

INSIGHTS INTO THE LATEST INNOVATIONS: UNIVERSITY STUDENTS' OPINIONS AND ATTITUDES ON USING CHATGPT FOR EDUCATIONAL PURPOSES

UDC 004.89:378.14

Milica Vitaz¹, Sandra Vasković²


¹Faculty of Philology, University of Belgrade, Belgrade, Serbia

²Technical Faculty in Bor, University of Belgrade, Bor, Serbia

ORCID iDs: Milica Vitaz

 <https://orcid.org/0009-0009-6694-9212>

Sandra Vasković

 <https://orcid.org/0000-0002-1624-841X>

Abstract. *Browsing research papers regarding the subject matter of AI and ChatGPT, one infers a plethora of articles on the topic. Given that ChatGPT is a large language model (emphasis on the language), it is no surprise that many of discussions and debates are in the domain of education and language learning. A significant number of those refer to the position of such technologies in tertiary education. We present and comment on the opinions of university students on using ChatGPT, observing the following: 1) how familiar the students are with ChatGPT; 2) their thoughts and opinions on chatbot; and 3) what they would use it for. We have conducted a survey with English majors, Faculty of Philology, Belgrade University who filled in an open-ended, anonymous questionnaire, containing the abovementioned questions.. The analysis helps place the attitudes of Serbian students within a broader spectrum of similar research being conducted elsewhere. It provides insights into the potential of ChatGPT as an educational tool and its integration into university curricula. Additionally, this study offers recommendations for optimizing the usage of ChatGPT, addressing concerns and limitations identified by participants, which should lead to making informed decisions about the implementation and use of ChatGPT.*

Key words: *ChatGPT, AI, university students, opinions*

1. INTRODUCTION

We would like to start by discussing AI in general, and ChatGPT in particular as a type of AI available freely to our students and us. We will try to define these concepts, discuss their place in the domain of education and point out their advantages and disadvantages.

When trying to define AI, we had to step out of our comfort zone, and borrow insight from other fields of research. Cugurullo (2020, 2-3) states that a single definition of AI

Submitted April 3, 2024; Accepted May 8, 2024

Corresponding author: Milica Vitaz

University of Belgrade

E-mail: milica.vitaz@fil.bg.ac.rs

does not exist, but that we could explore its meaning through dismantling it into the two components, the two sub-concepts that make up its name: artificial and intelligence. “By combining the two sub-concepts, artificial and intelligence, we can broadly understand an AI as an artifact able to acquire information on the surrounding environment and make sense of it, in order to act rationally and autonomously even in uncertain situations,” claims Cugurullo (2020, 3). Further thinking about AI inevitably leads to the question of its consciousness, i.e. whether it can think and to what extent. Although this is an intriguing and highly debatable topic, it falls out of the scope of this particular research.

As we attempt to describe and understand AI in all its different forms, it is not surprising that we compare it with another entity we assign intelligence to, human beings. Korteling and associates (2021, 5) mention 5 ways in which humans differ from AI: 1) structure (a biological system compared to a digital one), 2) speed (computers being so much faster than people), 3) connectivity/communication (humans having more intricate and less direct ways of communicating compared to machines), 4) updating (with very few constraints in AI and a lot of obstacles in humans), 5) energy (humans need it far less than machines to operate successfully). It is notable that in some aspects AI has the upper hand, while in others it is the humans who are advantageous.

AI has, and will continue to have, an undeniably significant place in the field of education. González-Calatayud et al. (2021, 3-4) broadly divide its application in this field into AI for tutoring and AI for assessment. Given that the participants of our study were students, there is no surprise that their comments and impressions relate to the use of AI in the domain of tutoring and not assessment.

In November 2022, when Open AI launched a new conversation chatbot, we witnessed the birth of ChatGPT (Ali et al. 2023, 42). Since then this tool has become extremely widespread and popular, especially with young people, our potential students (Stepanechko and Kozub 2023, 298).

Most authors, educators, researchers and the like, mention how this new tool will be both our blessing and our curse, how it has its strengths and weaknesses: Millich and Mollick (2022), Ali et al. (2023, 42), Stepanechko and Kozub (2023, 298), Baskara and Mukarto (2023, 347), etc.

