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RESEARCH ARTICLE

Section: *Digital Humanities***Digital media students' use of AI tools in academic assignments: A case study of Jordanian universities**Barakat Alzyoud¹, Yousef Abuabdoun², Renad Issa^{1*}, Salam Hajjeh¹ & Sarah Francis Kswat³¹Digital Media Department (Electronic), Faculty of Arts and Humanities, Applied Science Private University, Jordan²Jordan News Agency (Petra)³Journalism Department, Faculty of Mass Communication, Ahram Canadian University, Egypt*Correspondence: r_issa@asu.edu.jo**ABSTRACT**

This study examines the extent to which digital media students in Jordanian universities use artificial intelligence (AI) tools to complete their academic assignments. A descriptive-analytical approach was employed to assess current patterns of AI use and examine differences across demographic variables. The study sample consisted of 400 undergraduate students from the University of Jordan, Yarmouk University, Middle East University, and Jerash University, selected through stratified random sampling to ensure balanced representation across academic levels. Data were collected using a structured questionnaire comprising demographic information and three dimensions: knowledge of AI tools, their use in academic assignments, and the challenges associated with their use. The findings indicated a moderate overall level of AI tool use. Knowledge of AI tools received the highest mean score, while actual use in academic assignments recorded the lowest. Perceived challenges were also rated at a moderate level. No statistically significant differences were found in AI tool use based on gender, university, or academic level. The study recommends integrating AI literacy and ethics into digital media curricula, providing practical training on AI applications such as ChatGPT, establishing institutional guidelines for responsible AI use, encouraging faculty mentorship, and promoting academic integrity through awareness initiatives.

KEYWORDS: artificial intelligence, digital media, higher education, Jordanian universities, academic duties, ethical use, AI knowledge

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Introduction

Technology is an integral part of lives today where we are so dependent on it for all work and studies (Haider, Obeidat, Hamdan, AlZghoul, & Abu-Rayyash, 2025, 2026; Tannous & Haider, 2025). Artificial intelligence (AI), hailed as one of the biggest and most impactful products of this technological evolution, has found usages across education, media and many other domains (Ahmad, Haider, & Saed, 2025; Darwish et al., 2025; Gwasmeh M et al., 2026; Obeidat, Haider, Tair, & Sahari, 2024). Exercising a significant effect upon the development of educational process and its outcomes (Selwyn,2022), AI has drawn more attention from researchers and specialists in various domains especially in higher education and its institutions. The use of artificial intelligence today has turned into one of the most used technologies in contemporary societies due to its significant contribution on the development of educational systems improving administrative efficiency and creating novel teaching methods for more efficient, sustainable learning (Saatchi et al., 2025).

AI, despite being a recent technological breakthrough, has rapidly evolved into widespread usage and has created many advanced systems that help students in processing their instruction manuals efficiently by completing academic assignments such as research papers etc. This not only helps cadences of writing and research but also improves teamwork as well (Thottoli et al., 2025). This ongoing development demands adapting to changing tides of technology, considering its products and processes as well as exploring how to make AI a highly-functional tool that benefits the discipline and its professionals (Rodríguez-Ruiz et. al., 2025).

In the context of a rapidly evolving higher education landscape driven by the introduction of AI-enabled tools and technologies, it is important for graduate students to have an adequate level of awareness and comprehension about these social robots that can be understood on cognitive as well as behavioral axes. In tandem, higher education and research organizations need to correlate with this transformation in harmony through investment, enabling and driving up the quality of academic output and improving institutional productivity (Ali et al., 2025).

AI is considered a two-edged sword because it has some distinct benefits but also possible downsides. It provides considerable opportunities for researchers and faculty members to generate new ideas, organize data, and speed up research tasks. A study by Wang et al. (2025) proved that AI has emerged as an indispensable tool in scientific research, given its capacity to analyze big data, interpret existing scientific patterns and reveal previously obscure aspects of science. Salvagno et al. conducted another study (2023) pointed out that AI technologies have played a role in improving the quality of academic writing and organizing content, as well as producing initial drafts using tools such as Chatbot and ChatGPT, resulting in enhancing research efficiency as well as boosting the level of scholarly productivity among researchers.

