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Applied Language Studies

Transforming Higher Education: Harnessing Artificial Intelligence for Enhanced Learning Experiences in the Humanities

A Research Paper Submitted in Partial Fulfilment of the Requirement of a Licence Degree

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DEDICATION

With the guidance and blessing of ALLAH SWT, I embark on the journey of completing this research paper. I wholeheartedly dedicate this work to my cherished family—a source of unconditional love, inspiration, motivation, and support throughout my life. Their steady belief in my attempts has been a beacon of strength and hope. To my dearest family, your unshakable faith in me is the mainspring of my achievements. Therefore, I am eternally grateful.

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ABSTRACT

This the abstract of my research paper.

Chapter 1

INTRODUCTORY CHAPTER

1.1 Problem statement

Artificial intelligence has taken all over the industries and become a revolutionized technology. It potentially transforms various industries to be more productive (Czarnitzki et al., 2023). However, the emergence of similar AI-driven tools like "ChatGPT", which have significance capabilities, there remains a massive gap comprehending how to effectively interact with it, especially that these tools have gained prominence across sectors since their launch in late November 2020 (Marr, 2023); their full potential has not yet been used within the realm of education to foster genuine engagement and knowledge acquisition among humanities students. This has arisen questions about practical ways of integrating these tools in this context. Therefore, the key focus of this study lies in exploring how AI can be effectively integrated into education to enhance learning experiences within the humanities. The significance of this problem goes beyond implementing technology; it involves transforming education practices and methodologies. Using AI in higher education, especially in humanities, can potentially revolutionize it. Facilitating personalized learning, encouraging critical thinking skills, and en-

hancing engagement during lectures (Baskara, 2023). Addressing this gap is vital for improving the quality and effectiveness of humanities education ensuring that students have the skills to succeed in an increasingly digital and interconnected society. Therefore, exploring ways to use AI in education is an effort with significant implications, for the future of learning and acquiring knowledge.

1.2 The purpose of the study

This study examines practical ways of integrating artificial intelligence (AI) into the humanities. It also investigates effective AI-driven tools for improving learning experiences in higher education. To better understand students' perceptions and experiences, this study explores students' attitudes toward their academic performance using AI-driven tools. Furthermore, this study examines the challenges and opportunities associated with the use of AI in higher education, specifically in the humanities. By addressing these objectives, this study aligns with the goal of enriching learning experiences in humanities disciplines.

1.3 The Rationale and significance of the study

The widespread accessibility and prevalence of AI shows that 73% of US companies have already implemented AI into some aspects of their businesses as (PricewaterhouseCoopers, 2024) reports. Consequently, the fame of using AI in recent years prompted researchers to investigate practical ways of using AI tools for enhancing human productivity across various fields, including education. This study delves into AI-driven tools within a framework aimed at addressing how they can be effectively used to enhance learning experiences within humanities.

1.4 Research questions and hypotheses

1.4.1 Research questions

The study seeks to investigate the potential ways of harnessing Artificial Intelligence for Enhanced Learning Experiences in the Humanities. Hence, the following research questions will be addressed in this paper:

- What are the most effective ways to use AI-driven tools for enhancing learning experiences in higher education, especially in the humanities?
- What are students' attitudes toward their academic performance while using AI-driven tools?
- What are the challenges and opportunities associated with using AI in higher education in Morocco, specifically in the humanities?

1.4.2 Hypotheses

Following intended objectives, these hypotheses have been developed:

- Students who use AI-driven tools reveal better learning outcomes compared to those who do not in higher education, specifically in the humanities.
- AI-driven tools are significantly improving academic performance and engagement in the humanities.
- There are challenges and opportunities are associated with using AI in higher education in Morocco, specifically in the humanities.

1.5 The Organization of the paper

The monograph comprises five chapters, each serving a purpose within this study. The first chapter gives an overview of the study discussing its problem, purpose, rationale, significance, questions and hypotheses. The second chapter review of relevant literature. It reviews the most existing studies on AI in education to highlight current trends, challenges, and potential strategies for using AI-driven tools. This chapter explores emerging trends, challenges, and practical approaches for using AI-driven tools. The third chapter is designed to provide a comprehensive explanation of data-collection. It describes the research design, participants, instrument, and relevant procedures adopted for analysis. The finding chapter will analysis, interpret, and discuss data-collection in depth. The chapter also aims to either validate or reject the hypotheses of the study. Finally, the concluding chapter will focus on a summary of research objectives, methodology, and findings. Furthermore, this chapter will address the study's limitations and implications while offering suggestions for further studies.

