



# USING AI CHATBOTS IN ACADEMIA-THE OPINIONS OF UNIVERSITY STUDENTS

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## Abstract:

The aim of this paper is to analyze the attitudes of students regarding the use of AI chatbots for academic purposes. The theoretical part of this paper offers an overview of previous theories, studies, and publications related to the use of ICT tools in education, the role of teachers in contemporary societies, and the goals of students in contemporary societies, as well as recent research on the use of A.I. in the public sphere, whereas the research part of the paper offers an original study conducted for the purpose of this conference. The research instrument was an online survey given to university students (78) with multiple types of questions, with the purpose of discovering whether our students were familiar with the concept of AI chatbots, had they ever used it, and, if so, for what purpose, and whether they would be willing to use it for academic purposes.

## Keywords:

AI Chatbot, Academia, Educators, ChatGPT, Artificial Intelligence.

## INTRODUCTION

The purpose of this paper is to gain early academic insight into what is and will, doubtlessly, continue to be, at the forefront of concerns for education, academia, and research work at all levels. The authors of this paper had first become aware of the public distribution of artificial intelligence software at the end of 2022 when one of them received a timed assignment from a student of an introductory course, which subconsciously raised several red flags. The essay did not excel due to its groundbreaking thesis statement, nor was it poorly written. Quite the opposite-it was a very formal, almost textbook-like paper, checking all the right boxes and fitting into the professor's requirements completely, with nary a grammar error or misspelling to be found. Why the alarm then? The problem lay in the fact that the student had not submitted a paper that had its full basis in the course materials, which had been diligently explained and provided to them throughout the semester. Although it is not uncommon, and is, in fact, encouraged that students expand their knowledge by seeking outside sources, the reality is that many, or rather, most of them, do not, particularly as first-year students who are just at the beginning of their tertiary academic careers.

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As news sites, journals, and conferences began updating the public about both the wonders and potentially hazardous consequences for creative and academic professionals, the authors were inspired to take a closer look at their own surroundings and uncover what they could about the still-early days of A.I. chatbot usage.

## 2. AI CHATBOTS

One of the most recent and pressing difficulties for educators and education officials is the use of advanced artificial intelligence (AI) technologies in learning environments. AI chatbots and other novel alternative Information and Communication Technologies (ICT) solutions are made possible by conversational AI, which stands to become a threat not only to academia, but to all manners of careers requiring higher education. Although the traditional teaching process, i.e., student-centered learning, is still the cornerstone of our educational systems, it seems it might be replaced by the newest technology, due to constant developments in the digital era. The teacher-centered method empowers students to simply receive knowledge from their teacher without building their commitment level. However, most lecturers are used to practicing the student-centered approach to encourage interest, analytical research, critical thinking, and feelings of fulfillment among students. [1]

According to Mageira et. al. [2], ‘AI chatbots are intelligent systems/applications that are able to interact with humans in various aspects of daily life using natural language (NL). In the educational context, AI chatbots can play the role of intelligent tutors by presenting educational material, stimulating dialogue, providing feedback to students, etc. In some cases, AI chatbots can also play a complementary/supportive role to human tutors by answering students’ questions and providing guidance in a 24/7 timespan, something that is evidently impossible or unprofitable to implement with human tutors.’ According to the same authors, ‘Chatbots can play an important role in the field of education because they are an interactive mechanism compared to traditional e-learning systems. Among other ICTs, chatbots are considered safe and accessible learning tools that can bring positive results in learning.’ [4] Some other studies claim that, by accelerating response times and being accessible around-the-clock to answer or clarify any question, AI chatbots improve user-student satisfaction and, in this way, teachers can support students who have missed one or more lessons while avoiding answering

repetitious inquiries that chatbots can quickly respond to. According to Hattie, a teacher typically does not have enough time during a lesson to provide formative feedback to each individual student. [5] However, formative feedback given to students during the learning process is one of the most crucial elements in raising their performance and motivation, and An AI chatbot has the capacity to help each student individually, using various learning pacing methods, and delivering knowledge in accordance with each student's unique cognitive level.

