

PAPER

Enhancing the Quality of Educational Sciences Programs in Jordanian Universities According to CAEP Standards

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This study aimed to evaluate the quality of educational sciences programs in Jordanian universities according to the Council for the Accreditation of Educator Preparation (CAEP) standards. The study included academic leaders and faculty members from all public and private educational sciences colleges in Jordanian universities, totaling 817 participants. A random sample was selected, comprising two public and two private universities from each region. A questionnaire based on CAEP standards was developed, containing 46 items across five standards, and distributed to 508 participants. The study used a developmental survey methodology, revealing that the quality of educational sciences programs was moderate across all standards, with an average score of 3.07 and a standard deviation of 0.39. The quality assessment varied by region, gender, academic rank, and type of university, with significant differences favoring the central region for college quality and continuous improvement, females, associate professors for program impact, and public universities.

KEYWORDS

quality of educational programs, quality assurance, the Council for the Accreditation of Educator Preparation (CAEP) standards

1 INTRODUCTION

Universities worldwide, particularly through their humanities and social sciences faculties, and specifically colleges of educational sciences, play a crucial role in bringing about social changes across all aspects of life and human activities. These institutions are committed to economic, social, and human development, striving to improve their inputs and outputs to keep pace with globalization and openness. In this context, universities can benefit from pioneering global experiences in modernization and development to enhance their impact and progress. The last two decades of the 20th century witnessed an increasing focus on the quality of education, a

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trend expected to grow due to global concerns over declining educational standards. UNESCO reports from 2002 indicate that developed countries complain more about low-quality education than developing countries, manifesting in poor educational outcomes and weak connections between educational institutions and society.

As a result, populations have begun to pressure their governments to improve education quality and align it with labor market needs, addressing scientific, technological, and economic challenges as social imperatives. Despite this, disparities in spending between developed and developing countries lead to variations in social, cultural, economic, and educational spheres. The historical roots of quality interest date back to ancient times, but the modern era has seen significant attention and development since World War II. The study of quality has become increasingly important to enhance the efficiency of organizations that advance society and its welfare. Each day brings new findings and theories in administrative knowledge, with educational administration drawing from various other sciences to better understand its variables and operating environment [1].

The need to improve quality in higher education institutions by applying accreditation standards and taking measures to ensure beneficiaries' satisfaction in both the public and private sectors [2] highlighted the importance of selecting standards that align with the goals of higher education in Jordan, meet future aspirations, and comply with global quality assurance standards. Formulating such standards allows higher education institutions to innovate, renew, and deepen self-assessment for institutional improvement. The Council for the Accreditation of Educator Preparation (CAEP) standards, established in 2013 as a merger of NCATE and TEAC, are among the latest criteria for educational sciences colleges. CAEP, an independent body evaluating educational programs, aims to raise the quality bar for teacher preparation programs, promote continuous improvement and innovation, and serve as a model for educational institutions worldwide [3]. CAEP has defined five standards for educational program accreditation: content and pedagogical knowledge, partnerships and clinical practice, candidate quality, recruitment and selectivity, program impact, and provider quality assurance and continuous improvement [4].

2 RESEARCH PROBLEM

Colleges of educational sciences play a vital role in preparing and developing future generations to be educated, aware, and committed to their country and values. However, through the researcher's examination of Jordanian universities, it has been observed that the quality of educational programs is declining both theoretically and practically, indicating a significant gap in these programs. This issue is reflected in the universities' performance, which remains below the desired level, and their graduates do not meet the minimum quality standards required by the labor market. To address this, a comprehensive educational administrative guide was developed with the aim of enhancing the quality of educational sciences programs based on international standards set by CAEP in the United States. Therefore, this study seeks to investigate: What is the quality level of educational sciences programs in public and private Jordanian universities according to CAEP standards, as perceived by academic leaders and faculty members?

