023; Kennedy, Tyson, & Saks 2023). The questionnaire was composed of two types of questions: closed questions and open-ended questions. Some examples of closed questions include: Do you use any AI tools while learning? Do you feel that these tools have helped your learning process? And some examples of the open-ended questions: How often do you use these tools? How effective were these tools? The closed questions required a yes/no answer, while the open-ended questions entailed an answer between one and three sentences, up to a short paragraph.

The questions were designed specifically for this study. Content-related validity evidence was obtained through expert review. The items were further evaluated according to the Survey Instrument Validation Rating Scale (Oducado 2020). The study followed a sequential design,

chosen for its ability to progressively build on preceding questions. Before distributing the final version, a sample test was conducted on three participants so as to check the operation of the online form and whether all of the questions were written in a clear manner.

The study was designed and administered through Google Forms. The results were analysed using basic statistical procedures, including frequency and percentage distributions of the variables, as well as a numerical analysis of yes/no responses to the closed-ended questions. In order to examine the use and efficiency of AI-powered tools as well as generate summaries, descriptive statistics were employed. Descriptive statistics were chosen as the most appropriate method due to the exploratory nature of the study.

The questionnaire link was distributed to the participants though email and instant-messaging platforms. In accordance with the snowball sampling method, participants were invited to forward the link to additional individuals who might wish to take part in the study. To uphold ethical standards, the participants agreed to their answers being used and confidentiality was maintained throughout the study. All responses were collected anonymously, and the participants were not required to provide any additional explanations after completing the questionnaire. The respondents were informed of the identity of the researcher along with their affiliated university as well as the procedures for responding to inquiries.

There were three different groups of participants (high school students, university students, and university graduates) and the total number of participants was 42. The number of participants in each specific group varied. The largest group, Group 3, consisted of 19 university graduates, while Group 2, i.e. university students, comprised 17 participants. The smallest group, Group 1, had 6 participants and these were high-school pupils. The age group was between 18-30, with the majority of the participants being 20-25 years old. The majority of the group were female, with 26 of them taking part in the study, comprising 62% of the overall number of participants. 14 males took part, making them 33% of the overall number of participants, while 2 people preferred not to state their gender. All of the respondents were volunteers.

5. Results

The answers show that 28 people out of the 42 participants, i.e. 66%, use AI tools while learning. This means that 14 people do not use such tools to aid their learning process. The results are presented down below in Figure 1. Overall, 18 women stated that they use these tools, while 8 of them said that they do not. Regarding the male participants, 9 men stated that they use AI tools for learning, while 5 of them stated that they do not.
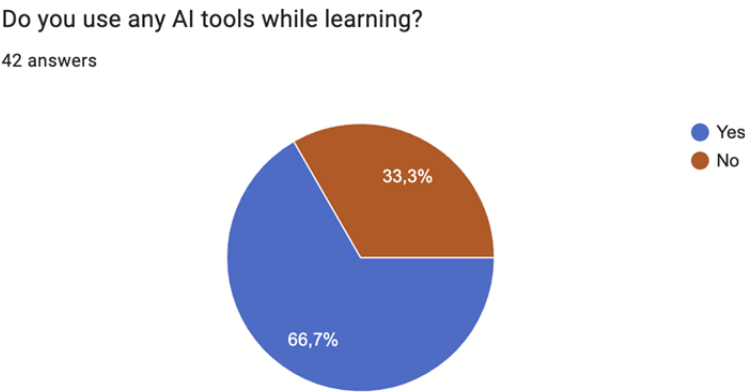
Do you use any AI tools while learning?

42 answers

Figure 1: The use of AI tools

The group that uses AI-powered tools the most is Group 3, i.e. university graduates. 14 people out of 19 in this group, 73%, use such tools, while 5 people, 26%, stated that they do not use them.

The majority of university students who comprised Group 2 use AI tools. In this group, 10 people, 59%, use such tools, while 7 people, 41%, stated that they do not use these tools while learning.

