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# ENGINEERING STUDENTS' ATTITUDES TOWARD THE USE OF CHATGPT IN LEARNING ESP AND ITS USABILITY

Abstract: ChatGPT (Chat Generative Pre-Trained Transformer) is an application that is capable of mimicking human-to-human interaction. Elbanna and Armstrong (2024) assert that ChatGPT can help students automate routine tasks and improve the learning experience, but that there are potential problems with factual inconsistencies and in-depth understanding. Since artificial intelligence (AI) is crucial for education in the 21st century and English for specific purposes is a part of it, this research deals with engineering students' attitudes toward using ChatGPT for learning English for specific purposes. The sample consists of students of Computing and Control Engineering, Measurement Information Technologies and Control Engineering, Geodesy and Geoinformatics, Power, Electronic and Telecommunication Engineering, Mechanisation and Construction Engineering, Energy and Process Engineering, Software and Information Technologies, and Disaster Risk Management and Fire Safety. The research uses a Likert-type questionnaire to examine the students' attitudes towards ChatGPT, including advantages and disadvantages and the usability, that is, the usefulness and effectiveness of the chatbot. The results of the study can be used to improve educational practice and adjust ChatGPT to students' attitudes and needs.

*Keywords*: AI-assisted language learning, ChatGPT, English for specific purposes, English for engineers

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## 1. INTRODUCTION

As education systems develop to meet the challenges of the XXI century, traditional teaching methods are often unable to keep pace with the demands of students. Teachers face increasing pressure to provide personalised learning experiences, take into consideration diverse learning needs, and incorporate ever changing technology into the curriculum. Without the support of advanced technological tools like Artificial Intelligence (AI), it is becoming difficult for teachers to offer the level of customisation and efficiency which are required in today's classrooms.

AI refers to machines which are so sophisticatedly developed that they mirror human intelligence. AI systems use algorithms and large datasets to mimic various cognitive functions of humans. In the context of education, AI has revolutionised traditional learning methods by offering personalised learning experiences, automating simple tasks, and providing instant feedback. Moreover, AI helps teachers by analysing data to identify trends, assess performance, and help plan activities. As educational institutions strive to equip students with the skills necessary in the modern world, AI serves as a crucial tool.

In the realm of English for Specific Purposes (ESP), AI plays a vital role. AI can support teaching ESP by offering contextualised language learning tools, providing translations, and simulating professional scenarios used in real life. Additionally, AI-driven platforms can help learners understand complex technical jargon, improve their ability to read and comprehend specialised texts and write reports. As industry becomes more globalised, the demand for proficiency in ESP is rising, making AI an invaluable resource in developing specialised language skills. By offering tailormade learning experiences, AI enables learners to master the language they need to succeed in their chosen fields, thus bridging the gap between academic knowledge and market demands.

## 2. CHATGPT

ChatGPT has emerged as a significant tool for learning in the XXI century. As a language model powered by artificial intelligence, it facilitates access to knowledge, provides responses to questions, and enables personalised learning. Engineering students may find ChatGPT particularly valuable due to their increased interest in technology. This tool offers support in areas ranging from complex technical concepts to programming languages. Additionally, ChatGPT plays a critical role in learning English for Specific Purposes. ChatGPT can assist students in developing ESP skills by offering context-specific vocabulary and explaining complex concepts in simpler terms. Furthermore, it can simulate real-world communication, helping students practice targetted language use. As such, ChatGPT not only supports technical learning, but it also enhances students' proficiency in the specialised language.

ChatGPT has numerous advantages, such as natural language generation, scalability, customisability, and efficiency (Kalla et al. 2023). Natural language generation refers to creating responses to questions that are similar to those of humans, which can make exchanges with the chatbot particularly engaging and interesting. Scalability indicates that ChatGPT can maintain many conversations at the same time, a feature that can be used if a teacher wants to engage the whole class in a task simultaneously. Customisability refers to adjusting data to fit the needs of a user, making user experience more personalised (Kalla et al. 2023). Finally, efficiency means that ChatGPT creates responses at great speed and processes data very quickly.