With regards to media teaching in academic institutions, it needs to follow and repeat the preparation of students based on modern challenges; advanced professional skills, as well as high ethical values and moral commitment. This could be reached through connecting and integrating the educational process with technological advances, to align academic institutions with common changes in work (Al-Shorman et al., 2025). This trend has highlighted the need for technological accountability among academic professionals and students. Technological advancements are the crux of digital transformation, which evolves at a continuous pace in order to adapt. Nevertheless, the delicate nature of the fields of education and media requires high ethical and professional standards to curb abuses that could occur when employing contemporary technologies in a manner similar to undermining academic or professional integrity (Huallpa, 2023).

With the advent of artificial intelligence, education and research modalities are in the process of transitioning from being a learning experience to becoming an interactive encounter (Cheng, 2025) AI has also enabled personalized learning based on performance analysis and self-evaluation, improved student involvement with educational content through deep learning and advanced analytics (Fassi et al., 2025), and better understanding of scientific phenomena by graduate students with more accuracy. In the past two decades, educational technologies based on AI witnessed explosive development and humans are progressively leaning on machines to accomplish intricate physical and cognitive tasks (Lund, 2023). Artificial intelligence (AI) applications derive from systems that can imitate human reasoning and make intelligent decisions using technologies such as machine learning, neural networks, natural language processing, and computer vision. Its purpose is to empower clever systems to learn independently and communicate well with various environments such as the education sector (Demaidi, 2025).

Learning opportunities across AI can range from customizing academic experience to meet diverse learning models for each student, innovating by creating the classroom content itself, giving timely client-specific feedback in faster turnarounds on any gaps identified, streamlining management tasks to do more with resources of time and attention (OKR-based) for students. They improve the effectiveness of teaching and learning processes, leading to greater interaction and understanding in education (Al-Shorman et al., 2025). This is an abstract of a discussion paper presented at the Innovation and Artificial Intelligence in Education Conference on covering (the 28th of) held in Jeddah, where The importance of employing AI technologies used to enhance educational development, especially creativity and innovation. Different studies and projects, which aimed at providing new approaches to teaching process and using contemporary technologies speech towards increasing the quality of educational process reported during the conference (Tang et al., 2025). The conference recognized that advancements in artificial intelligence are fundamentally reshaping education on a worldwide scale, with researchers and scientists working tirelessly to create intelligent applications from AI technology to improve the quality of education. With the evolution of more recent years, Artificial Intelligence (AI) based education tools were developed over the past decade and cater to self-directed learning as well as tailor learning experiences in accordance with students' unique needs (Wu et al., 2024). In addition, smart education systems have created novel types of interactive learning attributable to privacy and individual adaptation to learners' needs which further positions AI as the main catalyst of transformation in contemporary education. The market for AI educational applications is estimated to be in the hundreds of millions of dollars today and projected to reach over \$20 billion in five years (Holmes & Tuomi, 2022).

This evolution faces a principal dilemma — reconciling the need to embrace digital transformation and 21st century expectations with the values of media education (Joshi et al., 2025). At times, technological advancement contradicts the nature of professional ethics and journalistic integrity between these industries, which is why we need to have guides in place that govern how ethical responsibility should be engaged while using AI for education or media. Therefore, such issues have become a core focus of the growing interests of contemporary researchers and scholars. Over the past few years, higher education institutions have experienced high-paced change in sophisticating how knowledge is created and academic tasks are conducted from greater application of advanced digital technologies. Students now have access to both efficient and flexible interactive writing tools, conversational AI applications that enable them to query information; fields of the text in question quickly generate various content styles, allowing students first drafts./engineering academic materials with only relevant contexts. Nonetheless, accompanying these benefits are problems concerning ethical usage, academic propriety and methodical rigour that have become more pronounced (Madden et al., 2025).

While artificial intelligence tools can rightfully help students speed up generating ideas, polish language and increase productivity, many students have yet to learn how to thoughtfully assess the reliability of AI-generated content or grapple with ethical lines for academic use. Academic Integrity Thus, Williams (2024) highlighted that the increasing dependence on AI-generated content without ensuring proper citation or verification has resulted in diminishing academic rigor and originality. In a similar vein, Abdulghani (2025) observed that students reliant on chatbot systems often show poor research capabilities and Noh (2024) found that many users utilize the AI tools without due consideration of their limitations or data sources which has led to conceptual inaccuracies and less individual effort.

