



## ChatGPT in Albanian higher education: Transformation of learning and virtual interaction

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### Keywords

ChatGPT  
Higher education  
AI

### Abstract

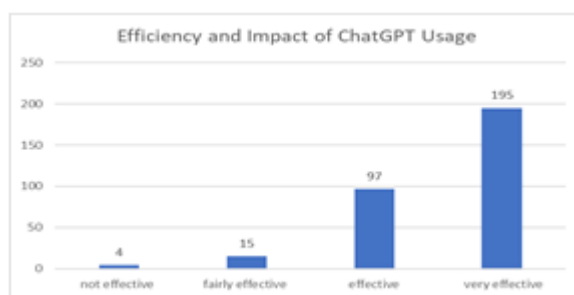
The integration of artificial intelligence (AI) in education has brought about significant improvements in the efficiency of the educational process, global learning promotion, personalized learning experiences, intelligent content creation, and the optimization of educational management. AI, as a technology, holds great potential in education, particularly in fostering personalized learning tailored to the individual needs and interests of each student. However, the implementation of AI in education presents challenges and ethical considerations, such as data privacy, equitable access to education, and the evolving role of educators. Striking a balance between technology and the essential role of educators is crucial to ensure a focus on holistic student development and preparation for a changing world. Despite the recent introduction of ChatGPT, there is a lack of systematic reviews on its impact on education. Therefore, the main objective of this paper is to analyze existing situation on the use of ChatGPT in higher education in Albania, addressing questions about the state of scientific research, benefits and challenges of implementation, and future trends in the field. An *online* questionnaire will be proposed and distributed to obtain this information. The collected data will be elaborated on and analyzed.

### Introduction

Machine learning, inspired by the human brain's knowledge acquisition, generates new ideas and makes decisions. Neural networks, particularly in NLP, play a crucial role, categorized into supervised, unsupervised, semi-supervised, or reinforced learning. Chatbots, like ChatGPT, simulate human conversation and are widely used in education, especially language learning. ChatGPT, developed by OpenAI, is an advanced language model employing deep learning and NLP, building upon the success of earlier versions like GPT-3. With the ability to handle complex tasks requiring human intelligence, ChatGPT is recognized as an innovative learning tool, attracting researchers' interest. It supports multiple languages, offers natural conversational experiences, and adapts content based on user instructions, making it promising for language learning and teaching. In the era of profound digitization, we are moving through, the use of artificial intelligence technology has deeply influenced various fields, including higher education. This article sheds light on the extraordinary role that technology, with a particular emphasis on the ChatGPT model, has taken in transforming the learning paradigm. In this analysis, we will explore the advantages and challenges of using artificial intelligence in the educational process, examining the integration of ChatGPT with traditional teaching methodologies and the possibilities for improving the quality of learning [1-3].

Additionally, we have dedicated special attention to the use of ChatGPT in creating educational materials, evaluating the quality compared to that prepared by traditional educators. On another dimension, we investigate advancements in the use of ChatGPT to create virtual assistants, declaring a thorough analysis of students' experiences with these assistants and their role in individual learning. Furthermore, we examine the ethical challenges and considerations that arise with the integration of artificial intelligence technologies in the academic

environment and provide concrete proposals for addressing them. Ultimately, we open a window into the future, discussing the prospects of using ChatGPT in higher education and interacting with the expected trends in the fields of artificial intelligence and automatic learning technology. This article aims to contribute a clear and well-argued perspective to the debate on the use of artificial intelligence technology in higher education, offering in-depth analysis and a framework for understanding the impact of these developments on current and future education. In this research, we construct an analytical journey aiming to understand how artificial intelligence technology, particularly the ChatGPT model, has the potential to transform the learning experience in higher education [4-5]. For this purpose, we will explore fundamental issues related to the integration of this technology into teaching, focusing on the changes it brings to how learning materials are prepared, delivered, and perceived. At the core of this analysis is the question of how the use of ChatGPT can empower educational enterprises and provide a more personalized and enriched learning experience. Special emphasis will be placed on assessing the quality of materials created through this technology and their impact on the level of qualifications and knowledge of students [6]. We also focus on changes in the roles of the teacher and student, analyzing how technology influences the dynamics of the classroom and the relationship between students and virtual assistants based on ChatGPT. This analysis will help us assess whether the use of artificial intelligence technologies in education has the capacity to improve student inclusion and outcomes. Through a detailed examination of the ethical challenges arising from this transformation, our efforts are directed towards defining boundaries and suggesting necessary guidelines for the ethical and sustainable use of artificial intelligence technology in higher education. At the end of this analytical journey, we aim to provide an overarching vision for the future use of ChatGPT in education, displaying a comprehensive overview of the current impact and hoping to assist in articulating the necessary guidelines for the advanced and sustainable use of this technology in the higher education environment [7-8].