There are also various disadvantages of ChatGPT: bias, lack of emotional intelligence, limited knowledge base, and lack of empathy (Kalla et al. 2023). Since it was trained on large datasets, ChatGPT may provide biased or inaccurate answers. The issue with inaccurate or incorrect responses was observed in several previous studies on various aspects of ChatGPT, which emphasises the need to factually check the information provided by the chatbot (Kardoš Stojanović et al. 2024, Kohnke et al. 2023, Vaccino-Salvadore 2023). Next, lack of emotional intelligence refers to ChatGPT not being able to react to emotional cues and metaphorical use of language. Furthermore, a limited knowledge base refers to ChatGPT's reliance on its training data and not being able to cater to more specialised topics, which can particularly affect its use in teaching ESP. Moreover, lack of empathy denotes that ChatGPT may not succeed in understanding emotional needs of its users.

Concerning the use of ChatGPT in learning the English language and ESP, several scientific articles have dealt with the topic. Kovačević (2023) describes ChatGPT as a valuable and time-efficient tool for preparing and delivering teaching units, as well as assessing students' written work. Mohammed Alsanousi Alssayah et al. (2023) list the following possibilities for using ChatGPT in teaching engineers: personalised exercises, virtual tutoring, effective and personalised experiences for learners, possibility for conversations that mirror real-world engineering challenges, allowing students to ask questions and receive precise, informative responses. Elbanna & Armstrong (2024) assert that ChatGPT can help students automate routine tasks and improve the learning experience, but that there are potential problems with factual inconsistencies and in-depth understanding.

The following studies have dealt with the topic referring to its use in learning English. Guhan & Chandramohan (2023) assessed learners' perceptions of ChatGPT's influence on their overall language proficiency and vocabulary acquisition. The findings demonstrate that ChatGPT significantly enhances various language skills – listening, reading, speaking, and writing. Therefore, it can be concluded that ChatGPT positively influences language acquisition and improves students' engagement in the classroom. Next, Shaikh et al.

(2023) conducted a study assessing the usability of ChatGPT through a post-questionnaire approach, involving participants who performed various language tasks, such as conversation, writing, grammar, and vocabulary. The findings indicate that ChatGPT is effective in generating coherent responses and facilitating interactive dialogues. Additionally, Synekop et al. (2024) compared technical university students' and teachers' attitudes towards using ChatGPT in English classes and their perspectives on academic integrity issues. The research indicates that students exhibited positive attitudes, while teachers took a more neutral approach.

## 3. METHODOLOGY

The aim of our research was to investigate and describe the attitudes of Serbian engineering students toward the use of ChatGPT in learning ESP and check whether they have attitudes that are comparable to those of their foreign peers. Furthermore, usability was investigated as well as an important factor that could hinder or encourage the use of ChatGPT. A quantitative method was employed to analyse the gathered data.

The main research tasks were (1) to examine the students' attitudes on the use of ChatGPT for learning ESP and (2) to examine the students' attitudes on the usability of ChatGPT. The second research task was divided into six smaller subtasks: (a) examining the Ss' attitudes on the usefulness of ChatGPT, (b) investigating the students' attitudes on ease of use of ChatGPT, (c) investigating the students' ease of learning in ChatGPT, (d) examining students' satisfaction with ChatGPT, (e) investigating the students' attitudes on the system usability of ChatGPT, and (f) examining the students' attitudes on ESP-tasks-related usability of ChatGPT.

The sample consisted of 269 students of the Faculty of Technical Sciences, University of Novi Sad, who completed a survey during the academic year 2023/2024 after giving their informed consent. Almost half of our respondents were students of Power, Electronic and Telecommunication Engineering (65 students, 24.16%) and Computing and Control Engineering (61 students, 22.67%). They were followed by students of Geodesy and Geoinformatics (37 students, 13.75%), Mechanisation and Construction Engineering (32 students, 11.9%), Energy and Process Engineering (30 students, 11.15%), Measurement Information Technologies and Control Engineering (25 students, 9.29%), Software and Information Technologies (11 students, 4.09%), and Disaster Risk Management and Fire Safety (8 students, 2.97%).