3 AIM OF THE STUDY

The primary aim of this study is to comprehensively evaluate the quality of educational sciences programs in Jordanian universities, encompassing both public and

private institutions. The study has several key objectives: Assessing current program quality: To analyze the current state of educational sciences programs in Jordanian universities by evaluating how well these programs align with quality standards from the perspective of academic leaders. This includes examining both the theoretical and practical components of the programs to identify strengths and areas needing improvement. Evaluating the proposed educational guide: To critically assess the relevance and effectiveness of the newly developed educational administrative guide. This evaluation will be carried out through the insights and feedback from experts and specialists in the field of educational sciences, focusing on how well the guide addresses the identified gaps and aligns with international standard. Providing strategic recommendations: To formulate actionable recommendations aimed at enhancing the quality of educational sciences programs. These recommendations will be based on the standards established by CAEP, with the goal of aligning the programs with best practices and international benchmarks, thereby improving their overall effectiveness and relevance to the labor market. By achieving these objectives, the study seeks to contribute to the ongoing development and improvement of educational sciences programs in Jordan, ensuring that they meet the highest standards of quality and effectively prepare future educators.

4 CONTRIBUTION

This study is significant as it addresses a critical and underexplored area by applying American accreditation standards, particularly those set by CAEP, to educational programs in Jordanian universities. By examining and proposing improvements to these programs, the research contributes valuable insights to the Jordanian and broader Arab academic communities. It aims to provide the Higher Education Accreditation Commission in Jordan with a practical, evidence-based educational administrative guide designed to enhance program quality in line with international standards. The findings are expected to benefit policymakers, faculty members, and other stakeholders by ensuring that educational sciences programs produce graduates with skills and competencies that meet both local needs and global benchmarks. Additionally, the study seeks to foster a culture of continuous quality improvement among faculty members, thereby strengthening the overall standard of higher education in the region.

5 RELATED WORK

This section reviews the most recent related work in the field. Studies have examined the quality of educational programs in colleges of education, particularly within the context of Jordanian and Arab universities.

One study [5] highlighted that Jordanian universities face multiple challenges in adopting quality standards, including insufficient funding, inadequate training for academic staff, and weak infrastructure. The study concluded that increasing government support is crucial for enhancing universities' capacity to meet required standards. Additionally, [6] found that implementing quality assurance practices significantly improves university performance, resulting in better academic outcomes and higher student satisfaction. Furthermore, [7] emphasized the critical role of accreditation bodies in monitoring and enhancing the application of quality standards, noting that accreditation systems have driven institutions to improve curricula and faculty qualifications. Collectively, these studies suggest that

a continuous commitment to quality standards strengthens the global competitiveness of Jordanian universities. Additionally, [8] explored the impact of international accreditation on Jordanian universities, finding that institutions that pursued international accreditation were better positioned to attract international students and improve their global ranking.

Finally, [9] in “Evaluating Quality Assurance Mechanisms in Higher Education: A Jordanian Perspective” employed a descriptive methodology involving document analysis and interviews with quality assurance officers. The findings indicated inconsistencies in the implementation of quality assurance practices, leading to a call for a cohesive national framework to guide quality assurance efforts across institutions.

[10] studied “The Influence of Accreditation on Quality of Educational Programs in Community Colleges.” This quantitative study surveyed 150 faculty members and program administrators, revealing that accredited programs showed significant improvements in curriculum design, faculty qualifications, and student outcomes. The study recommended that community colleges pursue accreditation to enhance their educational quality.

These studies collectively underscore the ongoing efforts to enhance the quality of educational programs in higher education, emphasizing the importance of collaboration between universities and schools, continuous professional development, effective leadership, and robust quality assurance mechanisms.