Let us focus on the positive aspects first, and highlight some of the benefits of ChatGPT that researchers and educators have recognised. This is a tool which replicates human conversation, and in terms of language learning and teaching, this is an amazing opportunity which needs to be explored (Kohnke, Moorhouse and Zou 2023, 2). Furthermore, it has the potential to assist students during the writing process, aiding writers who face a barrier, or it can provide a fresh perspective on a certain topic (Gill et al, 2023, 4).

Some authors (Baskara and Mukarto, 2023, 344) recognize the need for more detailed investigation into ChatGPT in the domain of higher education. Stepanechko and Kozub (2023, 299) warn us about the following feature of ChatGPT – given the exact same task, it will produce different, but correct answers. This can potentially have a massive impact on students’ cheating and taking short-cuts when completing their assignments. However, we have consulted with several colleagues who were suspicious of their students’ using ChatGPT while completing their homework. Their general opinion is that a teacher could observe patterns and similarities in the students’ answers which were generated by the chatbot. Still, there remains the problem of proving beyond doubt that there was any wrongdoing on behalf of the student.

As we are dealing with a very recent invention, we recognize the need for it to be explored and analysed. Only then can we expect to find good use for it, as well as become aware of the potential risks. As Baskara and Mukarto (2023, 353) have put it: "It is essential to consider the impact of ChatGPT on language teachers, learners, and society. Investigating the ethical and social implications of using ChatGPT for language learning will contribute to a better understanding of its role in higher education." Our own research tries to uncover the ethical implications of this tool through analysing the answers given by our research participants.

2. PREVIOUS RESEARCH

A lot of research has been conducted recently in the domain of AI as a broader concept, and ChatGPT as a more specific concept. González-Calatayud et. al. (2021) have conducted a comprehensive research on the papers written on AI and its role in education, focusing on student's assessment. While their investigation may not align entirely with your own research parameters, some of their conclusions remain relevant to anyone studying this phenomenon. For instance, they claim that the use of AI in education is not so wide-spread, mainly due to the lack of knowledge on behalf of the user (González-Calatayud, 2021, 11). Three years have passed since this claim was made, and that may be a long time when it comes to technology and its rapid development. This means that some of the statements previously made might not be relevant to a degree. However, as technology advances swiftly, it is imperative that we keep pace with its development and adapt our utilization accordingly.

Most papers that explore and/or describe ChatGPT are very recent in date, with the majority of them having been written in 2022 or 2023. This is understandable, given the launch date of ChatGPT. These papers mainly describe the online chatbot and share people's views and opinions on the tool. Consequently, our research has taken a similar route. Below are brief summaries of some of the more relevant articles on the topic of ChatGPT.

In their analysis, Mollick and Mollick (2022) single out three ways or strategies ChatGPT can assist learners in higher education contexts. They talk about improving transfer, breaking the illusion of explanatory depth and training students to critically evaluate explanations. The article includes ready-made examples on how to achieve each of these goals.

Kohnke, Moorhouse and Zou (2023) provide us with insights into the diverse applications of ChatGPT. Going through the list of their suggestions and ideas may certainly be beneficial to students and educators alike. Some of the concepts they highlight are the following: helping learners understand the meaning of words in context, their translation, identifying and explaining language mistakes, generating various types of text, etc. (Kohnke, Moorhouse and Zou 2023, 3). However, these authors emphasise the importance of posing clear and specific questions when communicating with the chatbot, so as to obtain correct, accurate and relevant answers (Kohnke, Moorhouse and Zou 2023, 8). As the main concerns that are voiced, the authors discuss such problems as students potentially cheating, the chatbot's cultural bias or the accuracy of the data (Kohnke, Moorhouse and Zou 2023, 8-9).