With regards to the gender structure, 98 of the study participants were female (36.4%), while 171 participants were male (63.6%). With respect to the age structure, the minimum age was 18, the maximum was 26, whereas the mean was 19.63 and the standard deviation was 0.94. Most of the respondents were first- and second-year students, and only 3% of them were third-year students.

Students' attitudes were measured using two scales. The first scale, consisting of 30 Likert-scale statements, ranging from 1 (*I strongly disagree*) to 5 (*I strongly agree*), measured general attitudes on using ChatGPT for learning ESP. The scale was based on the ChatGPT in English acquisition questionnaire (CEAQ-30) by Guhan and Chandramohan (2023). The instrument was translated into Serbian by the authors of this research and adjusted to fit ESP. An example of an item is: "*ChatGPT has positively influenced my learning of English for specific purposes.*" On our sample, the scale proved to have outstanding reliability (α= 0.97).

The second scale, consisting of 44 Likert-scale statements, measured students' attitudes on the usability of ChatGPT. The scale was based on the questionnaire by Shaikh et al. (2023). It was also translated into Serbian by the authors of this study. The usability was measured by using the following subscales: usefulness, ease of use, ease of learning, satisfaction, system usability, and usability for ESP learning tasks. The values of Cronbach's alpha for the translated scale were as follows: α= 0.88 for usefulness, α= 0.87 for ease of use, α= 0.88 for ease of learning, α= 0.88 for satisfaction, α= 0.73 for system usability and α= 0.87 for usability for ESP learning tasks. Therefore, all subscales have good reliability, apart from the system usability scale, which has somewhat lower but acceptable reliability.

## 4. RESULTS AND DISCUSSION

### 4.1. Use of ChatGPT for learning ESP

Students' attitudes toward the use of ChatGPT for learning English for specific purposes are shown in Table 1. The table shows results for the aggregate scale in its entirety; that is, it indicates the values for all 30 items (N=269).

**Table 1.** Descriptive statistics for Use of ChatGPT in learning ESP scale

| Scale | Minimum | Maximum | Mean | Standard Deviation |
|---|---|---|---|---|
| Use of ChatGPT for learning ESP | 1.00 | 4.43 | 2.53 | 0.90 |

The results for the Use of ChatGPT for learning ESP scale (Table 1) indicate a moderate level of agreement among the students regarding the use of ChatGPT in learning English for Specific Purposes (ESP). The minimum score of 1 suggests that some participants strongly disagreed with the effectiveness of ChatGPT for learning ESP, while the maximum score of 4.43 indicates that others were closer to strongly agreeing with its usefulness. The mean score of 2.53 suggests that, on average, participants are neutral about ChatGPT's usefulness for ESP learning. The standard deviation of 0.90 indicates moderate variability in responses. These findings suggest that the respondents may view ChatGPT as merely a potentially useful tool, since the mean score is close to 3, which is a neutral attitude.

Reasons for our findings may vary. Since most of the students in this study are freshmen, it is possible that they have not had enough exposure to ChatGPT, so they may not grasp its potential. A neutral stance towards the effectiveness of ChatGPT in learning ESP could also be explained by a lack of experience in learning ESP, since first-year students on average take only one course in ESP. Secondly, since ChatGPT is a fairly new chatbot and its use is not frequently explained in formal learning settings, it is possible that some students may be unsure about the accuracy and reliability of the chatbot. Insufficient guidance on its use may also account for the lack of understanding when it comes to using it for learning ESP. On the other hand, some students may prefer more traditional learning methods and may have gotten used to them during their previous education, which is why they could be reluctant to use ChatGPT for learning. Additionally, some students could have had less than positive results when using ChatGPT to complete their classroom assignments and may thus find that the tool does not meet their specific needs. However, only further analyses on this topic could completely clarify the specific reasons behind the students' attitudes.