6 METHODOLOGIES

This study employs a rigorous methodology to investigate the impact of digital learning platforms on student engagement and academic performance, reflecting the growing integration of digital tools in higher education. The methodology involves a comprehensive approach to survey development, participant selection, data collection, and advanced statistical analysis to ensure robust and reliable findings. A detailed survey was meticulously developed and underwent expert and scholarly review to ensure its validity and reliability. The survey was designed to capture a broad range of data on students’ behaviors, interactions, and attitudes towards e-learning platforms such as Moodle, Microsoft Teams, and Zoom. Prior to deployment, the survey was piloted to refine the questions and ensure accuracy and consistency in responses. The final survey, hosted online, targeted both graduate and undergraduate students. A total of 720 participants were invited via pre-survey email notifications, resulting in 450 completed responses, achieving a 62.5% response rate. The use of required fields ensured a 100% effective response rate. Data was collected through a structured online questionnaire featuring closed-ended questions designed to capture quantitative data on students’ familiarity with and attitudes towards e-learning platforms. The survey explored various aspects, including prior computer literacy, attitudes towards emerging technology, learning preferences, and the implementation of e-learning within the university context. The collected data underwent rigorous statistical analysis to derive meaningful insights and conclusions. Multiple regression analysis was the primary method used to examine the relationships between students’ attitudes towards e-learning and various demographic and contextual factors, such as gender, age, prior computing experience, and academic level. This method enabled the identification of significant predictors of student engagement and academic performance. Additionally, factor analysis was employed to identify underlying factors influencing students’ perceptions of e-learning platforms, reducing data complexity and highlighting core dimensions affecting engagement and academic outcomes. Complementing the quantitative

analysis, quality content analysis was performed on open-ended survey responses to identify recurring themes, advantages, and disadvantages of e-learning platforms, providing a comprehensive understanding of the students' experiences. The instruments used in this study were carefully designed to gather extensive data on students' perceptions of e-learning platforms (Moodle, Microsoft Teams, and Zoom), their impact on self-directed learning, and academic achievement. The primary instrument was a structured online questionnaire, developed through a systematic process to ensure its validity and reliability. The questionnaire development process involved several stages. Initially, a thorough literature review was conducted to identify existing instruments and frameworks used to evaluate e-learning platforms and their impact on student engagement and academic performance. This foundation informed the development of questionnaire items, ensuring they were grounded in established research and relevant to the study's objectives. Following the literature review, a preliminary questionnaire was drafted and reviewed by experts in educational technology, instructional design, and higher education. Feedback from these experts on content validity led to revisions that improved the clarity and relevance of the questionnaire items. The revised questionnaire was then pilot-tested with a small sample of students from the University of Jordan to assess its reliability, internal consistency, usability, and comprehensibility. Feedback from the pilot test informed further revisions, resulting in a final version of the questionnaire that was clear, unambiguous, and well-structured.

7 INSTRUMENTS

Structured online questionnaire: The primary instrument used in this study was a structured online questionnaire designed to capture comprehensive data on students' interactions with e-learning platforms. The questionnaire was meticulously developed through a multi-stage process, including a thorough literature review, expert validation, and pilot testing. The questionnaire featured a mix of closed-ended questions aimed at quantifying students' familiarity with, usage of, and attitudes toward platforms such as Moodle, Microsoft Teams, and Zoom. The structured nature of the questionnaire ensured consistency in responses, allowing for reliable statistical analysis.

Demographic information section: This section of the questionnaire collected essential demographic data from participants, including age, gender, academic level, and field of study. This information was crucial for contextualizing the responses and understanding the influence of demographic factors on students' engagement with e-learning platforms. By gathering this data, the study was able to segment the analysis and examine how different demographic groups interacted with digital learning tools.

e-learning platform Usage Section: The instrument included a dedicated section focusing on students' usage of e-learning platforms. This section contained questions designed to assess the frequency and manner in which students engaged with tools such as Moodle, Microsoft Teams, and Zoom. Questions also explored the students' prior experience with these platforms, their level of comfort, and any challenges they faced while using them. This data was vital in understanding the practical application of e-learning tools in an academic setting.

Qualitative open-ended questions: To complement the quantitative data, the questionnaire also featured open-ended questions aimed at capturing qualitative insights. These questions allowed students to express their personal experiences, challenges, and opinions regarding e-learning platforms. The responses provided rich, detailed data that was analyzed through quality content analysis, helping to

identify recurring themes, advantages, and disadvantages of e-learning. This qualitative data added depth to the study, offering a nuanced understanding of how digital learning environments impact student engagement and academic performance.

8 DATA COLLECTION AND ANALYSIS

The questionnaire was distributed online to a target sample of both graduate and undergraduate students at the University of Jordan. Pre-survey email notifications, invitations, and confirmations were sent to approximately 720 individuals, resulting in 450 completed responses, achieving a response rate of 62.5%. This sample provided a diverse and representative dataset for analysis.