Chapter 2

LITERATURE REVIEW

2.1 Introduction

Before discussing the study of "Harnessing Artificial Intelligence for Enhanced Learning Experiences in the Humanities," it is imperative first to appraise the most significant insights and perspectives. This chapter presents a comprehensive survey of how AI has been incorporated into higher education, emphasizing practical methods for utilizing AI-based resources to improve academic achievement and efficiency. Ultimately, the chapter concludes by addressing the obstacles that arise when implementing AI in educational institutions. The objective is to elucidate the findings surrounding this subject matter, gleaned from other researchers' diverse viewpoints.

2.2 Defining Key Concepts

2.2.1 Artificial Intelligence (AI)

Artificial Intelligence is the intelligence demonstrated by machines, involving tasks such as speech recognition, computer vision, and language translation. It is the ability of machines to perceive, synthesize, and infer information, distinguishing it from the intelligence displayed by non-human animals and humans (Ola, 2023). In addition, AI has the ability of a computer system to perform human tasks that human intelligence can accomplish (Sadiku et al., 2021). It has the potential to optimize and improve various ascpacts of human life, including education, health, business, and technology (Cheng, 2023).

2.2.2 AI-driven tools in education

AI-driven tools encompass the application of AI tools like “ChatGPT” to assist students, educators and administration in an education process. These AI-driven tools are used for planning and reactive execution of educational phases, such as student admission, lesson planning, knowledge delivery and performance evaluation (Mallik & Gangopadhyay, 2023). Additionally, it serves as an extension of human intelligence, enabling increased productivity in the educational sphere by performing tasks such as problem-solving, learning, and decision-making(Cheng, 2023).

2.2.3 Learning experience in higher education

It refers to designing and implementing educational activities to create positive and foster engaging student learning experiences(Ebner et al., 2023). It involves comprehending and

assessing the students' educational experience, including their satisfaction, self-efficacy, engagement, and self-regulated learning experience(Lyz' et al., 2022). The focus is on improving the quality of education by enhancing students' academic success, readiness for self-education and self-development, and subject well-being(Iordache-Platis, 2018).

2.2.4 Intelligent Tutoring Systems

ITS is educational software that incorporates AI. The software monitors students' progress, adjusts feedback, and provides hints to offer personalized guidance(Shute & Zapata-Rivera, 2010). It aims to provide individualized, sophisticated instructional advice (Sedlmeier, 2001).

2.2.5 ChatBots

Chatbots are computer programs that replicate human conversation with a conclusion. While not all chatbots possess AI capabilities, modern chatbots are progressively integrating AI techniques to analyze human input("What Is a Chatbot?", n.d.). It enables the digitization of human interaction through written or vocal means, giving the impression of ongoing communication with another individual (Oracle, n.d.).

2.2.6 Education Data Mining (EDM)

EDM is a technique that is used to evaluate students' academic performance, assess the learning process, determine the overall quality of education, and enhance outcomes in higher education. It entails processing and analyzing large amounts of data to extract relevant information that can be used for decision-making and policy-making in the education sector (Arifin et al., 2022).

2.3 The use of AI in Higher Education

Artificial intelligence has been increasingly integrated into various aspacts of higher education, transforming traditional education (Wang et al., 2023). This section explores ways AI can enhance learning experiences and increase academic students' performance by focusing on personalized learning, intelligent tutoring, and administrative task automation.

2.3.1 Personalized Learning

The application of AI technology in higher education has been found to enhance academic performance and engagement by providing personalized learning experiences for students. By utilizing algorithms and data analysis, AI can recognize patterns in student performance and preferences, leading to personalized content and activity suggestions. This, in turn, enhances the student's learning experience, motivation, and engagement. Furthermore, AI can offer customized resources based on individual needs and learning styles while monitoring real-time progress to identify areas that require additional support and adjusting learning materials accordingly (Guerrero-Quiñonez et al., 2023) and (Lecturer, Department of Computer Science Akshara First Grade College, Anekal et al., 2023).