Next, the statements with the highest means from the Use of ChatGPT for Learning ESP scale are shown in Table 2. Highlighting the questions with the highest average values is of importance because they indicate what aspects of ChatGPT are perceived as most useful in the context of learning ESP, and the analysis of the items can provide information on the strengths of ChatGPT as a learning tool. The analysis of the results for the items with the highest scores suggests a neutral to slightly positive perception of ChatGPT, since even the highest mean scores range from 3.02 to 3.51, which is in the range between neutral and agree responses on the Likert scale.

The item "*ChatGPT is a useful tool for English language teachers*" had the highest mean of 3.51, SD= 1.19, indicating that participants were somewhat positive about the use of ChatGPT for teachers who teach ESP (Table 2). Second, the item "*I would recommend ChatGPT to other ESP learners*" received a mean score of 3.34, SD= 1.21, which is again somewhat positive, but there might be some uncertainty about recommending it to other ESP learners without hesitation (Table 2). Interestingly, both items with the highest mean score refer to the use of ChatGPT by other people – either teachers or other learners. The reasons for it could be numerous, but such results could indicate an impersonal attitude towards the tool in question, which is mostly perceived as useful for other people. Such an attitude could be a reflection of unfamiliarity with the tool, lack of knowledge of its use for learning ESP, or other reasons.

The third item with the highest mean score is the following statement: "*ChatGPT is a time-efficient way to practice ESP*" (Table 2). The item had a mean of 3.28, SD= 1.20, indicating that the respondents in the study had an attitude in the range between neutrality and slight agreement regarding the time-efficiency

of ChatGPT. Since the score is slightly above the neutral point, some participants find it efficient for saving time. A moderate variability in responses (SD= 1.20) indicates that some students perceive it as a time-saving tool and others do not. The last two items with the highest means depict more neutral stances. The following item, "*ChatGPT has contributed to a more inclusive learning environment for ESP*" had a mean of 3.08, SD= 1.24, suggesting that students are not sure whether ChatGPT fosters inclusion in ESP or not (Table 2). The next item, "*I would like to continue using ChatGPT as a tool for learning ESP in the future*" had a mean of 3.02, SD= 1.36, indicating that the respondents are unsure about the long-term usefulness of ChatGPT for learning ESP (Table 2). Overall, these neutral to slightly positive scores reflect that there may be an openness to potentially using ChatGPT for learning ESP, but that there are some reservations or concerns students may have, which need to be examined in future studies.

**Table 2.** Descriptive statistics for Use of ChatGPT in learning ESP scale for the items with the highest means

| Item | Minimum | Maximum | Mean | Standard Deviation |
|---|---|---|---|---|
| ChatGPT is a useful tool for English language teachers. | 1 | 5 | 3.51 | 1.19 |
| I would recommend ChatGPT to other ESP learners. | 1 | 5 | 3.34 | 1.21 |
| ChatGPT is a time-efficient way to practice ESP. | 1 | 5 | 3.28 | 1.20 |
| ChatGPT has contributed to a more inclusive learning environment for ESP. | 1 | 5 | 3.08 | 1.24 |
| I would like to continue using ChatGPT as a tool for learning ESP in the future. | 1 | 5 | 3.02 | 1.36 |

Next, the statements with the lowest means from the Use of ChatGPT for Learning ESP scale are shown in Table 3. The presented data are important since they help to pinpoint areas of concern and reservations that students may have regarding the use of ChatGPT in learning ESP. Understanding which statements have the lowest scores provides insight into features of the chatbot that do not meet the expectations of engineering students.

