

EXPLORING THE FEASIBILITY OF IMPLEMENTING AI TOOLS IN HIGHER EDUCATION: A CASE STUDY OF ALBANIAN UNIVERSITY

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Abstract: Integrating technology with traditional solutions is the focus nowadays. Even though Artificial Intelligence is seen as a threat by most, its integration with teaching is not recent and must be considered for a better and more resilient future. Some universities have already tried and partially implemented Artificial Intelligence tools for educational and administrative means and driven from this why not Albanian University?

This conference paper aims to investigate the potential for implementing Artificial Intelligence tools in higher education institutions focusing on Albanian University, a private institution in Albania. The study explores the feasibility of Artificial Intelligence integration across various aspects of academia, including teaching, administrative roles, and support services. Questionnaires were electronically distributed for professors and students to understand their perspectives on Artificial Intelligence implementation within the academic context.

The results show that students are very open to implementing intelligent tools, especially for administrative tasks, while professors are concerned about ethical issues regarding teaching. The correlation between years of experience in teaching and the willingness to use AI is negative indicating that as the years of experience increase, the willingness to use AI tends to decrease. The age of students and faculty is related to their knowledge and will to use intelligence tools in learning.

The implementation of these tools, except for high financial costs needs a lot of time for training of models and staff and at the same time needs qualified staff in usage. Recommendations about ethical concerns like privacy, non-real knowledge, and attacks are discussed.

Keywords: Artificial Intelligence, higher education, teaching, Albanian University, knowledge.

1. INTRODUCTION

With smart technologies revolutionizing the workplaces of the future and the dynamic landscape of higher education, the integration of artificial intelligence (AI) has emerged as a transformative force, promising to reshape the traditional paradigms of teaching, learning, and administrative operations.

Recent publications and studies highlight the global momentum coming with the integration of AI in higher education. A study by (Taş, 2023) delves into the impact of AI on pedagogical approaches, emphasizing the potential for personalized learning and enhanced student engagement. This aligns with our investigation into the perceptions of professors and students at Albanian University regarding AI's role in teaching methodologies. (Zhai et al., 2021) and (The Role of Artificial Intelligence in Education: Current Trends and Future Prospects, 2021) provide a comprehensive review of the current state and future trends of AI in education, offering insights into the transformative potential of AI tools.

The integration of AI extends beyond the classroom, fulfilling administrative roles crucial for the correct functioning of academic institutions. (Mononen, 2021) and (Younes et al., 2021) investigate AI-enabled student services, highlighting the potential for automation in administrative tasks. Additionally, (Al-Haimi et al., 2021) add to the conversation by discussing how AI is being used to improve administrative work in higher education. Our analysis of the level at which Albanian University professors are willing to adopt artificial intelligence (AI) in their administrative positions is informed by the issues brought up in this study. Ethical considerations and security are the main concerns discussed by (Zaman, 2023) and (Чайка, 2023). (Abbas, 2022) and (Kooli, 2023) provide insights into the impact of chatbots on student engagement, guiding our examination of AI-driven support services and their potential implications for the student experience.

To understand how Albania is advancing with AI and modernization, questionnaires filled out by students and professors are analyzed.

2. CURRENT STATE AND AI IMPERATIVES

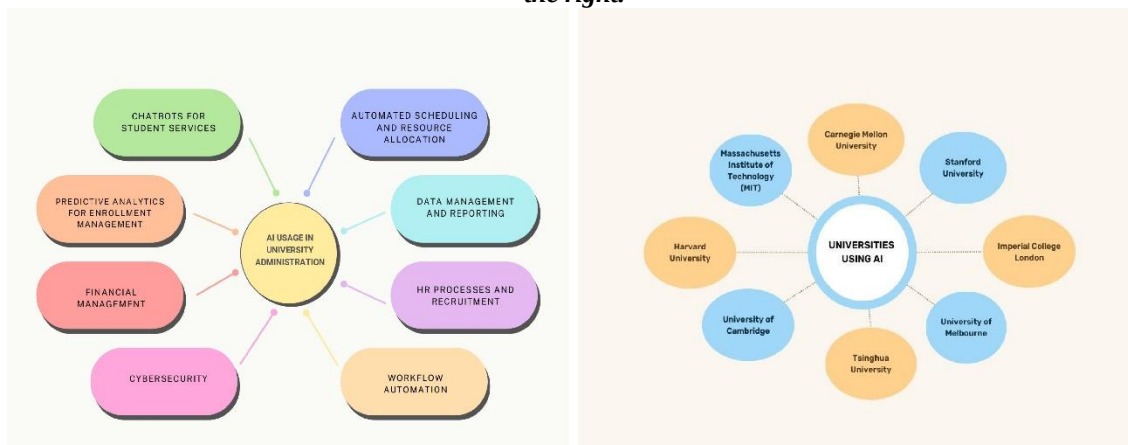
Albanian University, despite being a university, is also a private institution, meaning it is a business. Aside from this, except for considering teaching quality, economic aspects also must be considered. A lot of businesses in the region already use Intelligent Decision Support Systems (IDSS) to enhance the decision-making process and, of course, profits, but as seen in (Rexha et al., 2022) Albanian-based businesses are far from this. Work and decisions are all managed by humans and manually.