Similar to the aforementioned paper, Baskara and Mukarato (2023) discuss the pros and cons of ChatGPT, while also delving into its potential usage. The fact that ChatGPT has the ability to produce responses that resemble human language proves highly beneficial for language learning, the authors say (Baskara and Mukarato, 2023, 346). It can write dialogs, it

can produce writing prompts, it can do translation, give feedback to students on their written work, and so on (Baskara and Mukarato, 2023, 347). Furthermore, it can use incomplete prompts to give personalised and contextualised feedback to users (Baskara and Mukarato, 2023, 347), at the same time taking into consideration the level of the students, their interests and learning objectives (Baskara and Mukarato, 2023, 349). Personalisation is the key advantage of this language model, and the authors refer to it as ‘a hallmark of ChatGPT’. (Baskara and Mukarato, 2023, 349). On the other hand, this language model possesses some drawbacks which may cause concern. These are some of the drawbacks highlighted by the authors (Baskara and Mukarato, 2023, 348): first, ChatGPT may struggle with more complex, abstract notions and concepts; next, the generated content might be inappropriate, biased, racist, etc.; finally, there is concern among educators regarding the impact of this language model on their employment.

One relevant paper predating the release of ChatGPT examines why using various types of technologies in education is harmful (Alhumaid, 2019). The author points out that technology and education have been merged and are now inseparable, with students being native users of technology and so many subjects being taught through the use of technology worldwide (Alhumaid, 2019, 11). The paper primarily critiques the impact of technology on the socio-humanistic aspect of education. Namely, using technology in education creates a divide between a student and a teacher, as well as among the students themselves and it creates a divide between those who have access to technology and those who do not (Alhumaid, 2019, 13). An ominous assertion can be found on this very topic: “teaching has been ripped from the realm of human endeavours and morphed into a technological leviathan that is slowly usurping the soul of the profession.” (Kemp et al., 2015, 4). Although these opinions predate the release of ChatGPT, we should not ignore the warnings expressed here.

A paper written by Ali et al. (2023) examines the connection between ChatGPT and students’ motivation. It explores the motivation levels regarding the different language skills, both micro and macro. The data shows that ChatGPT could be highly motivating when it comes to developing reading and writing, whereas the participants had a neutral attitude on its effect on listening and speaking (Ali et al., 2023, 44). This does not come as a surprise, given the fact that the current format of the most available version of ChatGPT is written. Also, participants believe that the two micro skills, grammar and vocabulary, could be improved through the use of ChatGPT (Ali, et. al. 2023, 45).

3. METHODOLOGY

The survey method used in this study, conducted in September 2024, was designed to capture a broad range of student perspectives. The questionnaire, which consisted of eight questions, included demographic information such as gender, age and year of study, followed by questions on awareness, usage and perceived usefulness of ChatGPT. Both closed multiple-choice and open-ended questions were asked in order to gain differentiated insights. Data collection was conducted electronically outside of class to ensure anonymity and convenience for participants. A total of 61 students from the Department of English participated in the survey, providing a representative sample for analysis. Initially, a total of 148 students were asked to take part in the research and to fill out the questionnaire. Given that more than half of the students did not choose to participate in the research, thus limiting its outcome, some strategies could be developed to ensure better participation in the future.

4. RESULTS AND DISCUSSION

The survey, conducted among English majors at the Faculty of Philology, Belgrade University, aimed to determine the awareness, usage and perception of ChatGPT, an AI language-processing model developed by OpenAI. The results of the survey provide valuable insights into students' attitudes towards this technology and its potential impact on their academic activities. This section discusses the results in detail, focusing on various aspects such as demographic analysis, awareness and usage of ChatGPT, first impressions, perceived usefulness, and pedagogical impact.

4.1. Demographic analysis

The demographic profile of the survey participants shows that female students (75.4%) outnumber male students (24.6%). In terms of age distribution, the majority of participants were between 20 and 25 years old (70.5%), followed by those younger than 20 years old (25%) and a minority older than 25 years old (5%). In terms of academic year, first-year students formed the largest group (62.3%), while second-year students made up about 20%, with third- and fourth-year students accounting for 13% and 5%, respectively. It is noteworthy that all participants belonged to the Department of English, indicating a homogeneous sample with a common academic background.

4.2. Awareness and use of ChatGPT

The results of the survey show that the majority of students (93.4%) do not use ChatGPT in their daily lives. Of those who were aware of ChatGPT, the main source of information was the internet (59%), highlighting the role of online platforms in disseminating knowledge about AI technologies. Relatively few students reported learning about ChatGPT from teachers (11.5%), friends (15%), or family members (8.2%), suggesting that they rely on digital channels to obtain information. Despite widespread awareness, a significant proportion of students (around 6.5%) had either never heard of ChatGPT or were encountering it for the first time.