The mean scores for the five items with the lowest means range from 2.01 to 2.15, which indicates that the respondents disagreed with the statements, suggesting that the students do not perceive ChatGPT as useful for improving the stated areas of learning ESP (Table 3). The item "*ChatGPT has enhanced my speaking skills in ESP*" received the lowest average score (M= 2.01, SD= 1.11), pointing out a general disagreement with the statement. The students in the study do not consider that the chatbot had a significant impact on the development of their speaking skills. There could be different reasons for such an opinion, ranging from a lack of experience in using ChatGPT for such tasks, a perceived low level of the chatbot's interactivity, a preference for traditional face-to-face speaking exercises, or a lack of technical conditions necessary to perform such activities. The second item with the lowest mean of 2.04 (SD= 1.16) is as follows: "*ChatGPT has improved my listening skills in English for specific professional contexts*" (Table 3). The obtained mean also indicates that most students disagreed with the statement, leading to a conclusion that the students in this study do not perceive ChatGPT as useful for improving listening skills. On one hand, such a finding is not surprising, since the chatbot is text-based and cannot directly produce audio content for listening tasks. On the other hand, it can be used as a supplemental means for practicing listening, due to its text-to-speech conversion function and helping to understand transcripts of conversations and videos on engineering topics. An understanding of students' reasoning could be obtained by conducting more detailed future research, which would also examine the extent to which the students are acquainted with ways in which ChatGPT could be used for listening and speaking assignments.

**Table 3.** Descriptive statistics for Use of ChatGPT in learning ESP scale for the items with the lowest means

| Item | Minimum | Maximum | Mean | Standard Deviation |
|---|---|---|---|---|
| ChatGPT has enhanced my speaking skills in ESP. | 1 | 5 | 2.01 | 1.11 |
| ChatGPT has improved my listening skills in English for specific professional contexts. | 1 | 5 | 2.04 | 1.16 |

| | | | | |
|---|---|---|---|---|
| ChatGPT has helped me understand cultural nuances in English communication specific to my field of study. | 1 | 5 | 2.06 | 1.09 |
| I feel more engaged in ESP lessons when using ChatGPT. | 1 | 5 | 2.07 | 1.25 |
| I regularly use ChatGPT as an aid while learning ESP. | 1 | 5 | 2.15 | 1.24 |

Next, the statement "*ChatGPT has helped me understand cultural nuances in English communication specific to my field of study*" also had a low mean (M= 2.06, SD= 1.09), which suggests that the respondents did not think that ChatGPT aided them in understanding cultural aspects of ESP. Without further research, it is impossible to determine the logic behind such a stance, even though possible reasons could be preference for more specialised resources, face-to-face interaction, or maybe lack of awareness about the importance of culture when learning ESP. The following item also received a low mean: "*I feel more engaged in ESP lessons when using ChatGPT*" (M= 2.07, SD= 1.25), indicating that the students in our study did not consider that the chatbot increased their level of interest and attentiveness in ESP classes. The students could prefer peer exchange or student-teacher interaction as a way to stay engaged in class, or may prefer using ChatGPT at home for independent learning. Lastly, the following item also had a low mean score of 2.15, SD= 1.24: "*I regularly use ChatGPT as an aid while learning ESP*." Such a result indicates that the students did not frequently use ChatGPT for ESP learning purposes. They may prefer other tools or methods of learning or may use ChatGPT for learning a different type of content.

In summary, an analysis of the statements with the lowest means indicates that while students considered ChatGPT as potentially useful for teachers and other ESP learners, they did not perceive it as a good tool for improving speaking, listening, understanding culture, and enhancing engagement in class. These opinions could reflect the fact that students lack knowledge about how to use the chatbot for such purposes, lack experience in employing it to meet such goals, or have deficiencies that characterise the chatbot, which is why further research into it is required. Implications for the teaching practice would be to encourage students to use ChatGPT with sound, using the text-to-speech conversion, demonstrate how to use ChatGPT for listening tasks and learning about English culture, and use it in class together with students until they become more proficient at using it for learning ESP.