2.3.1.1 Intelligent Tutoring Systems (ITS) as module of Personalized learning

Intelligent Tutoring Systems (ITS) have shown great promise in enhancing online learning through AI. They provide personalized support, immediate feedback, and ongoing monitoring for more effective and independent learning. By analyzing student data with AI algorithms, these systems deliver tailored experiences that adapt to each student's needs, offering relevant content and personalized feedback. According to a recent study by (Lecturer, Department of

Computer Science Akshara First Grade College, Anekal et al., 2023), it improves adaptiveness and leverages personalized learning by considering each student's individual needs. This approach to personalized learning is also supported by (Bradáč et al., 2022) who believe it can greatly improve students' learning experiences.

2.3.2 ChatBots "ChatGPT" as a module

ChatGPT has become a valuable tool in higher education, providing students personalized recommendations based on their learning history. With minimal input, it can accurately answer questions and assist students in improving their study skills and time management. Additionally, it motivates and engages students by offering access to many resources. ChatGPT can assess students' writing abilities(Mohammed et al., 2023). Moreover, ChatGPT is an effective teaching aid that enables educators to make informed decisions and provides personalized support outside regular class hours. It also promotes engagement and active learning through interactive and dynamic experiences, facilitating discussions, stimulating critical thinking, and delivering immediate feedback to enhance the learning experience(Schönberger, 2023). Ultimately, ChatGPT has the potential to enhance both learning and teaching processes, serving as an invaluable tool for class preparation, exam preparation, and personalized tutoring(Domenech, 2023).

2.3.3 AI and Administrative Efficiency: Streamlining Operations

Artificial intelligence has proven to be a valuable tool in enhancing administrative processes for educators. By automating tasks, educators can prioritize important activities such as curriculum design (Drach et al., 2023). Furthermore, AI can streamline enrollment and improve retention rates, offering opportunities for resource optimization and successful online training

experiences (Lukianets & Lukianets, 2023). In addition, AI's data analysis capabilities and pedagogical reporting facilitate evidence-based decision-making, empowering educators to make informed choices(Guerrero-Quiñonez et al., 2023).

2.3.3.1 Educational Data Mining (EDM) as a module

Educational Data Mining (EDM) is a powerful tool for extracting knowledge from academic, socioeconomic, and learning analytics data. EDM can significantly improve academic performance, learning quality, and decision-making by utilizing statistical analysis, machine learning, and data mining techniques (Arifin et al., 2022; Hooda et al., 2022). Recent studies have highlighted the effectiveness of EDM in predicting students' performance using practical techniques such as J48 [1] and K-means.[2] With its potential to enhance overall efficiency and success(Prince Sattam Bin Abdulaziz University et al., 2016), the use of Data Mining methods, particularly EDM, is becoming increasingly essential for educational institutions.

2.4 Challenges of AI in higher education

The emergence of artificial intelligence (AI) and its growing utilization in educational contexts have brought numerous challenges accompanying its implementation. This section explores the obstacles and issues when integrating AI into education settings, particularly its

[1] J48 is a decision tree algorithm that is commonly used in educational data mining (EDM) for classification tasks.

[2] K-means is a clustering algorithm that is often used in educational data mining (EDM) for grouping similar data points together. It is an unsupervised learning algorithm that aims to partition the data into K clusters, where K is a predefined number. The algorithm iteratively assigns data points to the nearest cluster centroid and updates the centroids until convergence. K-means is widely used in EDM for analyzing student behaviors and identifying patterns in educational data.

use for academic purposes.

2.4.1 AI bias

Concerns have been raised regarding the potential negative impact of using AI in admission or grading processes for students. AI algorithms can produce racially biased output when trained on biased data. For example, in medical appointment scheduling, certain algorithms predict that black patients are more likely to miss appointments compared to non-black patients. This perpetuates racial inequalities and creates a lack of access to healthcare, highlighting the crucial need for accuracy and fairness in AI. The implications of this extend beyond the medical field and into other domains such as education, judicial systems, and public safety(Shanklin et al., 2022). The facial detection algorithms used by the software may be biased against students based on their skin tone or gender. The study shows that students with darker skin tones and black students are more likely to be marked for review, and women with darker skin tones are selected for review more often than white men. This highlights the need for caution when using automated proctoring software, as biased AI algorithms can significantly affect education, social justice, equity, and diversity (Yoder-Himes et al., 2022).