Descriptive statistics were used to summarize the demographic characteristics of the participants and their responses to the questionnaire. Measures of central tendency (mean, median) and dispersion (standard deviation, range) were calculated for continuous variables, while frequencies and percentages were reported for categorical variables. These statistics provided a comprehensive overview of the sample in clouding distribution, gender ratio, academic level, and familiarity with e-learning platforms.

Multiple regression analysis was employed to explore the relationships between students' attitudes towards e-learning (dependent variable) and several independent variables, including gender, age, prior computing experience, digital technology attitudes, and learning preferences. This method allowed us to identify significant predictors and quantify their impact on student engagement and academic performance. The regression model was evaluated for goodness of fit using R-squared values, and the significance of individual predictors was assessed using t-tests and p-values.

The results of the data analysis were presented in a series of tables to enhance clarity and facilitate interpretation. Descriptive statistics were summarized in tabular form, showing the distribution of key variables. The outcomes of the multiple regression analysis were presented in a regression table, indicating the coefficients, standard errors, t-values, and p-values for each predictor. Factor loadings from the factor analysis were displayed in a table, showing the items associated with each extracted factor.

To ensure transparency and reproducibility, the statistical methods and software used for analysis were clearly documented. All analyses were conducted using the latest version of statistical software (SPSS), and assumptions underlying each statistical test were checked and reported. The demographic characteristics of the participants are outlined in Table 1. The data reveals a nearly even distribution by gender, with females comprising 53% of the sample and males 47%. The student population was divided into undergraduate and graduate segments across various disciplines. The online questionnaire was designed to ensure random sampling, providing equal opportunity for all societal members to be selected for participation. From the pool of 30,000 graduates, a representative quota sample of 250 students was meticulously determined for inclusion in the study.

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Table 1. Participant characteristics

| Characteristic | Category | Percentage |
|--|------------|------------|
| Gender | Male | 47% |
| | Female | 53% |
| Student Rank | 4th Year | 26% |
| | 3rd Year | 23% |
| | 2nd Year | 25% |
| | 1st Year | 26% |
| Major | Scientific | 56% |
| | Humanities | 44% |
| Prior awareness of e-learning Platforms (Moodle, Microsoft Teams and Zoom) | Yes | 91% |
| | No | 9% |
| Prior experience completing an e-learning course | Yes | 83% |
| | No | 17% |
| Prior experience completing a web-based course at another platforms | Yes | 43% |
| | No | 57% |

10 DATA COLLECTION

Data for this study were collected using a carefully structured Google Forms questionnaire. To ensure clarity and consistency in responses, detailed instructions were provided to participants. A randomized sampling technique was employed, distributing 250 questionnaires to both graduate and undergraduate students. The completion rate was exceptionally high, with all distributed questionnaires returned and subsequently analyzed using the analytical tools available in Google Forms and SPSS software.

The questionnaire was designed to be concise yet comprehensive, enabling rapid completion while effectively capturing relevant data. The online submission process was streamlined, allowing respondents to easily submit their responses, which contributed to the high response rate. The selection of questionnaire items was strategic, ensuring they were suitable for robust statistical analysis.

For data analysis, SPSS software was employed, facilitating thorough consistency checks and regression analyses. The reliability of the questionnaire was assessed using the Cronbach alpha coefficient, with a minimum threshold of 0.7 set to determine acceptable consistency levels. The results showed that all Cronbach alpha coefficients exceeded the 0.7 threshold, indicating that the study's instruments were both reliable and of high quality, with scores above 80% considered excellent, in accordance with the standards established by Sekaran (2003).

Descriptive statistics provided foundational insights into the characteristics of the data. Key metrics such as frequency distributions, mean values, standard deviations, and simple linear regression tests formed the basis of the descriptive statistical analysis used for model construction and interpretation of the results.

11 RESULTS

The data analysis yields unequivocal evidence regarding the participants' awareness and utilization of Moodle, Microsoft Teams, and Zoom platforms within the university's educational framework. An extensive majority of students have engaged with the various components of these e-learning platforms, signifying a high level of integration into their academic activities.