4.3. Perception of ChatGPT

The analysis of the students' first impressions of ChatGPT revealed different views, which were categorized into positive, mixed, negative and uncertain/no firm opinion groups. In the positive impressions, ChatGPT was emphasized as a useful tool that offers exciting possibilities and is a helpful and interesting innovation. In contrast, negative impressions included expressions of horror at the capabilities of AI, concerns about the potential negative impact on literacy skills, and fears about the perceived threat to future professions.

Mixed impressions reflected a mixture of optimism and caution. They recognized the benefits of ChatGPT but also saw the potential drawbacks. Some students perceived it as scary but potentially useful, while others recognised its benefits but feared its limitations.

The proportion of respondents who had a positive impression (32.8%) was almost identical to the proportion of respondents who had a negative impression (31.1%). Around 25% expressed mixed impressions, while 11.5% were unsure or had no clear opinion, suggesting that the possibilities and implications of the technology need to be explored further.

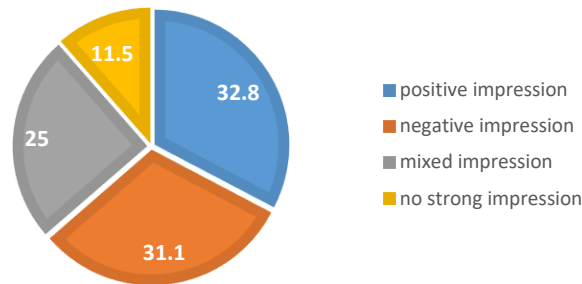


Fig. 1 Perception of ChatGPT (*What were your initial thoughts on ChatGPT?*)

4.4. Usefulness of ChatGPT in the academic environment

The students' perception of the usefulness of ChatGPT in an academic context was explained based on the responses, which were categorized into different areas: support in understanding and learning (32.8%), research and information retrieval (25.0%), support in writing and composing essays (23.6%), mixed impressions (5.0%), and negative impressions (20.0%).

The majority of students expressed optimism about the potential of ChatGPT to enhance learning by helping to explain difficult topics and clarify curriculum content. They also welcomed the role ChatGPT plays in expanding their vocabulary and providing examples of complex grammar exercises.

In terms of researching and retrieving information, students saw ChatGPT as a tool that speeds up the search for specific details, summarises information efficiently and provides quick answers and ideas.

For essay writing and composition support, students expected ChatGPT to help them write essays and answer questions about various topics. They also hoped for help with brainstorming ideas and checking grammar and spelling. Furthermore, the participants thought the chatbot would be helpful in providing them with suggestion for synonyms and antonyms to help them paraphrase their writing content.

Whilst the majority of students had a positive attitude towards ChatGPT, there was also a group who had mixed impressions. They recognised the potential usefulness of the chatbot, but remained cautious due to its error-proneness and perceived limitations. In addition, some students had a negative impression. They feared that ChatGPT could trivialise learning by completing tasks on behalf of the students, providing incorrect information and having limited utility, thus questioning its effectiveness in an academic setting.

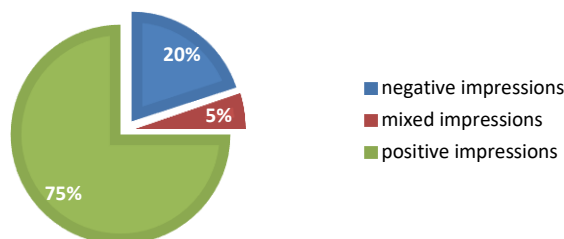


Fig. 2 Usefulness of ChatGPT in the academic environment (*In what ways could ChatGPT be useful to you during your studies?*)

4.5. Limitations and suggestions for further research

As is the case with any research, it is important to be aware of the limitations of one's work. However, these limitations could be taken as starting points for further research.

In this study we have focused on surveying students of the English language and on exploring their attitudes and opinions about ChatGPT. This choice was made since it correlates with our field of interest and line of work. There is no doubt that expanding the research to include students of other languages, as well as students at other faculties, would yield more relevant results.