The pressing demands within administrative operations at Albanian University highlight the need to integrate Artificial Intelligence (AI) in the rapidly growing field of higher education. By improving data management, automating administrative processes, and enabling predictive analytics for strategic decision-making, AI technologies provide revolutionary efficiency improvements (Gawande et al., 2020) (Luan et al., 2020). Albanian University can increase resource allocation, decrease employee overhead, and streamline operations by utilizing AI in administrative processes (Alshadoodee et al., 2022). Moreover, individualized student services are made possible using AI tools, which enhances the flexibility and responsiveness of the learning environment (Zhai et al., 2021). The studies that are mentioned emphasize the many advantages of integrating AI and explain how important it is to modernize administrative procedures in the higher education industry.

3. AI SUCCESS IN TEACHING AND ADMINISTRATION

The Massachusetts Institute of Technology (MIT) in the US is one university that has led the way in implementing AI in teaching. MIT has taken part in several AI projects, such as integrating AI into the processes of teaching and learning (Van Brummelen et al., 2021) (Ayoub, 2023). As universities seek to improve overall administrative operations, increase efficiency, and streamline processes, the use of AI in university administration is becoming more and more common. Figure 1 shows some of the most common applications and some universities applying them.

Figure 1. AI usage in administration roles for universities on the left and universities using AI in education on the right.



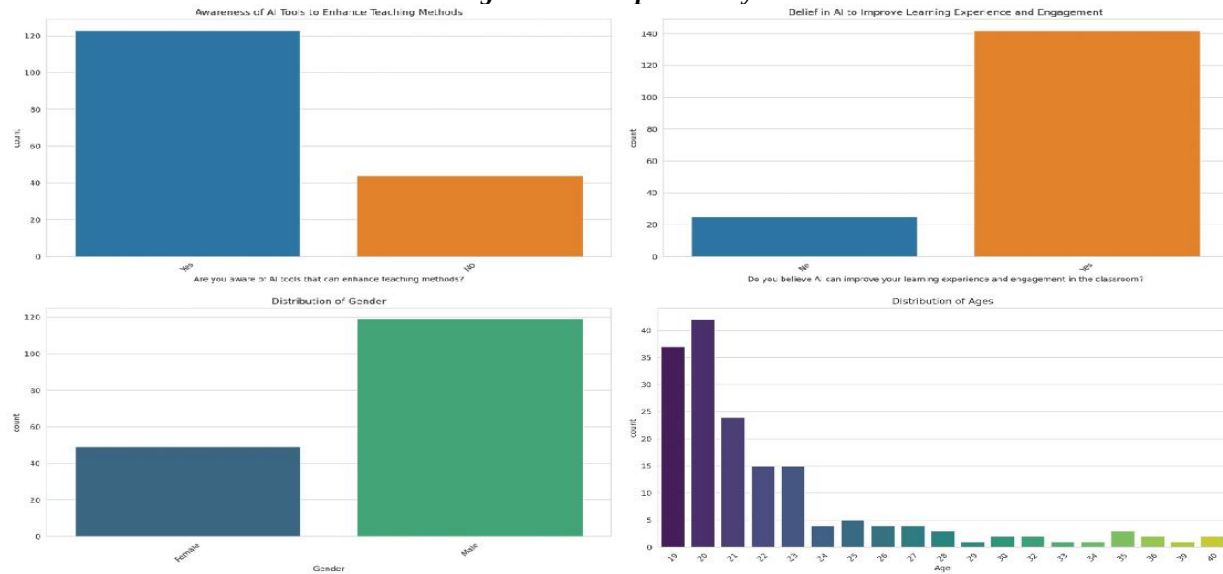
4. ANALYSIS

To identify the openness and will of professors and students in the usage of AI tools in learning and teaching, some of the key points of the questionnaires are analyzed.

Regarding the students, the Pearson correlation coefficient between Age and Belief is approximately -0.059. This value suggests a very weak inverse relationship between the age of the respondents and their belief in AI's ability to improve their learning experience and engagement in the classroom. The Pearson correlation coefficient between awareness of AI tools and belief in AI's ability to improve learning is approximately 0.281. This indicates a low to moderate positive correlation, suggesting that students who are aware of AI tools that can enhance teaching methods are somewhat more likely to believe that AI can improve their learning experience and engagement in the classroom. The Pearson correlation coefficient between the belief in AI-driven support services being helpful for quick answers to queries and the belief in AI improving the overall student experience by providing virtual advisors and support services is approximately 0.479. This indicates a moderate positive correlation between the two variables.

Figure 2 shows how aware are the students of AI tools that enhance teaching and their belief that these tools can make a difference. The distribution of gender and age are also shown to provide a visual of the demographic distribution of the participants.