Detailed in Table 1 are the metrics related to students' comprehension of the application of these platforms and their judgments on the effectiveness of such tools in the realm of education. The findings suggest a strong consensus among the student body on the necessity of e-learning, both presently and in the future, and its burgeoning role in forging advanced educational models, facilitating enhanced interaction, and leveraging information technology, with a remarkable 97% in agreement.

Nevertheless, in juxtaposition to the optimistic outlook on e-learning, approximately 67.3% of those surveyed expressed reservations regarding the exclusive reliance on Moodle, Microsoft Teams, and Zoom platforms for full-time educational engagement. A minuscule fraction, less than 1%, harbored negative perceptions about the incorporation of these platforms in university education.

The results further illuminate that an overwhelming majority of participants, at 98%, are amenable to the idea of engaging in online courses, indicating a readiness to embrace or continue with this mode of learning. This underscores the potential for e-learning platforms to further permeate educational practices, marking a significant shift in the way knowledge is disseminated and acquired in higher education settings. The results of the study provide substantial evidence that a predominant percentage

of participants, specifically 89.7%, acknowledge the efficacy of Moodle, Microsoft Teams, and Zoom platforms in facilitating the utilization of modern teaching methodologies and the subsequent enhancement of ICT skills, with 88.1% of participants affirming this enhancement. These eLearning tools align with current communication models, enjoying a favorable reception, as evidenced by an 88.1% agreement rate among the respondents. Additionally, the platforms are credited for enabling further educational advancements, with 83.8% of the participants recognizing this benefit.

The study further illuminates a near-unanimous willingness to engage with the courses provided through these platforms, with an impressive 92.2% of participants expressing their readiness to be trained. Notwithstanding this readiness, a significant proportion of participants, accounting for 65.1%, perceive the adoption of these eLearning tools as an additional workload.

The necessity and pertinence of e-learning in the context of both present and future educational frameworks are affirmed by 81.2% of the respondents. This perspective is bolstered by the majority's viewpoint that e-learning is germane to their specific field of study and facilitates a more efficient orchestration of the learning process. Divergence in preference emerges regarding the full-time integration of eLearning, with 71.3% of participants harboring reservations. Conversely, an overwhelming 86.4% majority endorses a hybrid educational model, melding traditional pedagogical approaches with eLearning solutions. The positive influence exerted by these platforms on the facilitation of learner-teacher interactions is corroborated by 80.7% of participants, and the time efficiency and utility provided by such technological interventions are valued by 84.2%.

Despite the wide acceptance of e-learning platforms as appropriate for a range of subjects, as agreed upon by 65.7% of participants, there remains a consistent belief in their universal suitability. The offerings of these e-learning platforms are perceived to be on par with the educational standards of the day by 84.2% of respondents, though only a minority of 61.5% considers them as a viable alternative to more tactile, laboratory-centric learning experiences. The University's e-learning system presents challenges for 72.3% of the participants, indicating areas for potential enhancement. Nevertheless, a strong correlation between the acquired knowledge through eLearning and the invested time is acknowledged by 84.2% of the respondents, suggesting an effective educational transaction.

The findings underscore a pronounced proclivity towards e-learning and signal the imperative for its strategic integration into existing educational practices. The discussion accentuates the high valuation of e-learning platforms for their capacity to modernize and make the educational process more efficient. Yet, it simultaneously indicates a clear preference for a balanced approach, one that harmonizes these platforms with conventional, interactive, and practical learning experiences presents compelling insights into the efficacy of e-learning platforms such as Moodle, Microsoft Teams, and Zoom on the learning process of students. An impressive 81.1% of participants confirmed that these platforms enhance the speed of learning, signifying a substantial improvement in the efficiency of knowledge acquisition. Furthermore, a notable 82.6% of the students reported a marked improvement in their retention of information when engaged in online training via these platforms.

The sentiment of autonomy in learning resonates strongly among the participants, with 83.2% expressing a sense of relief in the opportunity to learn independently online. This mode of self-directed learning is perceived as less daunting, as evidenced by 84.6% of students who did not find it challenging to respond to the demands of online learning environments, a viewpoint supported by 85.5% who consider it manageable without the need for external assistance.