Next, the research could have benefitted from a larger participant pool. Out of the 148 students invited to complete the questionnaire, only 61 did so. Despite ample time provided and the minimal time commitment required, nearly two-thirds of the students opted out. To mitigate this in the future, various strategies can be employed. One approach could involve making research participation a prerequisite for exams or midterm tests. Alternatively, incentivizing participation by offering additional points may yield higher engagement. Another effective method could entail conducting the survey during class time, ensuring higher attendance and participation rates. All of this, of course, should be done in agreement with the relevant department and the exam committee.

The time when we conducted the study is certainly an important factor. Since we were investigating a new technology which is still in its infancy, we have to be aware of how quickly it is changing. What must change with it, are also people's opinions and the way the technology could be used. As a result, continuous study of the phenomenon should be maintained. These findings have significant implications for its use in the classroom. As ChatGPT and similar technologies evolve, educators must adapt their teaching methods to effectively integrate these tools into the learning environment. Continued monitoring and evaluation of student perceptions and usage behaviour is essential to ensure that these tools are meeting the needs of students and teachers alike.

Finally, we feel like we have only scratched the surface with a more general analysis of our students' opinions. There is no doubt that conducting a more comprehensive survey would give detailed input about how students feel and what they use ChatGPT for.

5. CONCLUSION

The analysis of the survey provides a valuable insight into student perceptions of ChatGPT and highlights the perceived benefits, limitations and ethical considerations. While a significant proportion of students are unaware of or sceptical about ChatGPT, the vast majority recognize its potential to enhance learning, research and academic writing. The diversity of opinions emphasises the need for nuanced approaches to integrating AI technologies into education to address concerns while harnessing their transformative potential. Furthermore, the findings emphasise the importance of educational and awareness-raising initiatives to promote the conscious use of AI technologies by students. Ultimately, the usefulness of ChatGPT, as with any other tool, depends on its prudent and responsible use. This highlights the need for ethical guidelines and pedagogical frameworks to maximise the benefits while minimising the risks.

Perhaps, in the true spirit of education, it could be suggested that both teachers and students learn as much as they can about this tool. Teachers ought to be trained on how to utilise it effectively and identify plagiarism, whereas students need to understand to which

extent ChatGPT can aid them when learning, but also understand the potential impact it can have on the credibility of their work (Gill et al., 2023, 7).

All in all, it is crucial to find a way to exploit the many benefits that ChatGPT can have on students' learning, but at the same time be aware of the negative effects it may cause (Stepanechko and Kozub, 2023, 300-301). The first step one needs to take, be it a teacher or an educator, is to learn about the phenomenon (Gill et al., 2023, 2).

Questionnaire

1. Gender
 - male
 - female
2. Year of study:
 - 1
 - 2
 - 3
 - 4
 - senior undergraduate (a student who has finished attending all his lectures but has NOT graduated yet (i.e. taken all his exams))
 - master student
3. How old are you:
 - <20;
 - 20-25;
 - more than 25
3. Major:
4. Do you use ChatGPT in your everyday life?
 - Yes
 - No
5. Briefly explain how you found out about ChatGPT:
 - Friend
 - Internet
 - Family
 - Teacher
 - Other
6. What was your initial thought on ChatGPT?
7. In what way would you use ChatGPT in your learning process?

REFERENCES

- Alhumaid, Khadija. 2019. Four ways technology has negatively changed education. *Journal of Educational and Social Research*, 9(4): 10–20. doi:10.2478/jesr-2019-0049
- Ali, Jamal Kaid Mohammed, Muayad Abdulhalim Ahmad Shamsan, Taha Ahmed Hezam, and Ahmed A. Q. Mohammed. 2023. "Impact of ChatGPT on Learning Motivation." *Journal of English Studies in Arabia Felix* 2 (1): 41–49. <https://doi.org/10.56540/jesaf.v2i1.51>.
- Baskara, Risang, and Mukarto Mukarto. 2023. "Exploring the Implications of ChatGPT for Language Learning in Higher Education." *Indonesian Journal of English Language Teaching and Applied Linguistics*. Vol 7(2): 343–358. <http://dx.doi.org/10.21093/ijeltal.v7i2.1387>