The 7th International Conference on Chatbot and Human Interaction (Conversations Workshop, 2023) held at Northwestern University focused on ethical frameworks and establishing explicit learning outcomes for the responsible use of AI-based writing systems. It also recommended incorporating critical thinking and academic writing integrity training into university curricula to make a meaningful and ethical adoption. The researcher noticed significant variances among students studying digital media in Jordan concerning how they perceive and utilize AI tools for academic purposes. Some students say they rely almost entirely on these systems without checking whether what is generated is valid, while others report avoiding them because of ethical concerns or a lack of clarity about how best to use them. This discrepancy demonstrates an urgent need to investigate how much students working in different fields of digital media in Jordanian universities use AI tools for doing their academic assignments, the obstacles they encounter, and the criteria that influence them to use AI responsibly and effectively.

The study answers the following questions:

1. What is the degree of digital media students' use of artificial intelligence tools in completing their academic assignments at Jordanian universities?
2. Are there statistically significant differences (at the significance level $\alpha = 0.05$) in the degree of use of artificial intelligence tools among digital media students that can be attributed to demographic variables (gender, university, academic year/level)?

Literature Review

Theoretical Framework

In the first stages of digital media, it appeared as a gradual product of development and growth global information networks (internet). It originates from 1969 in the United States, when the military commissioned a group of researchers to develop a communications network that would remain operational after nuclear strikes. This was the key point in the development of a revolutionary experimental electronic linkage system between computers at the University of California and Stanford University laying foundation for follow-up actions encouraging emergence of Internet (Joshi et al., 2025).

These experiments later turned out to be very successful and laid the foundation for creating global information networks. In 1985, the Internet hit a major milestone as the number of users surged, turning it into a primary mode of communication and information sharing between human beings. And with the expansion of digital media, communication mediums developed to incorporate e-zines, news internet sites and advanced applications all which opened up new potentials for communication and data spread at a quicker rate and decrease investment (Maheux et al., 2023).

The technological revolution did play a part in the convergence of multiple media forms like text, sound, image and video into a single platform which we now refer to as "New Media". This idea is a natural development of the scientific revolution that radically changed communication/media through digital technologies and high interactivity; this shift enabled users to take on an active role in content production and direction (Alwaqdani, 2025).

Digital media is therefore a broad concept which includes a number of platforms merging technology with-human-interaction reflecting the change from one-way communication to interactive engagement based on participation and creativity (Nasser & Abu-Naser, 2024).

Digital media is a process of contemporary techniques and practices that depends on advanced technologies to create, disseminate, and share media content in any form through electronic devices and platforms over the Internet or medium. This medium allows direct exchange and two-way interaction between sender and receiver, which makes the communication processes more dynamic and heterogeneous (Fassi et al., 2025).

Analogously, Cheng (2025) describes digital media as a series of present-day digital practices and actions accompanying the production, publication, and sharing of media content in different formats on electronic devices and digital stations—online or offline—in an interactive environment that brings together both sender and receiver.

The concept of AI among participants associates it with an advanced technologically tool helps Hema n's do multiple tasks in a quick and efficient manner. All agreed that AI is now an integral part of enhancing educational quality and learning due to its ability to quick uptake problem analysis, solution suggesting, and assisting teaching with innovative methods (Saatchi et al., 2025).

Even though there seems to be a consensus on the definition of AI in terms of an automated system, which has reasoning and decision-making capabilities, some participants associate it with a broader category. It argues that its importance goes beyond technical issues, especially relating to human and creative aspects, implying that a deeper understanding of the workings of AI and the consequences for people and society is essential (Thottoli et al., 2025).

AI is also viewed as a useful assistant for executing various complex daily tasks and an efficient method of developing academic and professional atmosphere. Others warn of the dangers of limiting its role to algorithms, as it can compromise human imagination and independent thoughts (Demaidi, 2025).

Over the past few years an avalanche of AI tools has fallen onto the scientific community and these have now become core tools for any researcher in almost any field of science. These tools have streamlined research,

analysis, and data management processes with more speed and precision. They are applied to several areas, including the following:

Several AI-based tools have been built in recent years to help researchers gather and manage their references. Such tools have become commonplace in academia because they deliver rapid access to reliable scientific sources. One of the main's tools is systemic Google Scholar, along that allows, access to articles, books and research papers(end-on) disciplines. There are additional useful tools like ChatGPT, Publish or perish (POP), and Elicit AI Research which ensures accurate research suggestions as well analyze the scholarly references based on certain research topics. These applications have greatly enhanced researchers' efficiency by making the research process smoother, organizing data and improving analysis processes with AI being a powerhouse supporting many aspects of scientific inquiry and reference management (Wang et al., 2025).