Even though the role of teachers has evolved, and teachers have now become facilitators, moderators and instructors, the technology used in education can act as a supplement, but not as a substitute for teachers. [6] Furthermore, according to Ilić and Bošković Marković, ‘online teachers are more accountable for the production of their class materials and for the overall design of their classes, as they are quite often recorded and re-played by their students, or by the university management,’ which also adds to the importance of teachers even in the digital era. [7] This is why we should also bear in mind the opinions of teachers. According to one previous study, ‘although they state that they feel comfortable using ICT tools in their classroom and perceive new technology as a tool that contributes to better language acquisition of students, teachers also often or always apply the traditional methodology in the teaching practice, which shows that they consider benefits of innovative methodologies assisted with new technology, but do not discard the proven traditional formulas for effective teaching and learning.’ [8] That being said, Daniel Lametti of Slate Magazine points out that ‘chatGPT might fail at tests of reasoning, but it’s great at generating human-like text to different lengths and in various styles,’ [9], openly acknowledging the benefits of taking advantage of this new tool, in which a project requiring hours of research and writing could be whittled down to mere minutes, by simply inputting the required length, topic, and tone of the desired project. The Economist cites a March 2023 study, warning that “teachers, especially those of languages, literature and history, are next on the list,” (in terms of occupations likely to be made redundant due to A.I.) [10] The same article, however, also recognizes that jobs that require basic human qualities, namely empathy and charisma, will not be able to be reproduced by A.I. [10]. At least not yet.



Taking all these things into consideration, we should not blindly succumb to the use of AI in all segments of higher education. To be more precise, we should choose wisely when it comes to the area in which this usage can or cannot be allowed. As digital pioneers, our students might hold different opinions. This is why we have decided to conduct a study in order to examine their thoughts, previous experiences, and especially their attitudes toward the use of AI chatbots for academic purposes.

### 3. RESEARCH METHODOLOGY

Since the goals of this study are primarily exploratory, an observational and correlational design was used in its implementation. The research was conducted on a convenient sample of 78 respondents, of which 49 self-identified as male, 24 as female, and 1 preferred not to say (Figure 1). 65 participants declared themselves as Serbian nationals while 6 declared themselves as members of another nationality (Figure 1).

All participants were university students, with most of the first-year students (Table 1).

All the respondents applied to participate in the research, they were informed about the tasks in advance, that the data would be used exclusively anonymously,

and that, at any time, they could withdraw from the research without any consequences. The research was carried out in accordance with the Ethical Principles and Code prescribed by American Psychological Association (APA). All respondents were given an anonymous survey to fill out via the online platform Google Forms. The questionnaire consisted of two parts. The first part consisted of questions related to the socio-demographic status of the participants. The second part consisted of questions and statements related to the use of AI chatbots in an academic environment. The questionnaire consisted of 10 open-ended and closed-ended questions, as well as 3 questions to which the degree of agreement was expressed on the basis of a five-point Likert-type scale. After collection, in order to perform further analyses, the data were coded and transformed into a numerical matrix. The data from the questions of the survey were transformed into nominal and ordinal scales according to the respondents' answers and their frequency. Answers to the statements were converted to an overall average score ranging from extreme disagreement or negative attitude (1) to extreme agreement and approval (5). Based on the calculated scores descriptive statistical analyses as well as non-parametric analyses of variance (Kruskal-Wallis) were performed. Microsoft Excel 2007, SPSS 20 and Jamovi software package were used for performing the analyses