2.4.2 Data privacy

Schools, teachers, and students generate vast amounts of private data in digital formats, but often have little control over this data, which is instead held by third-party institutions. This lack of autonomy poses challenges in protecting student privacy. The use of AI systems and big data analytics in education has significantly enhanced the capacity to identify information about student users. This includes data traces from online learning activities, such as browsing history, download history, and location data. The security boundary of personal information

privacy is becoming increasingly blurred, posing challenges in protecting student data privacy (Huang, 2023). It is important to address the issue of data privacy in artificial intelligence (AI) within higher education. AI technology aggregates a vast amount of data from various sub-fields, making it crucial for data processing and consumption to adhere to privacy and security principles. With the advent of the Internet, the retention period of information has significantly increased. Therefore, data for AI systems must be collected, utilized, shared, stored, and deleted under information security standards. Protecting personal information related to the lifespan of AI technology should be ensured by legal frameworks and ethical norms(UNESCO, 2022).

2.5 Conclusion

This literature review comprehensively explored the burgeoning integration of Artificial Intelligence (AI) in higher education. AI offers a multitude of benefits, including personalized learning pathways through intelligent tutoring systems and chatbots, streamlined administrative tasks via automation, and data-driven decision-making empowered by educational data mining (EDM). These advancements hold immense promise for a future characterized by optimized learning experiences and efficient institutional operations. However, challenges such as algorithmic bias and student data privacy necessitate careful consideration. To ensure AI's ethical and equitable implementation, future endeavors should focus on mitigating bias within algorithms and developing robust data security protocols. In essence, AI presents a powerful but nuanced tool for transforming higher education. By navigating the ethical and practical hurdles and harnessing its full potential, AI can revolutionize learning experiences and empower educators to cultivate a more effective and equitable educational landscape.

Chapter 3

METHODOLOGY

3.1 Introduction

The present chapter aims to illustrate the research design employed to investigate the integration of Artificial Intelligence in enhancing learning experiences in the Humanities. It details the research design, participants, instruments, data collection, and analysis procedures. The chosen methodology will be justified for its relevance according to research questions and hypotheses posted in Chapter 1, section 1.4, aiming to provide insight into the impact of AI-driven tools in higher education.

3.2 Objectives of the study

This study's main objective is to examine the effectiveness, usefulness, and benefits of using AI-driven tools as learning tools to enhance students' academic performance. The purpose is to discover students' perceptions and the practical ways they use AI tools to enhance their academic performance. Accordingly, the following research questions and hypotheses have been formed based on the objectives.

3.3 Research Questions and hypotheses

3.3.1 Research Questions

The study aims to investigate hressing AI within higher education espacially humanities. Hence, the following question are formulated:

- What are the most effective ways to use AI-driven tools for enhancing learning experiences in higher education, especially in the humanities?
- What are students' attitudes toward their academic performance while using AI-driven tools?
- What are the challenges and opportunities associated with using AI in higher education in Morocco, specifically in the humanities?

3.3.2 Hypothese

In terms of achieving the current purpose, the follwing hypotheses have been formulated:

- Students who use AI-driven tools reveal better learning outcomes compared to those who do not in higher education, specifically in the humanities.
- AI-driven tools are significantly improving academic performance and engagement in the humanities.
- There are challenges and opportunities are associated with using AI in higher education in Morocco, specifically in the humanities.

3.4 Research design

This research employs a mixed-methods approach to explore the efficacy of AI-driven tools in enhancing learning experiences in the Humanities. Surveys will serve as the primary data collection method to gather insights on the effective integration of AI-driven tools into the educational process. Furthermore, the surveys will gather students' views on their academic performance when using these tools. By combining quantitative survey data with qualitative student perspectives, this study seeks to provide a comprehensive analysis of the impact of AI technology on learning outcomes and student engagement in the Humanities department.