### 4.2. Usability of ChatGPT

Students' attitudes toward the usability of ChatGPT for learning English for specific purposes were examined by looking into six usability subscales. The scores are shown in Tables 4 to 10, so as to shed light on students' opinions on how usable the platform is. Table 4 presents data on the usefulness of ChatGPT, explaining how useful ChatGPT is.

**Table 4.** Descriptive statistics for the Usability subscale Usefulness, N= 269

| Variable | Minimum | Maximum | Mean | Standard Deviation |
|---|---|---|---|---|
| Usefulness | 1.00 | 5.00 | 3.35 | 0.92 |

On a scale from 1 to 5, most students scored over 3, so students perceive it as moderately useful. The following items had the highest mean scores on the Usefulness subscale: "*It is useful*" (M=4.36, SD=0.90) and "*It saves me time when I use it*" (M=3.93, SD=1.26) (Table 4). The results suggest that the respondents view ChatGPT as a beneficial tool, which is particularly seen as timesaving, but there is room for improvement. Further analysis is necessary to explore the aspects of usefulness that need improvement.

**Table 5.** Descriptive statistics for the Usability subscale Ease of Use, N= 269

| Variable | Minimum | Maximum | Mean | Standard Deviation |
|---|---|---|---|---|
| Ease of Use | 1.45 | 5.00 | 3.86 | 0.69 |

A mean score of 3.86 for the Usability subscale Ease of Use suggests that students consider ChatGPT as easy to use. The score reflects a positive opinion, and a relatively low standard deviation (SD= 0.69) indicates that there is not much variability in the responses and that most students have a similar opinion on the subscale (Table 5). The items with the highest means indicate that the majority of respondents think that ChatGPT is easy to use (M= 4.39, SD= 0.94), simple to use (M= 4.39, SD= 0.93), and user-friendly (M= 4.17, SD= 0.94). Low variability suggests that users generally have positive opinions.

**Table 6.** Descriptive statistics for the Usability subscale Ease of Learning, N= 269

| Variable | Minimum | Maximum | Mean | Standard Deviation |
|---|---|---|---|---|
| Ease of Learning | 1.00 | 5.00 | 4.36 | 0.83 |

According to the results for the Usability subscale Ease of Learning, respondents consider it easy to learn how to use ChatGPT (M= 4.36, SD= 0.83) (Table 6). Such a high mean score indicates that most students find learning how to use it straightforward and not difficult. The value of standard deviation suggests a moderate variability, so some users learnt to use it more easily. Overall, it is accessible for most engineering students, and they believe they have quickly become skilful at using it. However, a question remains whether they also believe they are skilful at using it for learning ESP.

**Table 7**. Descriptive statistics for the Usability subscale Satisfaction, N= 269

| Variable | Minimum | Maximum | Mean | Standard Deviation |
|---|---|---|---|---|
| Ease of Learning | 1.00 | 5.00 | 3.65 | 0.85 |

On a scale from 1 to 5, the average score is 3.65, so students are generally satisfied with ChatGPT, but there is some room for improvement (Table 7). The value of standard deviation indicates a moderate variability in responses, meaning that some students could be more neutral. The following items have the highest mean scores on the subscale: "*I would recommend ChatGPT to a friend*" (M= 4.13, SD= 1.05) and "*I am satisfied with ChatGPT*" (M= 3.93, SD= 1.00). The study participants are satisfied with ChatGPT to the extent that they would recommend it to other people, which is reflected in the high mean for the recommendation statement.

**Table 8.** Descriptive statistics for the Usability subscale System Usability, N= 269

| Variable | Minimum | Maximum | Mean | Standard Deviation |
|---|---|---|---|---|
| System Usability | 2.20 | 5.00 | 3.90 | 0.56 |

Regarding the usability of the platform and the interface, a mean score suggests that study participants view the system as highly usable (M= 3.90, SD= 0,56) (Table 8). The value of the standard deviation suggests less variability, that is, most students have similar views on system usability. The items with the highest means on the subscale are as follows: "*The platform of ChatGPT is easy to use*" (M= 4.41, SD= 0.83) and "*I would imagine that most people would learn to use this platform very quickly*" (M= 4.26, SD= 0.89). The mean for the former item is notable, indicating that most students find the platform straightforward. All in all, the findings indicate that students perceive ChatGPT as a user-friendly platform with excellent system usability.