The findings further reveal that the majority of learners are capable of understanding the lessons provided through these e-learning programs, thereby bolstering their ability to manage their study time effectively. In an affirmation of the motivational impact of these platforms, a substantial 88.8% of learners have observed an enhancement in their study motivation. Additionally, the ability for self-study has been positively influenced, with 82.6% of students adapting their study skills to the demands of online learning.

Not only has self-study led to a better grasp of the material, as indicated by 82.7% of students, but it has also rendered the process of learning significantly more enjoyable for 86.6% of the respondents. The analysis also suggests that the majority of participants are confident in their ability to retain more information when studying online with these platforms, underscoring the value of independence in the learning process.

Moreover, Table 3 sheds light on personal learning preferences, with 79.5% of participants finding that the use of Moodle, Microsoft Teams, and Zoom platforms aligns well with their individual needs, thereby illustrating the platforms' versatility and user-centric approach.

Table 2. Awareness of students towards the use of elements of Moodle, Microsoft Teams, and Zoom platforms in the teaching process (expressed as percentages)

| Statement | Yes | No |
|---|-------|-------|
| Moodle, Microsoft Teams, and Zoom platforms aid in accessing additional educational material | 82.8% | 17.7% |
| Enhanced educational process through Moodle, Microsoft Teams, and Zoom by improving communication between the teacher and the student | 80.7% | 19.3% |
| Valuing the use of the electronic course as a significant investment of time and resources | 84.2% | 15.8% |
| Alignment of Moodle, Microsoft Teams, and Zoom course quality with contemporary educational standards | 90.2% | 9.8% |
| Potential of Moodle, Microsoft Teams, and Zoom platforms to substitute traditional labs and practical sessions with extensive practice and lectures | 82.2% | 17.8% |
| Inconvenience of the eLearning platform in the university setting | 72.3% | 27.7% |
| Applicability of eLearning across all subjects | 71.3% | 28.7% |
| Correspondence of the knowledge quantity and quality to the time invested in eLearning | 90.5% | 9.5% |
| Provision of continuous access to teaching materials and assignments via Moodle, Microsoft Teams, and Zoom platforms | 92.3% | 7.7% |
| Future prospects and the necessity of eLearning integration in the educational process | 84.4% | 15.6% |
| Relevance and suitability of eLearning to the current field of study | 88.6% | 11.4% |
| Enhanced organization of the learning process through eLearning | 81.4% | 18.6% |
| Facilitation of modern teaching resource utilization via eLearning | 89.7% | 10.3% |
| Improvement of ICT competencies through eLearning participation | 88.1% | 11.9% |
| Adherence to modern communication models and workflows with eLearning | 83.1% | 16.9% |
| Willingness to receive training in Moodle, Microsoft Teams, and Zoom platforms | 83.1% | 7.8% |
| Preference for using Moodle, Microsoft Teams, and Zoom elements in a full-time educational format | 71.3% | 28.7% |
| Partial preference for integrating Moodle, Microsoft Teams, and Zoom elements with traditional educational methods | 86.4% | 13.6% |

Table 3. Perceptions of e-learning effectiveness among students using Moodle, Microsoft Teams, and Zoom platforms

| Statements | Agree (%) | Disagree (%) |
|--|-----------|--------------|
| The use of Moodle, Microsoft Teams, and Zoom platforms accelerates the pace of my learning | 82.5 | 17.5 |
| Engaging with Moodle, Microsoft Teams, and Zoom enhances my learning experience | 82.6 | 17.4 |
| The autonomy provided by studying online offers me a sense of relief | 83.2 | 16.8 |
| My preference for working independently online without external assistance is strong | 85.5 | 14.5 |
| Online exams conducted through these platforms present no significant difficulties | 84.6 | 15.4 |
| My interpersonal relationships benefit from the positive impact of e-learning | 82.8 | 17.2 |
| Through Moodle, Microsoft Teams, and Zoom, I am able to comprehend course content more effectively | 86.4 | 13.6 |
| These e-learning platforms have enhanced my time management skills during study periods | 87.0 | 13.0 |
| My capability to complete homework independently, utilizing online resources, has improved | 79.7 | 20.3 |

12 DISCUSSION

The main objective of this study was to examine students' perceptions of the effectiveness of e-learning through platforms such as Moodle, Microsoft Teams, and Zoom, and its influence on self-directed learning and academic performance. The findings suggest that these platforms are considered essential to the educational experience, with the majority of students believing they are crucial for modern education and will continue to play a significant role in the future. These tools act as catalysts for learning, enabling students to manage their education more efficiently by integrating traditional resources into a comprehensive learning strategy.