Information science experts and librarians use a suite of AI tools to search for within documents and texts. In-file search tools by keywords that were built for parsing and extracting related paragraphs. One of those is Data Search, a layer that's capable of parsing data and presenting output in a structured manner. It can analyze files like PDFs and web pages, classifying them according to frequently used words and expressions (Wu et al., 2024).

Popular tools for the preparation of scientific and academic resources in textual form are AI-based writing programs. They create content from research keywords and analyze text to churn out various rewordings that expand ideas and generate appropriate material for a specific areas of study. These include OKELO, Essay Bot, Rytr, and Kattab that cater for the Arabic language and provide book authoring by improving text quality and fluency (Tang et al., 2025). Further, other tools like Text Generation and Talk to Books are utilized for similar purposes which essentially help in texts/documents search and conduct intelligent analysis with precision (Mumtaz et al., 2025).

There is a wide range of AI tools available to assist in the development and support of statistical data analysis, which became commonplace in most academic disciplines because of its precision and time efficiency in processing large sets of datasets.

Perhaps the most obvious is Microsoft Excel, one of the most ubiquitous programs in academic data analysis. Known as statistical detailed application software, by means of SPSS, IMP or SAS (Statistical Analysis System), crypto-analysis provide a general study on scientific research.

Such applications are capable of analyzing data, recognizing relationships between variables, and providing statistical insights into the results; thus, they have become an integral part of contemporary data-driven research frameworks (Alqahtani & Wafula, 2025). AI tools that assist in idea organization and allow for graphical representation to supplement research activities have significantly advanced the area of visual representation and presentation design. Exemplary tools include Microsoft PowerPoint, Context Minds and Mindy aps. com helps experts to get new ideas and organize their own research results creatively. These tools allow users to define information in mind maps, charts and editable tables that clarify the relationships between research concepts. Also, dynamic programming graphical visualisation of reliable datasets and indicators through something like World Bank Data (Huallpa, 2023) or a similar available tools enormously boosts validation quality of the science.

Empirical Studies

Previous studies related to digital media and artificial intelligence tools were presented in Saudi Arabia, (Alwaqdani,2025) investigated teachers' views toward integrating AI(AIED) tools into teaching practices. This study used a quantitative methodology and utilized a questionnaire to represent the views of 1,101 Saudi teachers of different levels and backgrounds. Many of them still recognized that AIED could help save time, support the design of enrichment activities and personalizing learning experiences from the results. But there are still concerns about the effort involved in training, job displacement, creativity and critical thinking issues, unintended negative consequences and trust that AI will do a task without errors.

This exploratory study (Alqahtani & Wafula,2025) investigates how top universities integrate artificial intelligence in education strategies and policies. It looks at how colleges and universities are responding and developing their institutional policies around using artificial intelligence emphasizing pedagogical, ethical, and individual privacy factors. The paper uses a systematic analysis of artificial intelligence policies from 25

leading universities to highlight practices and issues that academic institutions are experiencing with regards to the usage of artificial intelligence. The findings showcase these diverse strategies — from adopting artificial intelligence tools to increase teaching efficiency and student engagement, to handling ethical concerns like academic integrity and data privacy.

Mumtaz et al. (2025) explored the ethical implications of AIT in the context of higher education, specifically among graduate business students. Drawing from a diverse sample of students in the US and UAE, the research investigated how cultural values influence perceptions and behaviors toward responsible AI tool usage. The study revealed significant differences in ethical perceptions across cultural groups. For example, students from the South Asian group viewed the use of AI tools to answer questions as more ethical, while students from Latin Europe were less likely to view it as ethical. Conversely, Latin European students were more likely to view the use of AI to understand concepts as ethical, compared to their South Asian counterparts. The findings highlight the importance of understanding cultural perceptions when integrating AI into higher education.

