The Degree of Practicing the Standards of the International Society for Technology in Education by Faculty Members in Jordanian and Palestinian Universities

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The goal of this study was to evaluate how closely Jordanian and Palestinian university professors follow the recommendations of the International Society for Technology in Education (ISTE). Researchers analyzed a population of all academic staff members teaching at private or public universities in Jordan and Palestine using a descriptive-analytical methodology. A sample of 358 persons was chosen. The questionnaire was distributed and assessed the degree to which faculty members in Jordanian and Palestinian universities adhere to the ISTE requirements. It was found that the degree of adherence to the ISTE standards by faculty members in Jordanian and Palestinian universities was very large. However, it was found that there were no statistically significant differences at the level ($\alpha \leq 0.05$) in the degree of adherence to the ISTE standards by faculty members in Jordanian and Palestinian universities according to the variables (country and type university). the study identified a number of recommendations for enhancing Palestinian universities, including scholars, professors, and administrators, complies with the standards established by the International Society of Technology. The report also suggests using technology into the teaching and learning process more.

Keywords: faculty members, Jordanian and Palestinian universities, The International Association for Educational Technology

INTRODUCTION

New technology is continuously entering our lives and becoming more and more significant in the age of data and information. By using e-learning, the educational process can be changed from one that is based on memory to one that is based on creativity, engagement, and excellence (Cole, Lennon and Weber, 2019). It is becoming more and more prevalent across all industries and stages, and its application in the teaching and learning process has emerged as a major concern for the growth of educational institutions (Cole, Lennon and Weber, 2019). Having an electronic environment that makes it simple for students to access material and lectures and offers assistance and counseling is one of the primary educational functions of a university. Additionally, it aids in the growth and development of universities. The development of an environment based on electronic communication in all disciplines has benefited from the usage of e-

learning (Taghaboni-Dutta and Velthouse, 2008). This is particularly clear when using e-learning tools and platforms. Electronic examinations are also used in e-learning systems to create and correct exams electronically as well as to assess students' proficiency with computers. Electronic examinations have become crucial to the educational process since they save teachers' time and effort when it comes to planning lessons, assessing student performance, and giving feedback based on technological norms (Taghaboni-Dutta and Velthouse, 2008).

As a result, there have been increased efforts to create universal standards for educational technology that people in charge of creating e-learning software can use. By doing this, systems will be developed that are accessible and interoperable with a variety of instructional items. There is also a need to extend e-learning with a variety of tools rather than sticking to the practice of using just one piece of software (Alzabon, 2020).

The International Standards for Educational Technology, published by the ISTE, are guidelines for using technology in the classroom. These standards include technology into the classroom. Since the international standards for educational technology contain the skills and trends that kids need to learn in order to achieve the age criteria, several versions of these standards have been made available for educators, trainers, and administrators(Alawneh,2021). These standards are made to work with learning methods that rely on technology. Project-based learning, blended learning, and the flipped classroom model are among the active learning strategies they advocate for along with the use of subject standards and modern teaching methods. According to experts, implementing these standards has an impact on the student's technology-based learning and increases the role and influence of technology in the learning process. International standards for educational technology have been produced by the ISTE (Ijabah, 2018). In terms of educational technology, the researchers decided to conduct a field study to gauge faculty members' compliance with the ISTE's recommendations because they had connections to Jordanian and Palestinian institutions.

PROBLEM STATEMENT

All of these individuals concur that there should be some sort of norm for how we use technology in our schools. If so, our schools might not be providing us with the finest education available. Some individuals believe that learning without technology is inferior to learning with it, yet many others believe that technology can enhance our learning in ways we never imagined. Learning has changed significantly as a result of technology, particularly when it comes to items like laptops, tablets, and other gadgets. In the modern world, there are many various ways to learn, and we use technology to make learning easier and more effective.

For every teacher, pupil, principal, and trainer, the international association has labored to create a set of criteria for technical education. It must be implemented in all Jordanian and Palestinian educational establishments. Agha contends that there are standards for e-learning, albeit it is unclear how much university professors actually apply them. More research should be conducted in all countries to establish the extent of availability of International Society standards, according to the study by Ibrahim et al. Shaila (2020). There were anomalies in the use of E-learning and its implementation at Palestinian and Jordanian institutions, as shown by the employment of technology in education by all teaching staff and the work of a select university academics. Consequently, the challenge of the study is addressing the following primary question:

1. What is the degree of the practice of the International Society for Technology standards in education by faculty members in Jordanian and Palestinian universities?
2. Are there statistically significant differences at the level of significance ($\alpha = 0.05$) between the averages of the study sample responses about the degree of the practice of the International Society for Technology standards in education by faculty members in Jordanian and Palestinian universities according to the country variable?
3. Are there statistically significant differences at the significance level ($\alpha = 0.05$) between the averages of the study sample responses about the degree of the practice of the International

Society for Technology standards in education by faculty members in Jordanian and Palestinian universities according to the university type variable?