The results presented in Tables 9 and 10 are particularly significant since they describe participants' perception of the usability of ChatGPT for targeted ESP-related tasks. The study participants have a neutral perception of the usability of ChatGPT for ESP tasks (M= 3.08, SD= 1.03). The value of standard deviation indicates that there is a high variability in responses, so some users may find it more helpful than others. Further research is needed to explain in which contexts ChatGPT may be perceived as more usable for learning ESP.

**Table 9.** Descriptive statistics for the Usability subscale Usability for ESP tasks, N= 269

| Variable | Minimum | Maximum | Mean | Standard Deviation |
|---|---|---|---|---|
| Usability for ESP tasks | 1.00 | 5.00 | 3.08 | 1.03 |

Further information on students' opinions about the satisfaction with ChatGPT for doing different types of ESP tasks is provided in Table 10. The mean scores range from 2.90 for tasks targeting conversation to 3.19 for tasks targeting grammar. The scores for assignments targeting grammar, writing and vocabulary are above 3, suggesting a moderate level of satisfaction. The values of standard deviations range from 1.19 to 1.24 and are relatively high, which means different users differ in opinion. A lower level of satisfaction with the usefulness of ChatGPT for performing vocabulary tasks in ESP may point to limitations of ChatGPT when used in specific engineering fields. Nevertheless, further research is necessary to determine the reasoning behind the stances. The lowest level of satisfaction was recorded for the tasks targeting conversation skills, which could be due to the fact that the platform is text-based. However, the level of students' ability to use ChatGPT should be considered as well, and less proficient users could be instructed on how to use it to practice conversation more successfully by using text-to-speech conversion. Other factors affecting a low level of satisfaction could also be investigated in the future.

**Table 10.** Descriptive statistics for the Usability subscale Satisfaction with ChatGPT for specific tasks, N= 269

| Item | Minimum | Maximum | Mean | Standard Deviation |
|---|---|---|---|---|
| Satisfaction for tasks targeting grammar | 1 | 5 | 3.19 | 1.20 |
| Satisfaction for tasks targeting writing | 1 | 5 | 3.16 | 1.22 |

| | | | | |
|---|---|---|---|---|
| Satisfaction for tasks targeting vocabulary | 1 | 5 | 3.09 | 1.24 |
| Satisfaction for tasks targeting conversation | 1 | 5 | 2.90 | 1.19 |

To sum up, the findings suggest that students perceive ChatGPT as useful to a moderate extent for tasks targeting grammar, writing, and vocabulary when learning ESP, while they see it as somewhat less effective for practicing conversation. A relatively high variability indicated by the values of standard deviation points out that some students may find it more helpful than others for performing specific tasks. Further studies could deal with improvements to be made to better meet the students' need when it comes to the area of conversation practice.

## 5. CONCLUSION

The aim of this study was to describe and explain engineering students' attitudes toward the use of ChatGPT and its usability in the context of learning ESP. Usability is a precondition for the use of the platform, and by examining it, the intention was to check whether it is generally useful and easy to use. The respondents' attitudes were measured to assess the current state, as well as the potential for future use in the ESP classroom.