The group that uses AI tools the least is Group 1 (high school pupils), as 4 people reported to have used these tools. The 4 people comprise 67% of the group, while 2 people, 33%, do not use such means of learning. All of the results are presented below in Table 1.

Table 1: Participants who use AI tools

	Group 1 (university graduates)	Group 2 (university students)	Group 3 (high school pupils)
Participants who use AI tools	73% (14 participants)	59% (10 participants)	67% (4 participants)
Participants who do not use AI tools	26% (5 people)	41% (7 people)	33% (2 people)

Concerning the different tools that were mentioned by the participants themselves, ChatGPT emerges unrivalled as the most frequently used tool. This program was mentioned 19 times among the responders. The other most popular tools that were mentioned include: Duolingo, Quizlet, Gemini, Pronounce, DeepL, and Perplexity.

Overall, 14 people in this study declared that they do not use AI-powered tools to aid their learning process. For some people it is not necessary to use these tools, because they do not need to use them in their profession. Four participants said that they prefer traditional ways of learning, i.e. learning by heart or learning solely from textbooks, while 8 people stated that these tools make mistakes so they need to fact-check everything on their own, making it actually more time-consuming.

One of the main reasons for not using these tools was the lack of trust: "I believe there are much better tools for learning, and I do not trust AI to provide me with real information, because it is only an algorithm that can't verify if something is true or not. When it comes to making lists and notes, I prefer to do it myself because it's good for remembering new things"

(Participant 3, Group 2), with another person providing the reason of "lack of trust in computers in anything beyond mathematics or so" (Participant 33, Group 2). The third person also highlighted the lack of trust: "I do not trust ChatGPT to correct my sentences correctly every single time I study a new language. It's hard for me to verify its authenticity" (Participant 20, Group 3).

Another reason is that the participants felt that they did not have to use them in order to help their learning process. One person stated that "I did not have any opportunity. I know some of my friends use AI for school or university essays or projects, but I never felt a need to do so" (Participant 26, Group 2). Another respondent said that "I like doing part of the research rather than getting ready answers from AI, plus I do not feel that the things I learn can be enhanced with AI" (Participant 34, Group 3). Yet another participant declared that "in the case of the field of study I am studying (technical physics), first of all, you need to learn a lot of information by heart or practice solving tasks. Most of the necessary information is provided in university classes or in the literature recommended by the instructors. In this case, using AI is not necessary as it is not able to learn for me. I once tried to use ChatGPT for a project with LabView, but the chat did not quite handle the program and its help was useless" (Participant 23, Group 2).

The last reason was the incompetence of these programs. One participant stated that "I mostly prefer tutorials or study videos on YouTube. Generally I use AI tools if I am looking for the answer and not when i want to learn something" (Participant 6, Group 2). Another person claimed that the tools "have been ineffective in the past" (Participant 11, Group 3).

The majority of the participants, 28 people, declared that they use AI-powered tools while learning. The main reasons include their ability to rephrase and simplify difficult topics, assist with research, and support language learning. As mentioned above, a frequently-appearing reason for using such tools is the ability to explain difficult topics—"I use AI tools to provide me with multiple choice tests and practices on the topics I want to learn. I also use chatGPT to simplify certain topics or definitions I do not understand and learn in smaller chunks" (Participant 4, Group 2). Another person said that they mainly use AI tools to "consolidate all the information, making it accessible and understandable. This means, instead of searching for a topic and opening a significant amount of tabs, I just ask the tools to provide me with the key-points, relevant information, consolidated in a short period of time" (Participant 42, Group 3). The next participant claimed that "they facilitated the learning process and provided easy definitions and explanations of complex concepts" (Participant 14, Group 2).