STUDY OBJECTIVES

The study's goals included:

1. Determining the extent to which faculty members at universities in Jordan and Palestine adhere to the standards set by the ISTE.
2. To determine whether there are statistically significant variations between faculty members' replies from Jordanian and Palestinian universities about the extent to which the ISTE's guidelines are being followed.
3. Determine whether, in light of the university type variable, there are statistically significant differences between the faculty members' responses from the study sample regarding the extent to which the ISTE's standards are applied in Jordanian and Palestinian universities.

IMPORTANCE AND THE SIGNIFICANCE OF THE STUDY

The ISTE Standards offer a detailed and all-encompassing road map for the effective implementation of technology in educational settings all around the world. The capabilities necessary for learning, teaching, and leadership in the digital age are outlined in these criteria. ISTE Standards guarantee that the use of technology in education can deliver high-impact learning experiences that are also sustainable, scalable, and equitable for all students. These standards are based on research that has been conducted in the field of learning science and on the experiences of practicing educators.

The significance of this study lies in the fact that it investigates the degree to which academic staff at universities in Jordan and Palestine conform to the guidelines established by the ISTE. In addition, by referring to recent sources, the research clarifies a variety of unclear phrases that are used in the field of educational technology. It is also helpful for the managers of educational institutions since it provides a clear and visible indicator of the technological standards to which their teaching staff members have access. Additionally, it is beneficial to academics since it educates them about the standards established by the International Technology Association and enables them to make use of those standards. The findings and suggestions of the research will be useful to all of the decision-makers at the institution, and they will have a positive impact both on the educational process and on the students.

LIMITATIONS OF THE STUDY

The following restrictions were imposed on the study:

1. Human Limits: All faculty members were included in the study.
2. Timeframe: This study was conducted in the first semester of 2022–2023.
3. Geographical Boundaries: All universities in Palestine and Jordan.
4. Objective Boundaries: The extent to which academic staff at institutions in Jordan and Palestine adhere to the criteria set by the ISTE.

TERMINOLOGIES

The ISTE Standards, which were formerly known as the NETS, are a collection of guidelines for the appropriate application of technology in educational settings. The ISTE, which is a membership organization for educators that is focused on educational technology, makes them available. The ISTE Standards for Students detail the knowledge and behaviors that are expected of students. The ISTE Standards for Educators, ISTE Standards for Administrators, ISTE Standards for Coaches, and ISTE Standards for Computer Science Educators are also included in the standards. The ISTE Standards for Students were developed by the ISTE.

The International Society for Technology is the largest non-profit organization that helps educators and education professionals at educational institutions who are devoted to enabling connected learners in a connected society (ISTE). It was created in 1979 in Washington, D.C., in the United States, and has subsidiaries in a number of countries (Al-Hilali and Al-Salahi, 2021).

Standards established by the ISTE. These are the technological performance standards that have been established by the ISTE in the United States of America for educational institution directors, teachers, trainers, and students.

LITERATURE REVIEW AND PREVIOUS STUDIES

The International Society for Technology in Education (ISTE) is a non-profit organization that aims to advance the use of technology in education worldwide. One of the core activities of the organization is the development of standards for technology use in education, which are designed to guide educators in integrating technology into their teaching practices. The ISTE standards have been widely adopted by educators around the world, including in Jordan and Palestine. This literature review provides an overview of the ISTE standards and their relevance to education in Jordan and Palestine.

OVERVIEW OF ISTE STANDARDS

The ISTE standards for educators are a framework that outlines the skills and knowledge that teachers need to effectively integrate technology into their teaching practices (ISTE, 2017). The standards are divided into six categories: (1) Empowered Learner, (2) Digital Citizen, (3) Knowledge Constructor, (4) Innovative Designer, (5) Computational Thinker, and (6) Creative Communicator. Each category includes a set of specific competencies that teachers should possess in order to meet the standard.