Falebita & Kok (2025) investigated the relationship between undergraduate students' technological readiness, self-efficacy, attitudes, and use of AI tools. The study relied on the Technology Acceptance Model (TAM) to explore the relationships between its variables. 176 undergraduate students from a public university in southwestern Nigeria participated in the study. The results show that undergraduate students' technological self-efficacy determines their use of AI tools and their perception of ease of use, but it does not determine their perception of the usefulness of these tools and their attitudes toward their use. Technology readiness was also found to determine undergraduate students' perception of the usefulness, ease of use, and technological self-efficacy, but it did not determine their use and attitudes toward them.

Nasser & Abu-Naser (2024) explores the transformative impact of artificial intelligence on digital media, examining the opportunities it offers and the challenges it poses. It analyzes case studies of successful and unsuccessful AI applications in digital media, highlighting lessons learned and best practices. Finally, it explores future trends and developments, providing a comprehensive overview of the current status and potential future of AI in digital media. Through this exploration, the paper aims to provide valuable insights for academics, practitioners, and policymakers on harnessing the power of AI and addressing its challenges.

This study advances the knowledge pool of digital transformation in higher education exploring artificial intelligence tools as part of students' academic practices. Theoretically, it helps to extend the understanding of digital media students' engagement with AI technologies for learning and knowledge creation. It demonstrates a connection between technology adoption, academic integrity, and digital literacy among this student population in Jordan. On a practical level, the study informs universities, educators and public policy makers as they create and implement guidelines and training programs for responsible use of effective AI tools. The findings can inform strategies to facilitate students' research and writing skills, assist the development of digital competency, and contribute to the ethical integration of AI applications within academic spaces.

Research Methodology

The study used a descriptive–analytical approach, as it seeks to identify and analyze the degree of digital media students' use of artificial intelligence tools in doing their academic assignment in Jordanian universities. The descriptive manner was chosen because it enables the orderly gathering systematized and interpretation of data to portray the current condition as it's reality. The analytical part deals with analysing the patterns and association between variables in the study. The main data collection tool was a questionnaire that targeted students studying digital media at multiple universities in Jordan.

Study Population and Sample

Study Population: The target population for this study include digital media students currently studying at the Jordanian universities during academic year 2024–2025. Four hundred students were chosen from the sample using a proportional allocation stratified random sampling method based on university and academic level. Table (1) shows the demographic distribution of study sample according to gender, university affiliation and academic years/level.

Table (1): Demographic Distribution of the Study Sample

Variables		Frequency	Percent
Gender	Male	180	45.0
	Female	220	55.0
University	University of Jordan	112	28.0
	Yarmouk University	88	22.0
	Middle East University	72	18.0
	Jerash University	48	12.0
	Other	80	20.0
Academic year/level	First Year	80	20.0
	Second Year	100	25.0
	Third Year	100	25.0
	Fourth Year	80	20.0
	Postgraduate	40	10.0
Total		400	100.0

As for gender: 55.0% female, 45.0% male. Participants affiliated with the University of Jordan represented 28.0% of the total, followed by Yarmouk University (22.0%), Middle East University (18.0%), Jerash University (12.0%) and 20.0% from others universities. In terms of academic level, most of the sample were in the second and third years (25.0% each), while 20.0% were in first and fourth year, respectively, and postgraduate students made up 10.0% of the sample.

Study Instrument

In order to evaluate the extent of digital media students' use of AI tools in their study workloads, a structured questionnaire was formed. The questionnaire was developed from relevant literature and previous studies about AI use in higher education.

The instrument was made up of two parts:

Demographic data: This contained variables like gender, university, and academic year/level.

Second Part of the Questionnaire: This part of the questionnaire consisted of three main dimensions.

Knowledge of Artificial Intelligence Tools (10 items)

- o Actual Use of AI Tools in Academic Assignments (10 items)
- o Artificial Intelligence Tools - The Difficulties (10 items)

The overall number of items was 30 with a graded scale from one to five using the similar types of grading points (1 = Strongly Disagree; 5 = Strongly Agree).

Validity of the Instrument

The content validity of the questionnaire was established by a panel of experts in digital media, educational technology, and research methodology. Their comments were used to modify wording and improve clarity, as well as ensure the items accurately reflected study objectives.