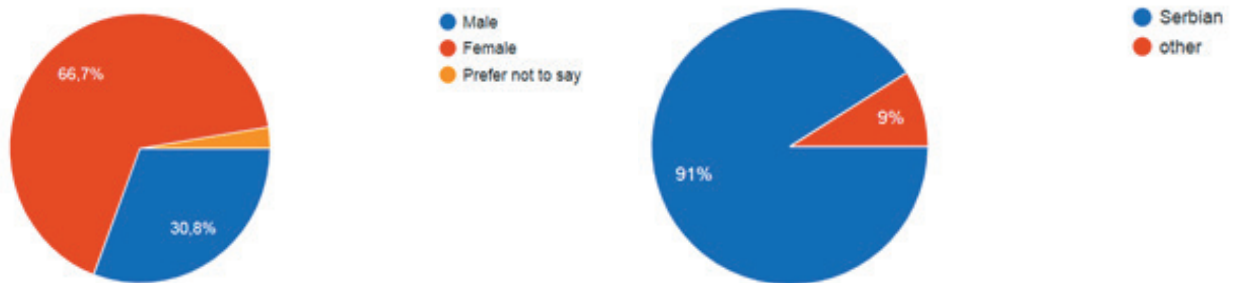


Figure 1 - Percentage representation of genders and nationality in the sample.

Table 1 - Structure of the sample according to the year of study.

Levels	Counts	% of Total	Cumulative %
1 <sup>st</sup>	38	51.4 %	51.4 %
2 <sup>nd</sup>	11	14.9 %	66.2 %
3 <sup>rd</sup>	11	14.9 %	81.1 %
4 <sup>th</sup>	14	18.9 %	100.0 %



## 4. RESEARCH RESULT

To the question "Have you heard of AI chatbot, chatGPT, or other artificial intelligence programs?" 60 (81.1 %) of responders said "yes," while 14 (18.9 %) claimed "no." According to the frequency of answers to this question, there were no significant differences found between respondents of different genders, nationalities, or year of study.

This question was followed by the instruction "If no, end of the survey. If yes, continue," so that further analyses were performed on a sample of the 60 respondents who answered "yes" to the question concerning the existence of the AI chatbot.

To the open ended-question "To the best of your knowledge, when did you first hear about it?", most of the answers relate to the time frame of the second half of 2022 and the first half of 2023. It is interesting that even though it was not asked, the Tik-Tok platform was singled out as the main source of information in the answers to this question.

To the question "Have you ever used an AI chatbot just for fun?" 27 (45 %) of responders answered "yes," while 33 (45 %) claimed "no." According to the frequency of answers to this question, there were no significant differences found between respondents of different genders, nationalities, or years of study.

To the question "Would you ever use an AI chatbot for an academic assignment?" 16 (26.7 %) of responders answered "yes," while 44 (73.3 %) claimed "no." According to the frequency of answers to this question, there

were no significant differences found between respondents of different gender, nationality and year of study.

Descriptive indicators of answers to questions: "Scale 1-5 (1-not conflicted, 5-most conflicted), how would you feel upon turning in a project/paper/assignment that you did not work on entirely on your own?"(9), "To the best of your knowledge, would your work be perceived as faulty by others?"(11), "Would you use AI chatbot to turn in an assignment?"(12) are shown in Table 2. According to the scores made from answers to these questions, there were no significant differences between respondents of different genders, nationalities, or years of study in any question.

The frequency of responses to the question of what the possible reason for would be using an AI chatbot for an academic assignment is shown in table 3, while the rest of the responders (21) claimed they wouldn't do so or didn't provide an answer.

Table 2 - Descriptive Statistical Analyses for Questions 9, 10, and 12.

	9	11	12
N	59	58	60
Missing	1	2	0
Median	3.81	3.43	4.00
Standard deviation	1.07	1.29	1.31
Minimum	2	1	1
Maximum	5	5	5
Skewness	-0.218	-0.406	-1.02
Std. error skewness	0.311	0.314	0.309
Kurtosis	-1.33	-0.626	-0.258
Std. error kurtosis	0.613	0.618	0.608



Table 3 - Frequency of the Reasons for Using AI chatbot for an Academic Assignment.