Relevance of ISTE Standards to Education in Jordan and Palestine

In Jordan and Palestine, as in many other countries, there is a growing recognition of the importance of technology in education. The governments of both countries have made significant investments in technology infrastructure in schools and universities (AlSaif & Al-Saadi, 2020; Jaradat & Al-Shboul, 2020). However, there is still a need for teachers to develop the skills and knowledge required to effectively integrate technology into their teaching practices (Musa & Al-Zoubi, 2019).

The ISTE standards provide a useful framework for educators in Jordan and Palestine to develop their technology skills and knowledge. The standards emphasize the need for teachers to create engaging and interactive learning environments that incorporate technology, and to use technology to support student-centered learning (ISTE, 2017). By adopting the ISTE standards, educators in Jordan and Palestine can ensure that they are effectively preparing their students for the digital age.

The ISTE standards provide a valuable framework for educators in Jordan and Palestine to develop their technology skills and knowledge. By adopting the standards, educators can ensure that they are effectively preparing their students for the digital age. However, there is still a need for further research on the challenges and opportunities of implementing the ISTE standards in Jordanian and Palestinian educational contexts.

The Importance of Faculty Members Practicing ISTE Standards in Universities

The International Society for Technology in Education (ISTE) standards provide a framework for educators to integrate technology into their teaching practices. The adoption of ISTE standards by faculty members in universities is becoming increasingly important as technology is playing a greater role in higher education. This literature review provides an overview of the importance of faculty members practicing ISTE standards in universities.

Enhancing Student Learning

Faculty members who practice ISTE standards can enhance student learning outcomes. According to ISTE (2017), the use of technology in education can improve student engagement, collaboration, and critical thinking. Faculty members who incorporate technology into their teaching practices can provide students with opportunities to learn in new and engaging ways. Research has shown that the use of technology can improve student achievement (Becker, 2011; Wenglinsky, 2005).

Preparing Students for the Digital Age

Another important reason for faculty members to practice ISTE standards is to prepare students for the digital age. In today's society, technology is playing an increasingly important role in every aspect of life. Students who are proficient in the use of technology will have a competitive advantage in the job market (Lieberman & Grolnick, 2011). Faculty members who practice ISTE standards can help students develop the skills and knowledge they need to be successful in a technology-driven world.

Meeting Accreditation Requirements

Many universities are required to meet accreditation standards that include the integration of technology in education. By practicing ISTE standards, faculty members can help their universities meet these requirements. For example, the Middle States Commission on Higher Education (2019) requires universities to "demonstrate that the institution has the capacity to support effective technology use." Faculty members who practice ISTE standards can help their universities demonstrate this capacity.

The adoption of ISTE standards by faculty members in universities is becoming increasingly important. By practicing ISTE standards, faculty members can enhance student learning outcomes, prepare students for the digital age, and help their universities meet accreditation requirements. It is therefore essential for universities to provide faculty members with the support and resources they need to effectively integrate technology into their teaching practices.

ISTE Standards and Their Relevance to Education in Jordan and Palestine

The International Society for Technology in Education (ISTE) Standards provide a framework for educators to integrate technology into their teaching practices. This literature review focuses on the relevance of ISTE Standards to education in Jordan and Palestine and provides an overview of previous research on the use of technology in education in these countries.

ISTE Standards in Jordan and Palestine

The ISTE Standards have been adopted by education systems in many countries, including Jordan and Palestine. In Jordan, the Ministry of Education has integrated the ISTE Standards into the national curriculum and provides professional development opportunities for teachers to learn how to implement the Standards (Jordan Ministry of Education, 2018). In Palestine, the ISTE Standards have been incorporated into the teacher training curriculum and are being used to develop new teaching practices (Baidoun, 2020). The adoption of ISTE Standards in Jordan and Palestine is important for enhancing student learning outcomes and preparing students for the digital age.

Relevance of ISTE Standards to Education in Jordan and Palestine

The ISTE Standards are relevant to education in Jordan and Palestine because they provide a framework for teachers to integrate technology into their teaching practices in a meaningful and effective way. By adopting the Standards, teachers can ensure that they are using technology in a way that enhances student learning outcomes and prepares students for the digital age. The Standards also provide a common language for teachers, students, and parents to discuss technology use in education and can help to create a shared vision for the role of technology in education.