Construct Validity of the Instrument

To examine the construct validity of the instrument, correlation coefficients were calculated between each item and the total score, as well as between each item and its corresponding domain, and between the domains and the total score. The correlation coefficients of the items with the total instrument ranged from 0.49 to 0.87, while their correlations with their respective domains ranged from 0.46 to 0.92. Table (2) presents the results.

Table (2): Correlation Coefficients between Each Item and the Total Score and Its Corresponding Domain for the Scale of Digital Media Students' Use of Artificial Intelligence Tools

Item #	R With Domain	R With total score	Item #	R With Domain	R With total score	Item #	R With Domain	R With total score
1	0.61**	0.57**	11	0.73**	0.72**	21	0.54*	0.67**
2	0.77**	0.70**	12	0.57**	0.59**	22	0.73**	0.71**
3	0.83**	0.84**	13	0.62**	0.57**	23	0.73**	0.64**

Item #	R With Domain	R With total score	Item #	R With Domain	R With total score	Item #	R With Domain	R With total score
4	0.60**	0.71**	14	0.68**	0.70**	24	0.71**	0.67**
5	0.85**	0.78**	15	0.46*	0.72**	25	0.75**	0.71**
6	0.82**	0.68**	16	0.61**	0.64**	26	0.90**	0.87**
7	0.62**	0.54*	17	0.50*	0.49*	27	0.92**	0.77**
8	0.63**	0.71**	18	0.77**	0.49*	28	0.85**	0.71**
9	0.53*	0.57**	19	0.78**	0.81**	29	0.81**	0.72**
10	0.63**	0.59**	20	0.68**	0.68**	30	0.77**	0.68**

* Correlation is significant at the (0.05) level

**Correlation is significant at the (0.01) level

It is evident from Table (2) that all correlation coefficients are statistically significant and fall within acceptable ranges, indicating that all items are valid measures of their respective domains and the overall construct. Therefore, none of the items were excluded from the instrument.

The correlation coefficients between each domain and the total score, as well as the intercorrelations among the domains themselves, were also calculated. Table (3) presents the results.

Table (3): Correlation Coefficients between the Domains and the Total Score

Statement	Knowledge of Artificial Intelligence Tools	Actual Use of AI Tools in Academic Assignments	Challenges in Using AI Tools	Total
Knowledge of Artificial Intelligence Tools	1			
Actual Use of AI Tools in Academic Assignments	0.652**	1		
Challenges in Using AI Tools	0.787**	0.730**	1	
Total	0.889**	0.883**	0.936**	1

As shown in Table (3), all correlation coefficients are statistically significant and within acceptable ranges, indicating a satisfactory level of construct validity for the instrument.

Reliability of the Questionnaire

To assess the reliability of the research instrument (questionnaire) in terms of internal consistency and stability, a pilot study was conducted with 20 students outside the actual study sample. The questionnaire was administered twice to the pilot group, with a two-week interval between applications, following the test-retest method. The reliability was then calculated using:

1. **Pearson's correlation coefficient**, to evaluate the stability of the instrument across the two administrations.
2. **Cronbach's Alpha**, calculated from the first administration, to assess the internal consistency of the questionnaire items.

Table (4) presents the values of Pearson's correlation coefficient and Cronbach's Alpha for the different domains of the questionnaire.

Table (4): Pearson's Correlation Coefficient and Cronbach's Alpha

Domain	Cronbach alpha	Stability index
Knowledge of Artificial Intelligence Tools	0.74	0.82
Actual Use of AI Tools in Academic Assignments	0.79	0.87
Challenges in Using AI Tools	0.80	0.84
Total	0.85	0.91

** Correlation is significant at the 0.01 level (2-tailed).

As shown in Table (4), the stability indices (Pearson's r) for the individual domains ranged from 0.82 to 0.87, while the overall stability of the questionnaire reached 0.91. Similarly, the internal consistency values (Cronbach's Alpha) for the domains ranged from 0.74 to 0.80, with an overall value of 0.85. These coefficients indicate a high level of reliability, confirming that the research instrument is suitable for use in this study.

Statistical Treatments

Data were processed using the Statistical Package for Social Sciences (SPSS). Means, standard deviations, frequencies and percentages described students' use of AI tools, as well as their demographic characteristics. Descriptive statistics and inferential statistics, including t-Test and one-way ANOVA were used to examine differences in responses based on gender, university, and academic level.