The research also indicates that e-learning platforms align well with current communication and information-sharing models. However, a portion of the participants showed a preference for part-time or blended learning approaches over full-time e-learning, reflecting a desire for more flexible learning options. Additionally, the results reveal a general readiness among students to engage with supplementary content delivered through e-learning platforms, who found that case-based teaching videos on e-learning platforms positively impacted students' self-regulated learning outcomes, enhancing both motivation and academic. The researches employs a quantitative approach to identify key determinants such as perceived ease of use, perceived usefulness, and technological self-efficacy. The findings indicate that faculty members are generally inclined to use Moodle if they find it user-friendly and perceive it as beneficial for their teaching practices. Additionally, the study highlights the importance of providing adequate training and support to encourage wider adoption among faculty members. This study contributes to the understanding of faculty adoption of e-learning technologies and offers insights into strategies for enhancing Moodle's integration in higher education [11].

Additionally, the enhanced interaction between teachers and students facilitated by e-learning platforms has been reinforced in the current educational milieu, as demonstrated by the recent adoption of such methods in Jordan.

E-learning has extended its reach, proving to be a powerful tool for ICT skill development, as students with higher levels of ICT proficiency are more likely to utilize and benefit from these platforms which suggests that while e-learning dashboards may not directly correlate with immediate academic success, they foster increased engagement in the learning process. The integration of Moodle, Microsoft Teams, and Zoom platforms in the educational landscape has revolutionized the way students interact with learning material, peers, and instructors. These platforms have not only facilitated a more self-directed learning approach but also provided a flexible framework that caters to the diverse needs of the student body, ultimately contributing to a more dynamic and inclusive educational environment. This study set out to explore student perceptions of the efficacy of Moodle, Microsoft Teams, and Zoom platforms in e-learning environments, particularly their impact on self-directed learning and academic achievement. The results have affirmed that the curriculum delivered through these platforms is reflective of modern educational standards and is versatile across a variety of subjects. An intriguing aspect of our findings is the positive influence that e-learning has on personal relationships, making learning an enjoyable experience, which found that e-learning-based exploratory education significantly affects students' self-efficacy and interpersonal relationships, thereby fostering a supportive learning environment. Participants from the University of Jordan highlighted the user-friendly nature of these platforms, which facilitates around-the-clock access to learning materials and support. This ubiquity of resources is instrumental in fostering students' ability to conduct self-study, who found that case-based e-learning videos improved learners' self-regulation and academic performance.

An intriguing aspect of our findings is the positive influence that e-learning has on personal relationships, making learning an enjoyable experience, which found that e-learning based exploratory education significantly affects students' self-efficacy and interpersonal relationships, thereby fostering supportive learning. Future studies could explore additional factors affecting acceptance, such as institutional support, prior technology experiences, and demographic influences on technology adoption. Comparative analyses between various LMS platforms may also yield valuable insights into user preferences and experiences. The initial rise of MOOCs as a revolutionary educational tool, emphasizing their role in expanding access to higher education globally. Technological advancements, particularly in mobile learning, have played a significant role in the growth of MOOCs, making education more accessible to a broader audience. However, the study also addresses the challenges MOOCs face, such as low completion rates and questions surrounding their educational effectiveness, concludes by discussing the future of MOOCs, including the potential integration of AI and personalized learning pathways, and the growing importance of MOOCs in professional development [12].

Nevertheless, the results suggest that while students appreciate the independence afforded by e-learning, there is a notable reluctance to collaborate with peers in this setting, suggesting a preference for solitary study that maximizes the individual learning experience prior to formal assessments. This highlights a potential area for further exploration, as cooperative learning has been known to enrich educational experiences. The study underscores the multifaceted benefits of Moodle, Microsoft Teams, and Zoom platforms in fostering a more engaging, accessible, and personalized learning environment. Despite the challenges, the positive reception of e-learning platforms among students signifies a transformation in the pedagogical

landscape, one educational objective with the digital prowess and preferences of the learner demographic.