Figure 2. Descriptive analysis

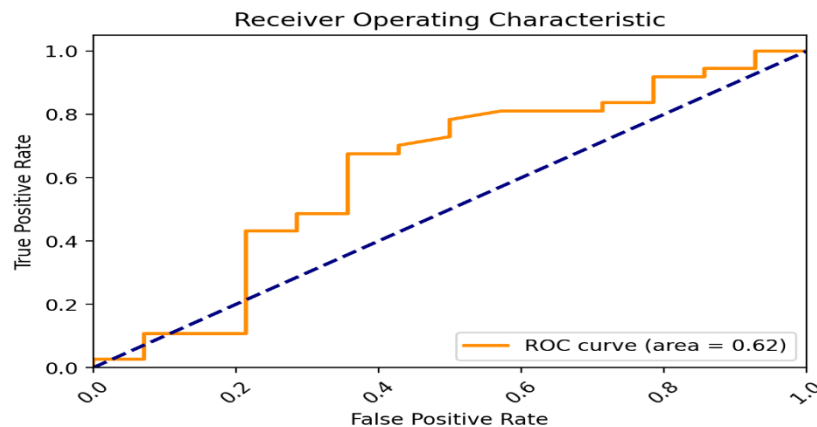


The Linear Discriminant Analysis (LDA) is performed according to the following feature importance. Figure 3 shows the features, and their importance, and Figure 4 shows the ROC curve to evaluate the model's performance.

Figure 3. Feature importance.

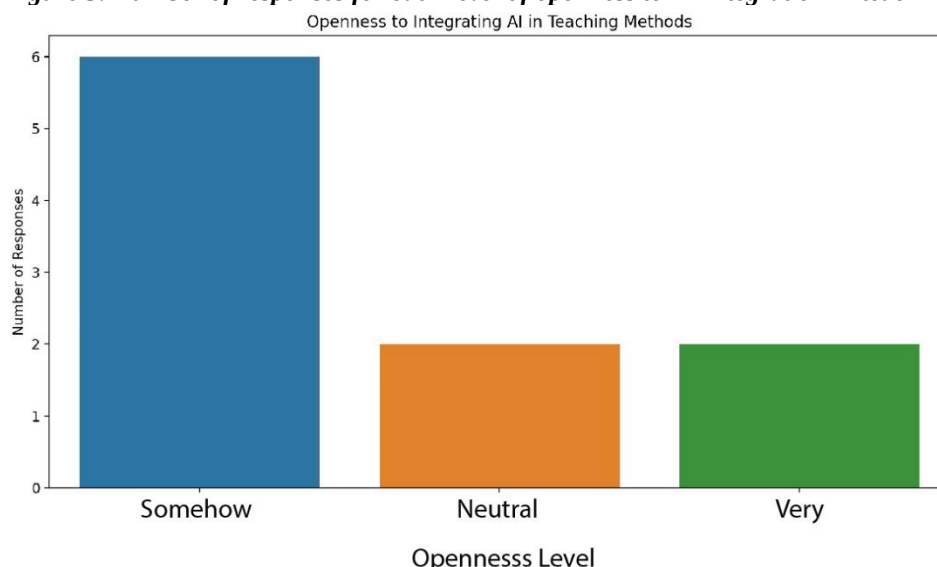
	0
Program	1.0752844355224211
Are you aware of AI tools that can enhance teaching methods?	0.6680753253696066
Academic Department	0.6447447304219789
Gender	0.5593624906102042
Do you believe AI can improve your learning experience and engagement in the classroom?	0.5189804893948939
How open are you to the use of AI in your education?	0.46853040044883154
Do you believe AI could improve your overall student experience by providing virtual advisors and support services?	0.35987521649212917
Would you find AI-driven support services, such as chatbots, helpful for quick answers to queries?	0.2847310142275199
Age	0.012775691586610672

Figure 4. The Linear Discriminant Analysis (LDA) and ROC curve.



The bar chart in Figure 5 represents the number of responses for each level of openness to AI integration in teaching, ranging from not open to very open.

Figure 5. Number of responses for each level of openness to AI integration in teaching



The chart indicates varying levels of receptivity among educators towards using AI in their professional practices. The correlation coefficient between the years of teaching experience and awareness of AI tools that can enhance teaching methods is approximately -0.442. This indicates a moderate negative correlation, suggesting that as the years of teaching experience increase, the awareness of AI tools that can enhance teaching methods tends to decrease. Ethical problems like false knowledge and capability except from the fear of losing work were the main concerns.

5. CONCLUSIONS

As a result, even though time passes and society advances, we are not ready to rely on Artificial Intelligence fully or mostly for the preparation of the next generation of professionals. Said this firstly we need to prepare and train staff, and after this, assess the ethical problems related to AI usage as false information and knowledge. People need to understand that AI walks aside humanity and is needed to enhance learning and teaching not substitute them. To achieve this more awareness campaigns and training are needed. Furthermore, rules or laws on the usage and production of AI must be applied to a wider range of consumers to ensure a resilient and secure future for both AI and Humans.

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