Analysis and Discussion

Results related to the first question: "What is the degree of digital media students' use of artificial intelligence tools in completing their academic assignments at Jordanian universities?"

To answer the first research question, "What is the extent of use of artificial intelligence tools by digital media students in academic tasks at Jordanian universities?", Its mean and standard deviation was calculated for study domains. These data offer a snapshot of students' experience with and familiarity with AI tools, the challenges they face when using them, and how frequently these tools are actually deployed in their coursework. Results are presented in descending order of mean values (Table (5)).

Table (5): Means and Standard Deviations of the Degree of Digital Media Students' Use of AI Tools in Academic Assignments at Jordanian Universities

Rank	N	Domain	Mean	Std. Deviation	Degree of agreement
1	1	Knowledge of Artificial Intelligence Tools	3.78	0.57	High
2	3	Challenges in Using AI Tools	3.52	0.71	moderate
3	2	Actual Use of AI Tools in Academic Assignments	3.37	0.65	moderate
		Total	3.55	0.58	moderate

The data as represented in Table (5) shows that Jordanian universities digital media students are using artificial intelligence tools to perform their academic duties at a medium level. That the overall mean (3.55) suggests a fair measure of exposure and use, hows up some diversity across three domains according to garden-variety and standard deviation data. They have the highest mean score in knowledge of AI tools (M = 3.78, SD = 0.57), which refers to students' awareness of the existence and use of such AI technology for academic purposes This awareness is likely a byproduct of the growing presence of AI in media, education and creative production environments closely related to their field of study.

On the other hand, actual use of AI tools was rated the lowest overall (M = 3.37; SD = 0.65), suggesting that although students are now aware of these applications, their practical use is still quite limited. This chasm between awareness and practical implementation could largely be due to institutional barriers, a lack of domain-specific training, or uncertainty surrounding the ethicals and academic parameters of AI usage. The challenges domain had a similarly moderate score (M = 3.52, SD = 0.71), suggesting that students experience barriers such as a lack of adequate technical support or ambiguous university policies regulating AI-augmented work.

Together, these findings indicate that although digital media students have considerable conceptual knowledge with which to think about artificial intelligence, the pedagogical and institutional infrastructure is not yet in place around them to integrate AI tools fully into their academic learning and creative practice.

The findings show that the general level of digital media students' use of artificial intelligence tools in academic assignments at Jordanian universities is moderate. This finding reveals a transitional moment in higher education, where knowledge about and experience with AI technologies is growing but practical and pedagogical use is minimal. It closely resembles the stage where at the high temptation,uzzled universities,upon tou learning with broad practices of AI into academic studies. The students are aware conceptually to utilize accurately but not about how to apply these appropriately in their pe6y.

The "Knowledge of Artificial Intelligence Tools" domain scored the highest mean score, this could suggest that students have a solid comprehension and recognition of AI definitions, applications, and their relevance in

digital media. This could be due to the rising impact of AI tools in media production and content generation, as well as communication platforms which students use frequently. Their theoretical understanding and exposure to AI as a creative education enabler has also been aided by their interactions with tools like ChatGPT, Canva AI and Adobe Firefly. Contextual familiarity can be attributed to extensive conversation around AI ethics, innovation and automation in academic and social settings — an understanding that students have cultivated even without formal academic training.

However, little practical use of AI tools is seen as “Actual Use of AI Tools” has the lowest mean score, opening up a space for knowledge and applied skills in this field. This is because students know the power of AI, but they do not fully use it for their academic work. There are several reasons for this discrepancy. Institution-specific guidelines and challenges around academic honesty may further complicate the use of AI tools, forging a gray area about what one can appropriately do. The absence of structured training or transparent curricular integration of AI use in assignments similarly hampers students’ capacity to embrace these tools with confidence. Ethical ambiguity also contributes, with students worried that leaning on AI-generated outputs will violate academic honesty standards. These points together suggest the need for better guidance, awareness training and systematic practice by universities to enable responsible and purposeful engagement with AI within educational contexts.

This interpretation is supported by the moderate level within the Challenges domain. Students face different barriers, such as technical complexity, the limited availability of Arabic-language AI tools and fiscal restrictions on paid subscriptions for advanced features. Furthermore, the lack of faculty oversight or institutional monitoring leaves students guessing when and how AI use is appropriate. Such uncertainty reflects an educational landscape that’s still finding its footing with artificial intelligence, where thoughtful pedagogical and ethical frameworks are slow to emerge.