The following reason is the help these tools provide when conducting research. The first participant stated that "they mainly helped me with research on literature, its interpretations and creators" (Participant 5, Group 2), while another one said that "it searches answers to specific questions, I can inquire about everything instead of looking for another article hoping to find the answer, checks for me whether the information is definitely in line with current knowledge, whether it is supported by scientific research or not" (Participant 8, Group 3). A following respondent stated that "ChatGPT allows for an easier search of information related to certain topics" (Participant 12, Group 3), while another said that they "spend less time on searching the useful literature and more time on analysing the literature" (Participant 41, Group 2). One person declared that these tools were useful in the sense that they were able to

provide a different insight into questions, while another claimed that they "serve as a guide in which direction I should proceed with my research" (Participant 21, Group 3).

Another reason is the fact that these tools help when trying to learn a new language. One participant provides a specific example of such a tool: "Pronounce helps me in language studying, mostly with pronunciation and speech production" (Participant 40, Group 3). Another respondent said that "Duolingo uses AI to create lessons and is where I learn Portuguese. It allowed me to have basic conversations with my partner's family" and that "Youtube and Spotify podcasts have AI-driven recommendations and they help me develop language skills" (Participant 38, Group 3). The next respondent said that they use AI tools "when I need an explanation of something that I don't understand, for example when learning a language to explain a rule" (Participant 39, group 3).

There were also other reasons, related either to work or to learning in general. These include drafting more professional emails, and according to one participant, "chatGPT helps me with negotiation tactics that I need for work" (Participant 38, Group 3). These tools can also be used to teach about current events and historical periods, and help find answers to everyday questions. One respondent provided a specific example of DeepL, which "helps me when a text related to study or professional activities is written in another language, and when I need to read either quickly or I don't know the language in which it is written" (Participant 40, group 3), while another stated that these tools had "helped me by systematising my knowledge and repeating the material I had learned" (Participant 15, Group 3).

5.1. The frequency of tool use

When asked how often the participants use such tools, the answers were varied. 20% of the participants stated that they use them everyday, with one person saying that they use them several times a day. A couple of times per week was also a popular choice, as 27% of the participants provided this answer, with one person saying that they have the subscription. 20% of the participants use such devices once in two weeks, while 23% of the respondents claimed that they use them sporadically. One participant said that they do not use these tools regularly and that "it depends. I can use it once a week when learning myself and 10 times a week when preparing materials" (Participant 20, Group 3). However, one participant reported trying such tools a few times before ultimately discontinuing their use, while another reported rarely using them for learning. The results are gathered in Table 2.

Table 2: Frequency of tool use

Everyday	Several times a day	A couple of times per week	Once in two weeks	Sporadically	Rarely
20%	2%	27%	20%	23%	8%

5.2. The efficiency of AI tools

Another important question in this study was the question of the efficiency of AI-powered tools. The opinions were divided, as some people fully agreed that these tools are effective, while others did not have such positive reactions.

Regarding the group that considered such tools to be effective, some of the reasons include: the matter of saving time, the ability to develop both professionally and personally, as well as aiding the process of understanding various concepts. According to one participant, these tools are "very effective and provided me with a wide range of information. Additionally, it almost always provides more than just a one simple answer and provides several points of view" (Participant 12, Group 3). Another said that "AI tools are effective in helping me develop personally and professionally, that's through the algorithm designed specifically for my needs that keeps me engaged and interested" (Participant 38, Group 3), and one claiming that the tools "answer questions in great detail and are rarely wrong" (Participant 17, Group 3). Others stated that it helps with sorting information and underlining the most important parts in a given paragraph.

The people who did not think that these tools are effective provided some common answers: that the given information is not always correct, meaning that the users had to fact-check them themselves. In addition, sometimes these programs would provide irrelevant information or facts that did not relate to the given topic or prompt. Another reason was that some of the participants believe that it is better to do research on their own, rather than rely on external tools. One participant stated that "those tools are good to automate workflow and find fast answers but if you need to make something more involving then doing research on your own is far more important" (Participant 19, Group 3). The next respondent said that "the downside is that sometimes the information given is not correct and I double check using google or other sources" (Participant 4, Group 2). Some participants thought that the tools would be more efficient, with another saying that the tools were not effective at all because "they always missed the point, for example giving incorrect information or pulling out irrelevant details in the case of the quiz-making AI" (Participant 11, Group 3). Another person agreed, claiming that they "still need to control, if the AI does and writes everything right. That's because I'm a control freak and can rely only on myself" (Participant 41, Group 2) or that "some results, unfortunately, were pure nonsense" (Participant 35, Group 3).