- Cugurullo, Federico. 2020. "Urban Artificial Intelligence: From Automation to Autonomy in the Smart City." *Frontiers in Sustainable Cities. Volume 2. Article 38*: 1-14. doi: 10.3389/frsc.2020.00038
- Gill, Sukhpal Singh, Minxian Xu, Panos Patros, Huaming Wu, Rupinder Kaur, Kamalpreet Kaur, Stephanie Fuller, Manmeet Singh, Priyansh Arora, Ajith Kumar Parlikad, Vlado Stankovski, Ajith Abraham, Soumya K. Ghosh, Hanan Lutfiyya, Salil S. Kanhere, Rami Bahsoon, Omer Rana, Schahram Dustdar, Rizos Sakellariou, Steve Uhlig, Rajkumar Buyya. 2023. Transformative effects of ChatGPT on modern education: Emerging Era of AI Chatbots. *Internet of Things and Cyber-Physical Systems, IOTCPS 52*. Advance online publication: 1–9. doi:10.1016/j.iotcps.2023.06.002
- González-Calatayud, Vicotr, Paz Prendes-Espinosa, and Rosabel Roig-Vila, R. 2021. "Artificial Intelligence for Student Assessment: A Systematic Review." *Appl. Sci. 11*, 5467. <https://doi.org/10.3390/app11125467>
- Kemp, Andrew T., John Preston, Steven C. Page, Rebecca Harper, Benita Dillard, Joseph Flynn & Misato Yamaguchi. 2015. Technology and teaching: A conversation among faculty regarding the pros and cons of technology. *Qualitative Report, 19(3)*: 1–23.
- Kohnke, Lucas, Moorhouse, Benjamin Luke, and Zou Di. 2023. "ChatGPT for Language Teaching and Learning." *Relc Journal*. 1–14. DOI: 10.1177/00336882231162868
- Korteling, Johan Edberg (Hans), Gillian, van de Boer-Visschedijk, Romy A. M. Blankendaal, Rudy C. Boonekamp and Aletta R. Eikelboom. 2021. "Human- versus Artificial Intelligence." *Frontiers in Artificial Intelligence. Volume 4. Article: 622364*. doi: 10.3389/frai.2021.622364
- Mollick, Ethan R. and Lilach Mollick. 2022. "New Modes of Learning Enabled by AI Chatbots: Three Methods and Assignments." <http://dx.doi.org/10.2139/ssrn.4300783>
- Stepanechko, Oksana, and Liubov Kozub. 2023. "English Teachers' Concerns about the Ethical Use of ChatGPT by University Students." *Grail of Science*, no. 25 (March): 297–302. <https://doi.org/10.36074/grail-of-science.17.03.2023.051>

ISTRAŽIVANJE NAJNOVIJIH TRENDOVA: MIŠLJENJA I STAVOVI UNIVERZITETSKIH STUDENATA O KORIŠĆENJU CHATGPT-A U OBRAZOVNE SVRHE

Danas se ogroman broj naučnih radova bavi temom veštačke inteligencije uopšte, i ChatGPT-om konkretno. Kako je ChatGPT veliki jezički model, (naglasak na jezički), ne iznenađuje što se većina ovih radova i diskusija vodi na temu obrazovanja i učenja jezika. Značajan deo tih istraživanja se odnosi na mesto ovakvih tehnologija u visokoškolskom sistemu. U ovom radu predstavljamo mišljenja univerzitetskih studenata o korišćenju ChatGPT-a. Konkretno, ispituje se: 1) u kojoj meri je studentima poznat ChatGPT; 2) koja su njihova mišljenja o njemu; 3) u koju svrhu bi ga koristili. Istraživanje je sprovedeno sa studentima engleskog jezika na Filološkom fakultetu Univerziteta u Beogradu. Korišćen je anonimni upitnik otvorenog tipa. Analiza odgovora smešta stavove studenata iz Srbije u kontekst sličnih istraživanja u drugim sredinama. Takođe, ovo istraživanje nudi preporuke za optimalno funkcionisanje ChatGPT-a u pomenutim uslovima, i ukazuje na strahove i ograničenja koja su ispitanici identifikovali. Razumevanjem stavova studenata, nastavnici i istraživači moći će da donesu relevantne odluke o implementaciji i upotrebi ChatGPT-a u akademskom kontekstu.

Ključne reči: *ChatGPT, veštačka inteligencija, univerzitetski studenti, mišljenja*