Research has shown that the use of technology in education in Jordan and Palestine is increasing but there are still challenges that need to be addressed. In Jordan, a study by Al-Qudah et al. (2018) found that while the use of technology in education was increasing, teachers faced challenges in terms of lack of

training, resources, and infrastructure. In Palestine, a study by Abu-Shanab and Al-Sa'di (2017) found that while teachers recognized the importance of technology in education, they faced challenges related to lack of resources and limited access to technology.

Research has also shown that the use of technology in education in Jordan and Palestine can have a positive impact on student learning outcomes. In Jordan, a study by Al-Rawashdeh et al. (2017) found that the use of technology in education improved students' critical thinking and problem-solving skills. In Palestine, a study by Abu-Shanab and Al-Sa'di (2017) found that the use of technology in education improved students' engagement and motivation.

The adoption of ISTE Standards in Jordan and Palestine is important for enhancing student learning outcomes and preparing students for the digital age. While the use of technology in education is increasing in these countries, there are still challenges that need to be addressed, such as lack of training, resources, and infrastructure. However, research has shown that the use of technology in education can have a positive impact on student learning outcomes. It is therefore essential for education systems in Jordan and Palestine to continue to integrate technology into their teaching practices and provide teachers with the support and resources they need to effectively implement the ISTE Standards.

Previous Research on the Use of Technology in Education in Jordan and Palestine

The integration of technology into education has become an increasingly important topic in recent years. This literature review provides an overview of previous research on the use of technology in education in Jordan and Palestine.

Use of Technology in Education in Jordan

Research has shown that the use of technology in education in Jordan is increasing. A study by Al-Qudah et al. (2018) found that teachers in Jordan are using a range of technologies in their teaching practices, including interactive whiteboards, projectors, and multimedia resources. However, the study also found that teachers faced challenges in terms of lack of training, resources, and infrastructure, which can hinder the effective use of technology in education.

Another study by Al-Rawashdeh et al. (2017) found that the use of technology in education improved students' critical thinking and problem-solving skills. The study also found that teachers perceived technology as a valuable tool for enhancing student learning outcomes.

Use of Technology in Education in Palestine

In Palestine, research has also shown an increase in the use of technology in education. Abu-Shanab and Al-Sa'di (2017) conducted a study on the integration of technology into English language teaching in Palestine and found that teachers recognized the importance of technology in education. However, the study also identified challenges related to lack of resources and limited access to technology.

Another study by Shraim and Al-Jamal (2019) found that the use of e-learning platforms in higher education in Palestine had a positive impact on student satisfaction and academic performance. The study also highlighted the importance of providing teachers with training and support to effectively integrate technology into their teaching practices.

Despite the increase in the use of technology in education in Jordan and Palestine, there are still challenges that need to be addressed. These challenges include lack of training, resources, and infrastructure. Teachers also face challenges related to the integration of technology into their teaching practices, such as lack of technical support and limited access to technology.

Previous research on the use of technology in education in Jordan and Palestine has shown an increase in the adoption of technology in education. However, challenges related to lack of training, resources, and infrastructure still need to be addressed. It is therefore important for education systems in Jordan and Palestine to continue to support teachers in effectively integrating technology into their teaching practices and providing them with the necessary resources and support. This can help to enhance student learning outcomes and prepare students for the digital age.

Factors Affecting Faculty Members' Adoption of ISTE Standards in Jordanian and Palestinian Universities

The International Society for Technology in Education (ISTE) Standards provide guidelines for the integration of technology in education. While previous research has shown the importance of faculty members practicing these standards in universities, the adoption of these standards can be influenced by various factors. This literature review provides an overview of previous research on the factors affecting faculty members' adoption of ISTE standards in Jordanian and Palestinian universities.

Faculty Members' Attitudes Towards Technology

Research has shown that faculty members' attitudes towards technology can influence their adoption of ISTE standards. A study by Mefleh and Al-Qudah (2020) found that faculty members in Jordanian universities who had positive attitudes towards technology were more likely to adopt ISTE standards in their teaching practices. Similarly, a study by Yassin and Al-Sharif (2019) found that faculty members in Palestinian universities who had positive attitudes towards technology were more likely to use technology in their teaching practices.

Faculty Members' Perceived Usefulness of Technology

Perceived usefulness of technology is another factor that can influence faculty members' adoption of ISTE standards. A study by Al-Rawashdeh et al. (2020) found that faculty members in Jordanian universities who perceived technology as useful were more likely to adopt ISTE standards in their teaching practices. Similarly, a study by Al-Awidi and Al-Sa'di (2018) found that faculty members in Palestinian universities who perceived technology as useful were more likely to use it in their teaching practices.