5.3. Other benefits and challenges

Several benefits and advantages of such tools have already been discussed, including the ability to save time and help conduct research, as well as aiding the language learning process. However, the participants agreed that these tools may be used in other ways as well and brought forward a multitude of different answers, ranging from improving their personal lives to providing mental support.

The most considerable benefit discussed was the amount of time the participants saved thanks to these tools. Since they did not have to search for the materials or literature overview themselves and received the answers to their inquiries at once, they had more time to focus on

other aspects, such as analysing the presented materials. Some other answers include: "self confidence as I know that my statements are correct" (Participant 31, Group 2), "the chance to practise with tools that are becoming more common in workplaces and in our life in general" (Participant 6, Group 2), "I discovered how to make my revising process more efficient" (Participant 35, Group 3), and "the feeling of keeping up with the rest of the world" (Participant 40, Group 3). One participant explained that they treated ChatGPT as their own private psychologist, as they were able to gain a new insight into their problems, and had the opportunity to voice their concerns whenever they wished to do so. They felt as if they always had "somebody" to talk to and felt that they were being heard.

The challenges noticed by the participants include the problem of spreading misinformation and the fear of such tools being wrongly used. One participant responded that the "future looks bright with dark clouds in the sky. AI is a tool like a hammer or a saw, it poses its dangers like other tools and it is only on our hand to regulate it and use it reasonably and responsibly" (Participant 1, Group 2). Another one stated that they fear that "overly relying on AI tools could discourage students and people overall from thinking creatively, developing their own skills and understanding concepts on a deeper level" (Participant 11, Group 3). Several participants also reported feelings of frustration due to not receiving the correct answer despite multiple attempts.

5.4. Overall levels of satisfaction

27 people expressed high levels of satisfaction, while 11 participants expressed dissatisfaction with using AI tools, and 4 people said that they experienced an average level of satisfaction. Concerning the last group of participants, one such person stated that "I am not quite satisfied with their ability to see details and execute on them" (Participant 9, Group 1), while another said that "fifty fifty satisfied because of some of the mistakes it makes" (Participant 30, Group 2). The last participant stated that in general "my feelings are mixed - I think it is an amazing invention that leads to development in many areas of life. However, I also believe that it does not lead to personal development, quite the opposite. People using AI in college, for example, are taking away less skills and information by getting the same grades they used to have to learn a lot more for" (Participant 23, Group 2).

Regarding the first group where the participants expressed high levels of satisfaction, a large amount of arguments were provided. Ranging from the issue of time-saving aspects, increasing productivity, and decision-making, the majority of participants have concluded that their experience with using such tools was satisfactory. One respondent stated that the tools "help you to think outside the box, and can also help you create art" (Participant 7, Group 1), while another said that they "are really helpful and can have a positive impact on learning new things/skills when used in a proper way" (Participant 15, Group 3). The following respondent stated that they are "really satisfied with AI tools, they're helpful, and I use them a couple of times a day. Sometimes they feel a bit addicting because they learn your habits really quickly and know how to keep you engaged, but overall, they make my life easier" (Participant 38, Group 3), while another said that "AI can do a lot of things and it's incredible,

it is also interesting for me to see how it evolves" (Participant 39, Group 3). One participant expressed ample gratitude for the apps, saying that "I love it, it fascinates me every time I use it and I feel immense gratitude for having it in my life" (Participant 8, Group 3).