3.5 Participants

The current study investigates the attitudes of one major group, English university students from different academic years: first year, second year, and third Year. The survey was shared on WhatsApp. The Participants were asked relevant questions that contributed to the study. They comprise 32 students from the English department (32 are female, 9 are male, and NULL prefer not to say). The age, gender, and previous experience with AI distribution of this paper's participants are shown in the table below.

Table 3.1: Participants by Age and Gender

	Gender			Age		
	male	female	prefer not to say	18-25	26-35	36 and above
Frequancy	9	23	0	21	6	5
percentage	29.1 %	71.9 %	0 %	65.6 %	18.8 %	15.6 %

Table 3.2: Participants by Academic Year and usage of AI for academic purposes

	Academic year			The use of AI for academic purposes	
	First Year	Second Year	Third Year	Yes	No
Frequancy	0	8	24	31	1
percentage	0 %	25 %	75 %	96.9 %	3.1 %

3.6 Instrument

Various data collection instruments and tools are used by research to collect, measure, and interpret data related to this study. To that end, one of these instruments was used, namely "the questionnaire." The questionnaire comprises of two types of questions: factual and attitudinal. The factual questions are aimed at identifying certain demographic characteristics of the participants, such as their gender, age, academic year, and department. Whereas, the attitudinal questions are intended to investigate the students' attitudes towards utilizing AI-driven tools in higher education, especially in the humanities department.

The questionnaire design primarily employs a closed-ended format, which pre-determines response options for the participants. However, it also incorporates three open-ended questions to elicit detailed responses and qualitative insights from the participants. These open-ended questions are designed to encourage the participants to provide examples of opportunities for integrating AI-driven tools in higher education, offer suggestions for enhancing the integration of AI in higher education, share their experiences of using AI-driven tools, and provide feedback or comments regarding the AI-driven initiatives.

3.7 Data collection procedure

Under the mentorship and guidance of my supervisor, Professor Loutfi Ayoub, a specialized questionnaire was meticulously crafted to engage students within the Humanities discipline. This survey, aimed specifically at English majors across various semesters, was disseminated through an array of social media platforms, with a notable emphasis on WhatsApp.

3.8 Data analysis

As previously mentioned, we gathered data for our recent study through an online questionnaire sent to the target group. To ensure we had access to a variety of features, we utilized "Google Forms" as our data collection tool. With its ability to accommodate multiple-choice, checklists, rating scales, and short answer text questions, Google Forms proved to be a reliable web-based application for our needs.

3.9 Conclusion

This chapter was made to clarify the data collection procedures. A similar effort has been made to describe data analysis. Therefore, This chapter was designed to lay the groundwork for the upcoming chapter, tackling the data more in-depth and detailed understanding of the topic.

Chapter 4

DISCUSSION & ANALYSIS

4.1 Introduction

After clarifying the data collection process and the relevant procedures adopted for the analysis, this chapter aims to examine the previously collected data in order to determine the definitive truth regarding hressing AI into higher education. To this end, statistical tables and graphs would be disclosed. The findings of this paper are consistent with previous research results on the practical ways of implementing AI into humanities, students' point of view about their preformance while using AI, challanges and oppurtunites. In short, the survey's results indicate that students academic performance is improved while using AI.

4.2 Results

In this sections, a descriptive statistic technique was used to interpret the data collected from English university students through filling out Google form. The questionnair divided into two main parts: the first part is to investigate whether the students' academic performance have improved or not while using AI-driven. The second part is about challenges and oportunites

faced during using AI for academic studies.