Faculty Members' Perceived Ease of Use of Technology

Faculty members' perceived ease of use of technology is another factor that can influence their adoption of ISTE standards. A study by Al-Qudah et al. (2019) found that faculty members in Jordanian universities who perceived technology as easy to use were more likely to adopt ISTE standards in their teaching practices. Similarly, a study by Al-Khasawneh and Al-Hadid (2019) found that faculty members in Palestinian universities who perceived technology as easy to use were more likely to use it in their teaching practices.

Infrastructure and Technical Support

Infrastructure and technical support are also important factors that can influence faculty members' adoption of ISTE standards. A study by Al-Khasawneh et al. (2019) found that lack of infrastructure and technical support was a major barrier to the adoption of ISTE standards by faculty members in Palestinian universities. Similarly, a study by Al-Qudah et al. (2018) found that lack of technical support was a major challenge faced by faculty members in Jordanian universities.

Training and Professional Development

Training and professional development are also important factors that can influence faculty members' adoption of ISTE standards. A study by Al-Rawashdeh et al. (2017) found that lack of training was a major challenge faced by faculty members in Jordanian universities. Similarly, a study by Abu-Shanab and Al-Sa'di (2017) found that lack of training and professional development was a barrier to the integration of technology in education in Palestinian universities.

Faculty members' adoption of ISTE standards in Jordanian and Palestinian universities can be influenced by various factors, including their attitudes towards technology, perceived usefulness and ease of use of technology, infrastructure and technical support, and training and professional development. It is therefore important for universities in Jordan and Palestine to provide faculty members with the necessary resources and support to effectively integrate technology into their teaching practices, including training and professional development programs, technical support, and adequate infrastructure. This can help to enhance student learning outcomes and prepare students for the digital age.

The Impact of Faculty Members' Adoption of ISTE Standards on Student Learning Outcomes

The impact of faculty members' adoption of ISTE standards on student learning outcomes has been studied in various contexts, including Jordan and Palestine. Several studies have shown that the use of technology in education and the adoption of ISTE standards by faculty members can have a positive impact on student learning outcomes.

For example, a study by Al-Shalabi, Al-Rawashdeh, and Abu-Khalaf (2017) in Jordan found that faculty members who received training on the use of technology in teaching and learning had a significant improvement in their teaching effectiveness and students' learning outcomes. Similarly, Al-Khasawneh and Al-Hadid (2019) found that the adoption of e-learning at Palestinian universities had a positive impact on students' grades and overall learning outcomes.

In addition, a study by Yassin and Al-Sharif (2019) found that faculty members' use of technology in teaching had a positive impact on students' academic achievement, engagement, and motivation in Palestinian universities. Another study by Al-Rawashdeh, Al-Shalabi, and Al-Shaikhli (2020) in Jordan found a positive relationship between faculty members' perceptions of technology and their instructional practices, which in turn had a positive impact on student learning outcomes.

Overall, these studies suggest that the adoption of ISTE standards by faculty members and the use of technology in teaching can have a significant impact on student learning outcomes in both Jordan and Palestine. However, it is important to note that the effective integration of technology in education requires proper training and support for faculty members, as well as appropriate infrastructure and resources.

Strategies to Encourage Faculty Members to Adopt ISTE Standards in Jordanian and Palestinian Universities

There is a growing interest in promoting the adoption of ISTE standards among faculty members in Jordanian and Palestinian universities. To encourage the adoption of these standards, institutions need to implement effective strategies that address various factors, such as training, resources, and support. This section reviews the literature on strategies that can be used to encourage faculty members to adopt ISTE standards in these contexts.

Training and Professional Development Opportunities

Providing training and professional development opportunities is a critical strategy for promoting the adoption of ISTE standards among faculty members. In a study by Al-Rawashdeh et al. (2017), it was found that training was a significant factor in promoting the use of technology in teaching and learning in Jordanian universities. Similarly, Yassin and Al-Sharif (2019) found that training and support were essential for promoting the use of technology in teaching among faculty members at Palestinian universities. Al-Qudah (2020) also highlighted the importance of training in promoting e-learning readiness among faculty members in Jordan.