A number of different reasons can be observed regarding the dissatisfaction with using AI tools, with the most prominent one being the mistakes these tools make. One participant claimed that "even though it's getting upgraded all the time, it won't give you human answers when it comes to essays etc" (Participant 29, Group 2). Another respondent stated that "the things that AI undertakes cost more overall than if a human did them, and they do them worse" (Participant 16, Group 3). One respondent stated that "mostly I was not satisfied with using AI, I think it was unable to give me the answers I needed" (Participant 23, Group 2). The results are gathered below in Table 3.

Table 3: Levels of satisfaction

High levels of satisfaction	Dissatisfaction	Average level of satisfaction
27 participants (64%)	11 participants (26%)	4 people (10%)

6. Discussion and conclusions

As seen above, these tools can be used for a variety of different purposes, with each user being able to tailor these functions and capabilities to their own individual needs. Such tools help users who may not have the means to participate in the ways of traditional learning.

The results of this study show that in this particular group of Polish learners, the majority of participants are using such tools to aid their learning process. It was observed in various age groups, including high school students, university students, and university graduates. As seen in the presented results, the answer to **RQ1** is that AI tools are being used the most by Group 3, which consists of university graduates, while over half of university students are using AI tools.

The majority of university graduates use AI tools not only as a means of learning, but also to develop other skills not directly related to their studies, such as nursing techniques or learning musical chords. Several participants use these tools as personal assistants, making them a major component in their daily life. They use it for learning, for work, and for other purposes, while high-school students use it mainly for school or entertainment purposes. The apps used most frequently by university graduates are ChatGPT, Bard, and Perplexity.

Regarding the second research question (**RQ2**), the majority of the participants think that AI tools, are in fact, effective, with almost 70% of the participants having stated that these tools have helped their learning process. Based on the results from the study, it may be concluded that the use of AI tools will increase in the future, with more and more users looking for alternative ways of learning. However, the participants also mentioned the lack of trust in these tools, especially in the sense of providing accurate information, the declining ability of critical thinking, and the importance of doing research on their own. Although there are some drawbacks mentioned, the creators of ChatGPT are constantly introducing new

improvements and increasing the amount of tasks that may be automated, suggesting that these tools will likely become more effective and useful in the future.

The study mentioned in the Introduction showed that every fourth student used AI-based tools very frequently, while half of the students used them occasionally (von Garrel & Mayer 2023). The second study discussed in the Introduction found that 27% of Americans interact with AI several times a day (Kennedy, Tyson, & Saks 2023). My results demonstrate that 20% of Polish learners in this group use AI-powered tools several times a day, while 27% use them a couple of times per week. However, 23% of the respondents use them sporadically. Due to the growing popularity of these apps and the constant introduction of upgrades, it may be surmised that the number of people using these apps on a frequent basis will rise.

A number of participants use these tools for various other reasons than strictly enhancing their learning process, including learning new skills and seeking psychological assistance, showing that these tools can be used in other ways besides research-purposes.

Several aspects regarding the use of AI tools have been discussed, including specific examples, the benefits, and the efficiency of the previously mentioned methods of learning. Although these apps can be used to facilitate the learning process, there is a risk of misinformation and generating non-existent references, meaning that users still need to fact-check the information produced by these apps. Currently, AI is viewed more as a tool rather than actively replacing teachers, yet its role in education is expected to grow considerably in the near future. Consequently, it is crucial for educators to develop a comprehensive understanding of these systems as students are already relying on them as part of their regular learning activities.

7. Limitations of the study

One of the limitations of this study is the sample group. For future research, it would be more useful to have a larger group of participants as it would allow for more inferential conclusions about a larger group of learners. Furthermore, the questionnaire would be expanded to gather more data about the use of AI tools, the efficacy of these systems as well as analysing the consequences of the prolonged use of Artificial Intelligence.

Because the questionnaire was conducted online and all of the answers were anonymous, I could not interact with the participants. If a person gave insufficient answers, I could not ask them for any specifics, further clarifications or more elaborated answers.

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