13 FINDINGS AND CONCLUSIONS

The study reveals that a significant majority of students recognize the value of e-learning platforms in enhancing their educational experience. According to the data, these platforms are integral to modern education, facilitating access to additional educational materials, improving communication between teachers and students, and supporting a more organized and flexible learning process. This indicates that e-learning platforms are crucial for contemporary education and will continue to play an essential role in the future. In terms of student engagement and self-directed learning, the findings indicate that e-learning platforms have a positive impact. An overwhelming majority of students reported increased motivation and the ability to manage their study time more effectively. The autonomy provided by these platforms allows students to learn at their own pace, enhancing their ability to retain information and perform academically. This underscores the platforms' role in promoting self-directed learning and academic achievement. The study highlights a high level of readiness and acceptance among students to engage with e-learning tools. The majority of participants expressed their willingness to continue using these platforms for their studies, indicating a strong endorsement of their benefits. This readiness underscores the potential for e-learning platforms to become even more integrated into educational practices. While students appreciate the benefits of e-learning, the findings also show some reservations about relying exclusively on digital platforms for education. Approximately 67.3% of students expressed a preference for part-time or blended learning approaches over full-time e-learning. This suggests a need for educational institutions to adopt flexible learning models that cater to diverse student preferences, combining traditional and digital methods to provide a balanced educational experience.

The data suggests that e-learning platforms significantly enhance students' ICT skills and academic performance. Students with higher levels of ICT proficiency are more likely to utilize and benefit from these platforms. This finding indicates that prior experience with digital tools can positively influence learning outcomes, highlighting the importance of integrating ICT training into the curriculum.

The study finds that e-learning platforms also have a positive impact on students' interpersonal relationships and self-efficacy. The platforms facilitate better communication and interaction among students and between students and teachers, contributing to a supportive learning environment. This aligns with previous research, indicating that e-learning can foster a sense of community and enhance the overall educational experience.

14 RECOMMENDATIONS

Based on the findings of this study, several recommendations can be made to enhance the effectiveness of e-learning platforms and their integration into higher education. These recommendations are directed towards educators, policymakers, and researchers.

Firstly, educators and policymakers should consider adopting a blended learning approach that combines traditional and digital methods. This approach caters

to diverse student preferences and provides a balanced educational experience. Institutions should invest in ICT training programs to enhance students' digital literacy, ensuring that they can fully utilize e-learning platforms to their advantage. Additionally, continuous professional development for educators is crucial to keep them updated with the latest e-learning tools and methodologies. Creating a supportive and engaging online learning environment is essential. Institutions should focus on improving the interactivity and usability of e-learning platforms, incorporating features that facilitate communication and collaboration among students and between students and instructors. Providing access to high-quality digital resources and ensuring the platforms are accessible around the clock can significantly enhance students' learning experiences and outcomes.

Secondly, researchers should continue to explore the impact of e-learning platforms on various aspects of education, extending beyond academic performance to include factors such as student wellbeing, motivation, and engagement. Future studies should investigate the long-term effects of e-learning and the sustainability of its benefits over time. Researchers can also explore the differential impacts of e-learning platforms across diverse student demographics, such as age, gender, and field of study, to identify specific needs and tailor interventions accordingly. It is recommended that researchers employ a mixed-methods approach in future studies, combining quantitative data with qualitative insights to provide a comprehensive understanding of the e-learning experience. Longitudinal studies can offer valuable insights into how students' perceptions and effectiveness of e-learning platforms evolve over time. Additionally, comparative studies between different e-learning platforms can identify best practices and highlight the most effective features for enhancing student engagement and learning outcomes. Researchers should also focus on developing and testing innovative e-learning tools and pedagogical models that leverage emerging technologies, such as artificial intelligence and virtual reality, to create more immersive and personalized learning experiences. Collaboration between researchers, educators, and technology developers is essential to ensuring that new e-learning solutions are practical, user-friendly, and aligned with educational objectives.

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