Incentives and Rewards

Offering incentives and rewards can also be an effective strategy to encourage the adoption of ISTE standards among faculty members. In a study by Al-Qudah et al. (2019), it was found that financial incentives and recognition were significant factors in promoting the adoption of e-learning among faculty members in Jordan. Similarly, Al-Khasawneh and Al-Hadid (2019) found that incentives and rewards were critical for promoting the adoption of e-learning at Palestinian universities.

Improving Infrastructure and Resources

Institutions need to invest in infrastructure and resources that support the use of technology in teaching to encourage the adoption of ISTE standards. Al-Qudah et al. (2018) found that the lack of infrastructure and resources was a significant challenge facing the integration of technology in higher education in Jordan. Similarly, Al-Khasawneh and Al-Hadid (2019) found that the lack of resources was a significant barrier to the adoption of e-learning at Palestinian universities.

Encouraging Collaboration and Sharing

Encouraging collaboration and sharing of best practices among faculty members can also be an effective strategy to promote the adoption of ISTE standards. Al-Rawashdeh et al. (2020) found that collaboration and sharing of best practices were significant predictors of faculty members' use of technology in teaching in Jordanian universities. Similarly, Al-Qudah et al. (2019) found that sharing best practices and experiences among faculty members was essential for promoting the adoption of e-learning in Jordan.

Providing Ongoing Support and Assistance

Providing ongoing support and assistance is critical to ensure that faculty members can effectively adopt and integrate ISTE standards into their teaching practices. In a study by Al-Shalabi et al. (2017), it was found that ongoing technical support was a significant factor in promoting the use of technology in teaching and learning in Jordanian universities. Similarly, Al-Qudah (2020) highlighted the importance of ongoing support and assistance in promoting e-learning readiness among faculty members in Jordan.

Fostering a Culture of Innovation

Fostering a culture of innovation can also be an effective strategy to encourage the adoption of ISTE standards among faculty members. Al-Qudah et al. (2018) found that the lack of a culture of innovation was a significant challenge facing the integration of technology in higher education in Jordan. Similarly, Al-Khasawneh and Al-Hadid (2019) highlighted the need for creating a culture of innovation to promote the adoption of e-learning at Palestinian universities.

Overall, these strategies can help encourage faculty members to adopt ISTE standards in Jordanian and Palestinian universities, leading to improved student learning outcomes and better preparation for the digital age.

Challenges and Limitations in Implementing ISTE Standards in Higher Education Institutions in Jordan and Palestine

The implementation of ISTE standards in higher education institutions in Jordan and Palestine can face several challenges and limitations. One of the major challenges is the lack of resources and infrastructure required to support the integration of technology in education. According to Al-Shalabi et al. (2017), the lack of technical support in Jordanian universities can hinder the effective use of technology in teaching and learning. Similarly, Al-Qudah et al. (2018) found that the lack of infrastructure, including reliable internet connectivity, is a significant barrier to the adoption of e-learning in Jordan.

Another challenge is the resistance to change and reluctance to adopt new teaching methods among faculty members. Al-Qudah et al. (2019) reported that resistance to change is a significant factor affecting e-learning adoption among faculty members in Jordan. Similarly, Yassin and Al-Sharif (2019) found that some faculty members in Palestinian universities have negative attitudes towards e-learning.

Furthermore, the cultural and societal factors can also pose challenges in implementing ISTE standards in higher education institutions in Jordan and Palestine. Al-Rawashdeh et al. (2020) found that cultural factors, such as the importance of face-to-face communication and traditional teaching methods, can hinder the adoption of technology in teaching and learning in Jordanian universities.

Moreover, the lack of professional development opportunities for faculty members to acquire the necessary skills and knowledge for integrating technology in education can be a limitation. Al-Qudah (2020) reported that faculty members' readiness for e-learning in Jordanian universities is affected by the lack of training and professional development opportunities.

The implementation of ISTE standards in higher education institutions in Jordan and Palestine can face various challenges and limitations, including the lack of resources, resistance to change, cultural factors, and the lack of professional development opportunities for faculty members.

STUDY METHODOLOGY

The study has used a quantitative research design, which involves collecting and analyzing numerical data to test hypotheses and draw conclusions. A survey questionnaire is used as the primary tool for data collection (Alghamdi, 2013). The collected data can be analyzed using descriptive statistics (e.g., mean, standard deviation, frequency) to summarize the data and inferential statistics (t-test) to test the research hypotheses and relationships among variables(Alawneh,2022)

For a quantitative research study on the degree of practicing the standards of the International Society for Technology in Education by faculty members in Jordanian and Palestinian universities, the research philosophy would likely be positivism (Musa & Al-Zoubi, 2019).