## Material and Method

The study aims to analyse the impact of using the ChatGPT tool in higher education in Albania through a developed online questionnaire. The data, obtained from the responses of 311 randomly selected students, have been collected and analysed. Using a quantitative methodology, the study shows that ChatGPT has a positive impact on the teaching-learning process. While ChatGPT has the potential to enhance the educational experience, successful implementation depends on teachers' familiarity with its operation. These findings serve as a strong foundation for future research and decision-making regarding the integration of ChatGPT in the educational context. The questionnaire aims to identify the advantages and challenges of using ChatGPT, comparing it with traditional teaching methodologies. To examine the possibilities of using ChatGPT in creating teaching materials, experiments and simulations have been conducted, including the creation of lectures, exercises, and other teaching materials. To assess the progress in using ChatGPT to create virtual assistants, a study focused on students' experiences with these assistants has been developed. The discussion on future perspectives is conducted through an assessment of recent trends in the field of artificial intelligence and automatic learning technology. Regarding the methodology used during analysis and research, it is primarily based on quantitative methods with practical, numerical, comparative data, and information obtained from an online questionnaire sent to a random group of students. A total of 311 students participated in the survey. From the collected and analysed data, the alpha coefficient, also known as the internal consistency coefficient, is found to be 0.83. This indicates a high consistency among the questions. The students included in the responses are students from both bachelor's and master's programs. Specifically, 32.7% of the students are in the master's program, while 67.3% are in the bachelor's program. The questionnaire includes students from all Albanian universities, both public and private [9-11].

## Results and Discussion

1. Have you had experience with the use of ChatGPT technology in the learning environment?

Analyzing the responses to the question (Figure 1), we observe that the majority of users have had significant experience with the use of ChatGPT technology in the learning environment. The responses often and very often are higher figures, indicating a frequent or intensive experience.

2. How would you rate the efficiency of ChatGPT in assisting your learning?

This presentation indicates that the majority of users have assessed the use of ChatGPT as effective or very effective in assisting learning. Highlighting each value in this way can provide a more detailed and written overview of users' perceptions and experiences regarding the efficiency of ChatGPT in learning assistance (Figure 2). The numerical average of the responses shows about 3.50, indicating an average rating of the efficiency of ChatGPT technology in learning assistance according to responses given by users. This result indicates that users have rated the use of ChatGPT as effective in learning assistance.

3. What are the major challenges you have encountered in using ChatGPT in your learning?

Here are some potential challenges that may have arisen in the use of ChatGPT in education:

-Lack of Personalized Responses: In general, technologies like ChatGPT may face challenges in providing personalized and individually tailored responses to the needs of each student.

-Risk of Misinformation: Content generated by ChatGPT may include inaccurate, unverified, or inappropriate information, especially if there is a lack of quality control processes.

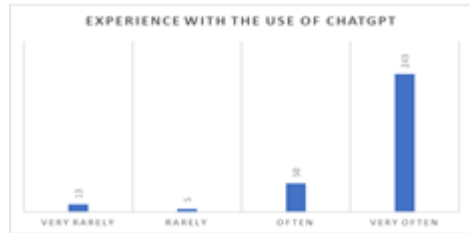


Figure 1. Experience with the Use of ChatGPT



Figure 2. Efficiency and Impact of ChatGPT Usage

Technical, Ethical, and Security Challenges. The use of artificial intelligence technologies may pose technical challenges and concerns regarding data security and privacy, especially in an academic environment.

The use of artificial intelligence technologies raises ethical challenges, including issues of information justice and its impact on the autonomy and self-determination of students.

-Mismatch with Traditional Methodologies. In some cases, the use of ChatGPT may not align with traditional learning methodologies, creating a mismatch between technology and established teaching practices.

4. How often do you use ChatGPT technology in general at your university?

Based on the given responses, we can interpret that the use of ChatGPT technology at your university is often or very often. These numbers indicate that the majority of users have determined that ChatGPT technology is used regularly or very often at your university. This assessment suggests a widespread and significant use of this technology in the university setting, perhaps for educational purposes, content creation, or assistance for students.