Levels	Counts	% of Total
I do not know much or enough about the assignment to do a good job on my own	20	37.7%
Because I am short on time	13	24.5%
I believe I'd do a better job than AI	1	1.9%
I didn't use it, somehow it really depends on the subject if you work something that you are interested in, you don't need these kinds of application, because you want to do these tasks with joy, however it can be a problem when people need to something they despise or simply because they are bad at this work, but I don't think this application can help you if you don't have self-criticism and primary knowledge on subject or essay you are working on [sic]	1	1.9%
I saw/heard other students do so, and felt they had an unfair advantage	1	1.9%
I wouldn't have a conflict, in case I used it for inspiration and to gather ideas. If it were completely written by AI and unaltered by my, I wouldn't turn in the assignment.	1	1.9%
The bot probably has more eloquent sentences and could fix my mistakes. Maybe even use it to paraphrase parts of my text if I struggle making it make sense. Maybe even use it as an example or a guide as to what exactly is expected of me.	1	1.9%
To make it more representable	1	1.9%

## 5. DISCUSSION

The most frequent responses to the question “What are your thoughts on the use of AI chatbot when it comes to academia?” were: “I do not know much or enough about the assignment to do a good enough job on my own,” with over one-third of the respondents opting for this response, while over a quarter of the respondents chose ‘Because I am short on time.’ To interpret the response “to make it more representable” is to assume that the respondent claims the AI software might be more capable of creating or finishing a more streamlined final product than they themselves might. Arguably, it is somewhat polemic to come across so many students responding with “I do not know much or enough about the assignment to do a good enough job on my own,” as this implies that they do not deem themselves capable of submitting a project good enough of their own accord. Given that each incoming generation enters academia with more access to and better tools for research than the previous, the logical assumption would be that the students ought to feel empowered to create more and better work. Furthermore, most professors themselves consistently upgrade and improve upon their course materials, adapting to both the times and to their students, as is expected of an academic environment. As such, this is an issue that is ripe for future research. A more believable scenario would be to anticipate a lack of sufficient time being the reason behind opting for AI assistance, even as a last-minute resort. In this world with so many distractions and pulls in multiple directions, it

would be unrealistic to assume that university students, most of whom are young and have grown up with the Internet their entire lives, would be spared. From doomscrolling to niche topics on various social media platforms to the fact that nearly all academic courses can be followed remotely-all this and more has contributed to a lack of attention span and the realization that time has unwittingly slipped us by. Coupled with the fact that many students, in addition to studying, are also working part or full-time, “because I am short on time” is not only a plausible, but an expected common answer. That being said, at least in these still early days of publicly-used AI software-and no doubt this Chimera will only continue to multiply its heads-it is encouraging to note the paucity of responses from students who-at least in this survey, which was an anonymous claim to harbor no conflict of interest towards utilizing it, or frustratingly opt for it because they feel their peers might have an unfair advantage.

## 6. CONCLUSION

This preliminary insight into (undergraduate) student experiences offers a humble yet intriguing first-hand perspective that should continue to be investigated, and frequently so, with each new generation of not only incoming students but following every additional upgrade to AI software made available to the public. Future steps should certainly include a breakdown of fields of study in which student reliance upon software technology is suspected or anticipated with a particular





focus on the distribution between humanities/social sciences and natural sciences. It would be fascinating to compare with previous works based on problem-solving, academic analysis, or creative writing, and discover whether the human-made output stood out for its effort and final product, or whether the machine-produced result won out on all fronts.

Close attention should also be paid to improvement in AI detection software, and whether it will even be able to keep up with recognizing wholly newly produced material, which is the definition and goal of chat GPT and other tools. In a move similar to plagiarism-detection tools made available starting over twenty years ago, and as copyright infringement is rife in both technical and creative fields, it seems that opening Pandora's box of text generation will add an additional job to educators' already encumbered list of tasks by forcing them to question and check the veracity of each student assignment.

Finally, we as educators and professionals in the field must also face a rather daunting choice concerning our own opinions on AI software. Just as we no longer consider using calculators to be akin to cheating at math, and as every translator worth their salt is expected to use TRADOS (though, over the past decade, multiple free translation tools have also become available), has the time come for us to simply embrace the tired adage of 'work smarter, not harder?' We continuously tout our aims to pass on to our future leaders the importance of critical thinking, and how it is superior to rote memorization when it comes to education-can this task still be performed with a little help from the Internet? We shall wait for future studies to give us answers to this significant question.

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