4.2.1 the students' academic performance while using AI-driven tools

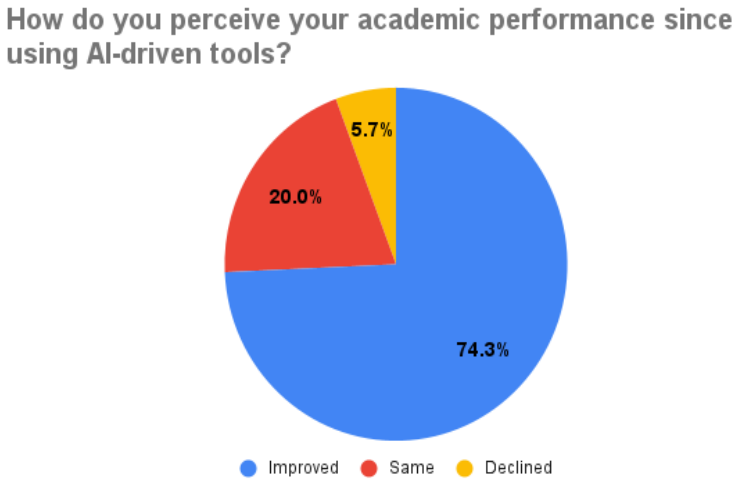

Figure 4.1: perceive academic performance using AI-driven tools

After assessing the respondents' opinions on the use of AI-driven tools and students' academic preformance, it is obvious that the majority of their academic preformance was improved. it is clearly shown that 74.3% agreed that AI improve their academic performance. In addition to 20% of respondents believed that the use of AI didn't affect their academic performance. Whereas 4.7% showed their negative resulte believing that AI affect their academic preformance to be declined while using it.

4.2.2 Challenges and opportunites faced while using AI-driven tools in academic setting

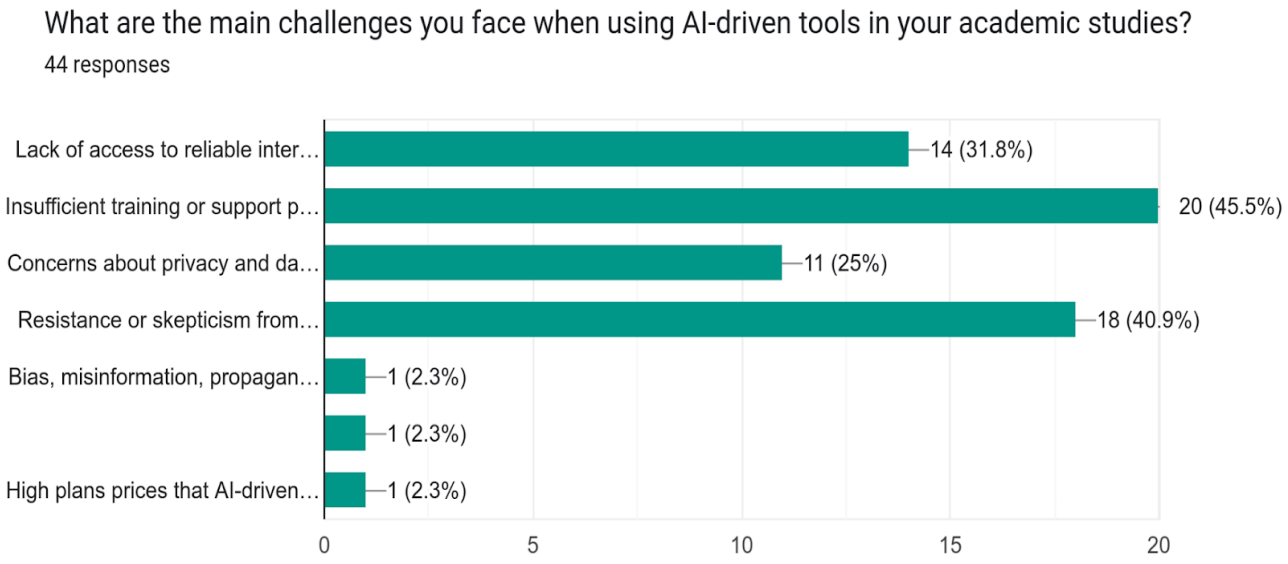

Figure 4.2: challenges faced when using AI-driven tools in academic setting

The bar chart shows the results of a survey on the challenges students face when using AI-driven tools in their academic studies. Out of 44 respondents, the biggest challenge was reported to be insufficient trainging for the tools, with 45.5% of students selecting this options. While resistance or skepticism from professors towards using AI-driven tools was reported to be the second challenge face by students with 40.9%. Following this was lack of access to reliable internet, with 31.8% of students reporting this as a challenge. A smaller percentage of students reported facing challenges with pricacy and data security matters with 25%. while 2.3% was bias, misinformation, propaganda in the AI tools and high prices of the AI-driven tools.

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