Results related to the second question: “Are there statistically significant differences (at the significance level $\alpha = 0.05$) in the degree of use of artificial intelligence tools among digital media students that can be attributed to demographic variables (gender, university and academic year/level)?

To answer this question, means and standard deviations of the degree of AI tool use were computed according to gender, university, and academic year/level. Table 6 presents these descriptive statistics.

Table (6): Means and Standard Deviations of the Degree of Use of AI Tools Among Digital Media Students by Gender, University, and Academic Year/Level

Variables		Mean	Std. Deviation	N
Gender	Male	3.63	.579	180
	Female	3.49	.576	220
University	University of Jordan	3.55	.627	112
	Yarmouk University	3.61	.590	88
	Middle East University	3.72	.547	72
	Jerash University	3.44	.574	48
	Other	3.42	.499	80
Academic year/level	First Year	3.58	.590	80
	Second Year	3.57	.656	100
	Third Year	3.71	.496	100
	Fourth Year	3.35	.507	80
	Postgraduate	3.47	.597	40

The table shows slight differences in the mean scores of AI tool use across gender, university, and academic year/level. To determine whether these differences are statistically significant, a three-way ANOVA was conducted. The results are presented in Table 7.

Table (7): Three-Way ANOVA Results for the Effect of Gender, University, and Academic Year/Level on the Degree of Use of AI Tools

Variable	Sum of Squares	df	Mean Square	F	Sig.
Gender	.091	1	.091	.279	.598
University	.738	4	.185	.565	.689
Academic year/level	2.347	4	.587	1.795	.129
Error	127.474	390	.327		
Corrected Total	134.621	399			

Table 7 shows:

- There are statistically no significant differences at ($\alpha= 0.05$) due to gender, where the value of $F=(0.279)$ and the $P=(0.598)$.
- There are statistically no significant differences at ($\alpha= 0.05$) due to University, where the value of $F=(0.565)$ and the $P=(0.689)$.
- There are statistically no significant differences at ($\alpha= 0.05$) due to Academic year/level, where the value of $F=(1.795)$ and the $P=(0.129)$.

The results of the analysis revealed that there were no statistically significant differences in the degree of use of artificial intelligence tools among digital media students according to gender, university, or academic year or level. This indicates that students' use of AI technologies was consistent across different demographic groups, revealing relatively uniform exposure to and engagement with these tools in Jordanian universities.

Not having much difference based on gender shows that male and female students are similar in terms of familiarity and use of AI tools. This likely has to do with the digital nature of the media field which has equal access to technological resources and thus similar forms of learning behaviour regardless of gender. Furthermore, the wider accessibility of AI apps over digital platforms and mobile devices has narrowed previously existing gender gaps in technology usage which were seen among other fields.

As for the university affiliation, the result indicates that the inter-institutional difference between others universities such as (University of Jordan, Yarmouk University, Middle East University & Jerash University) did not significantly affect students' use of AI tools. Such homogeneity is justified by common national and region-wide focus on educational technologies, and the increasing pressure for digital transformation within higher education institutions across Jordan. The ease of access to open-source AI platforms is also part of this equal accessibility, with the likes of ChatGPT and Canva AI removing institutional disparities.

As for the academic year or level, the absence of significant differences suggests that students at various stages of their academic journey—whether in early undergraduate years or postgraduate studies—engage with AI tools at relatively comparable levels. This result could be linked to the general diffusion of AI technologies across all levels of education and the self-directed nature of digital learning among media students. Since many AI tools are intuitive and do not require advanced academic training, students of all levels can benefit from them equally.

The study recommends the following:

1. Integrating AI literacy and ethics into digital media curricula to strengthen practical application.
2. Offering regular workshops and training to enhance students' technical and critical AI skills.
3. Establishing clear institutional policies defining acceptable academic uses of AI tools.
4. Involving faculty members in mentoring students on responsible and creative AI use.
5. Raising awareness about academic integrity and ethical considerations in AI-assisted work.
6. Ensuring equal access to AI tools and digital resources across all universities and student groups.
7. Encouraging student research and innovation projects that apply AI in media and communication.
8. Promoting collaboration among universities and policymakers to unify AI education strategies.

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