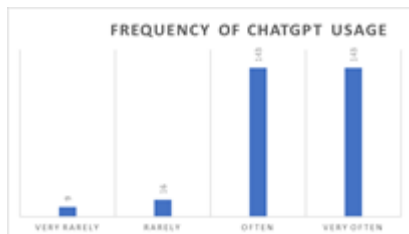


Figure 3. Frequency of ChatGPT Usage

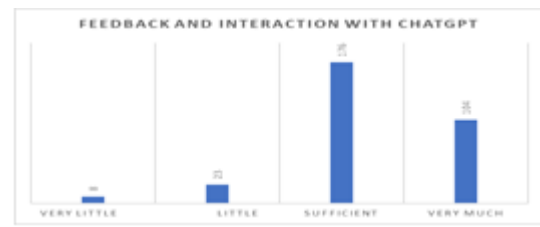
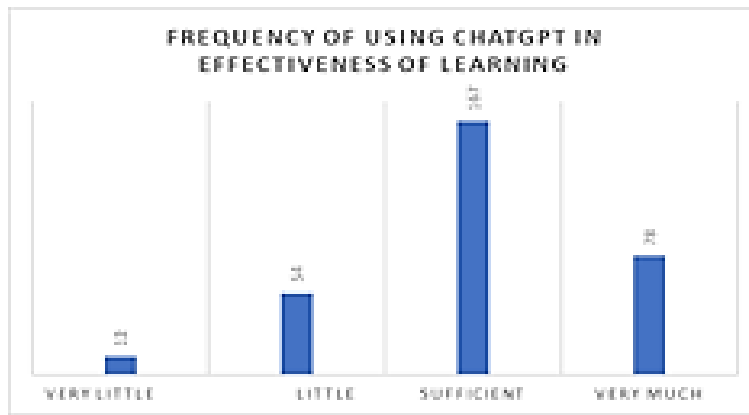


Figure 4. Frequency of using ChatGPT in effectiveness of learning

5. Do you think that the frequency of using ChatGPT can enhance the effectiveness of learning in your classroom?

Based on the given responses, (Figure 4), we can interpret that the majority of users believe that the frequent use of ChatGPT can increase the effectiveness of learning in their class. These numbers show that a significant portion of users appreciates that the repeated use of ChatGPT can bring about an improvement in the efficiency of learning in their class. This can be interpreted as a positive perspective regarding the potential of ChatGPT technology to enhance the learning experience and outcomes in the classroom. The calculation of the average value (mean) can be done by using the sum of the product of the numbers for each response and dividing it by the number of collected responses: Thus, the average of the responses indicates an average rating of 3, which can be interpreted as a positive consensus among users that the frequent use of ChatGPT can enhance the effectiveness of learning in the classroom.



**Figure 5.** Feedback and Interaction with ChatGPT

**Table 1.** Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
chatGPT	311	1.00	6.00	2.1254	1.6432
Valid (listwise)	311				

6. Have you ever received feedback from ChatGPT in your scientific work or exercises?

Based on the given responses, we can interpret that the majority of users have received feedback from ChatGPT in their scientific work or exercises. These numbers show a dominance of positive evaluations, indicating that users have benefited from the feedback provided by ChatGPT in their scientific work or exercises. This result suggests that this AI tool has had a positive impact on the process of creating scientific papers and exercises for users.

7. How has this feedback influenced your work and knowledge development?

Based on the given responses, we can interpret that the majority of users have affirmed that feedback from ChatGPT has had a positive impact on their work and knowledge development.

"Descriptive statistics" present the collected information in a suitable, usable, and understandable form. After gathering the data, descriptive statistics allow us to calculate their frequency, measures of central tendency (such as mean, median, mode), etc., and to identify characteristics in the distribution of results. Table 1 below describes the standard deviation from the average of the responses extracted from the questionnaire for specific variables. For the variable of using ChatGPT in higher education in Albania, the deviation from the mean is 1.164, with an average of 2.12.

## Conclusion

Let's summarize the results of the main questions:

1. Efficiency of ChatGPT Usage in Learning: The majority of users evaluate the use of ChatGPT as effective or very effective in learning.
2. Impact on Creating Educational Materials: Users see potential in using ChatGPT for creating lectures and educational materials.
3. Virtual Assistance and Support for Students: Users perceive progress in using ChatGPT for creating virtual assistants and providing support in individual learning.
4. Challenges and Ethical Considerations: Users acknowledge the ethical challenges associated with the use of artificial intelligence technologies in education and suggest proposals for addressing them.
5. Future Perspectives and Recommendations: Discussion of future possibilities for ChatGPT usage in higher education and interaction with expected trends in artificial intelligence and machine learning technologies.
6. Usage and Distribution of Technology: The majority of users confirm frequent use of ChatGPT at their university.
7. Potential for Enhancing Learning Efficiency: Users see potential to increase learning efficiency by utilizing ChatGPT more frequently.
8. Receiving Feedback from ChatGPT: The majority of users have benefited from feedback provided by ChatGPT in their scientific work or exercises.
9. Impact of Feedback on Work and Knowledge Development: Users have assessed that feedback from ChatGPT has had a positive impact on their work and knowledge development [12-15].

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