In summary, it can be concluded that engineering students in our sample have a neutral attitude toward the use of ChatGPT in learning ESP, that is, that there is a certain degree of skepticism concerning its use, even though they perceive it as time efficient. Students agree that it should be used by teachers and other ESP learners and potentially by themselves in the future. They do not perceive it as particularly useful for developing listening and speaking skills, cultural awareness, or for increasing class engagement. Such results are not in line with the findings obtained in some of the previous studies, which reported more enthusiastic stances of technical university students concerning the use of ChatGPT (Synekop et al. 2024). Reasons for discrepancies should be investigated in future research; however, there are some factors inherent to this research that need to be considered. The level of students' familiarity with ChatGPT and proficiency in its use was not measured, so it is possible that first-year students, who constitute a majority in our sample, may not use ChatGPT regularly or could use it for other purposes. The time frame in which the study was conducted could have also affected the obtained data, since it was done in the beginning of 2024, right after the January exam term, when students are preoccupied with the preparation for the February exam term. Some of the pedagogical implications of the findings could be to demonstrate in class how to use ChatGPT for different

tasks, instead of presupposing students know how to do them. In order to cater to the development of all language skills, students should be given various types of tasks, targeting different skills and competencies.

As for the usability of ChatGPT, engineering students perceive it as moderately useful and report that it is easy to use. They also agree that it is easy to learn how to use it, and they are generally satisfied with it. However, they view it as moderately useful for performing grammar, writing, and vocabulary tasks and somewhat less useful for performing conversation tasks. Other factors that could potentially affect the attitudes, such as a perceived low level of the chatbot's interactivity, a preference for traditional face-to-face speaking exercises, a lack of technical conditions necessary to perform such activities, and a lack of proficiency in using the platform for learning languages, need to be examined in future research. To sum up, the difficulty of use does not hinder students of technology from using ChatGPT for learning ESP.

The research covered in this paper represents a modest contribution to the understanding of engineering students' attitudes and its findings should be taken with caution due to its convenient sample and uneven gender distribution in favour of male students. Further studies could clarify whether students of other disciplines differ when it comes to attitudes toward learning ESP. It would also be interesting to include students who have more experience in learning ESP compared to freshmen, as well as students from more than one faculty.

Directions for future research include checking the obtained results on a sample with a more balanced gender distribution and taking into consideration the extent of students' previous experience with ChatGPT and students' knowledge of English. Reservations against using ChatGPT could be examined using qualitative research. Examining teachers' attitudes and their relationship with students' attitudes could contribute to a holistic understanding of the best way to integrate ChatGPT into the ESP classroom.

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## СТАВОВИ СТУДЕНАТА ИНЖЕЊЕРСТВА О УПОТРЕБИ CHATGPT-ЈА У УЧЕЊУ ЕНГЛЕСКОГ ЈЕЗИКА ЗА ПОСЕБНЕ НАМЕНЕ И О ЊЕГОВОЈ УПОТРЕБЉИВОСТИ

*Резиме*

ChatGPT (Генеративни претходно обучени трансформатор за чет) је апликација која је способна да имитира људску интеракцију. Елбана и Армстронг (2024) тврде да ChatGPT може помоћи студентима да аутоматизују рутинске задатке и

унапреде искуство учења, али да постоје потенцијални проблеми са чињеничним недоследностима и дубинским разумевањем. Пошто је вештачка интелигенција кључна за образовање у 21. веку, а енглески језик за посебне намене је његов део, ово истраживање бави се ставовима студената инжењерства о употреби ChatGPT-ја у учењу енглеског језика за посебне намене. Узорак се састоји од студената Рачунарства и аутоматике, Мерења и регулације, Геодезије и геоинформатике, Енергетике, електронике и телекомуникација, Механизације и конструкционог машинства, Енергетике и процесне технике, Софтверских и информационих технологија и Управљања ризиком од катастрофалних догађаја и пожара. У истраживању се користи Ликертова скала да се испитају ставови студената о ChatGPT-ју, укључујући његове предности и мане и употребљивост, односно корисност и ефективност четбота. Резултати овог истраживања могу се користити да се унапреди образовна пракса и да се ChatGPT прилагоди ставовима и потребама студената.

*Кључне речи*: учење језика уз помоћ вештачке интелигенције, ChatGPT, енглески језик за посебне намене, енглески језик за инжењере