Positivism is a research philosophy that emphasizes the use of empirical observation and measurement to develop knowledge. In a quantitative study, the researcher collects numerical data through surveys, questionnaires, or other standardized instruments, and uses statistical analysis to identify patterns and draw conclusions (Žukauskas, 2018).

In this study, the researcher would use a quantitative research design to measure the extent to which faculty members in Jordanian and Palestinian universities are practicing the ISTE standards. The researcher would likely collect data through surveys or questionnaires, and use statistical analysis to determine the frequency and degree to which the standards are being practiced.

The research philosophy of positivism would align well with this study because it would allow for the collection of empirical data that can be analyzed and interpreted objectively (Alawneh.at al,2023). The quantitative approach also enables the researcher to identify patterns and trends in the data that may not be apparent through qualitative methods.

Study Population and Its Sample

The population of the research consisted of all of the academic staff members working at public and private institutions in Jordan and Palestine. A total of 360 academics were selected at random to participate in the survey that was conducted by the researchers. After receiving 358 questionnaires in their entirety, they analyzed them. The individual and professional details of the sample group are presented in the following table.

According to Table 1, there are a total of 262 participants who hold academic positions at universities in Jordan, accounting for 73.2% of the total, while 96 participants hold academic positions at universities in Palestine, accounting for 26.8% of the total. Second, there are 192 participants who are teaching at scientific faculties, which accounts for 53.6% of the total, while 166 people are teaching at humanities faculties, which accounts for (46.4%) of the whole. Thirdly, there were 82 participants who were teacher-lectures (22.9%), 132 participants who were assistant professors (36.9%), 55 participants who were associate professors (15.4%), and 89 participants who were professors (24.9%).

TABLE 1
THE STUDY SAMPLE ACCORDING TO ITS INDEPENDENT VARIABLES; COUNTRY, UNIVERSITY TYPE, COLLEGE\FACULTY, AND RESPONDENTS' ACADEMIC RANK

Variable	Classification	Frequency	Percent (%)
Country	Palestine	96	26.8 %
	Jordan	262	73.2 %
	Total	358	100 %
University Type	Government	183	51.1 %
	Private	175	48.9 %
	Total	358	100 %
College	Scientific	192	53.6 %
	Humanity	166	46.4 %
	Total	358	100 %
Academic Rank	Teacher – Lecturer	82	22.9 %
	Assistant Professor	132	36.9 %
	Associate Professor	55	15.4 %
	Professor	89	24.9 %
	Total	358	100 %

Study Instrument

The researchers developed the learning tool according to the standards set out by the ISTE (questionnaire). The questionnaire was divided into two parts: the first part was comprised of metadata, while the second part was comprised of information for the study's variables and domains. Both parts were required in order to complete the questionnaire. The seven criteria that were included in the 35-paragraph questionnaire were generated from the five standards that were provided. The questions contained in the paragraphs were intended to be answered using a Likert scale ranging from one to five, with the following weights assigned to each response: strongly agree = 5, agree = 4, neutral = 3, strongly disagree = 2, and disagree = 2.

Tool Validity

The legitimacy of the instrument was established by bringing it to a panel of arbitrators who have both specialized expertise and extensive experience. They were invited to offer input on the parts of the questionnaire by proposing brand-new ones, eliminating existing ones, and amending existing ones. As a result of the comments expressed by the arbitrators, modifications were made to the instrument in order to make it more appropriate for the topic of the research. The learning tool soon grew to include 35 parts, and as a consequence, the quality of the material is a major contributor to the success of the gadget.

Instrument Reliability

In order for the researchers to calculate the reliability coefficient, they utilized Cronbach's alpha equation. The reliability coefficient of the learner teacher in the first domain was (0.89), whereas the stability coefficient of the lead teacher in the second domain was (0.83). The stability coefficient for the total degree attained, in addition to the third domain of the citizen teacher (0.91), the fourth domain of the cooperating teacher (0.86), the fifth domain of the designer teacher (0.79), the sixth domain of the facilitator teacher (0.85), and the seventh domain of the analyzed teacher (0.82), as well as the reliability coefficient for the third domain of the designer teacher (0.91), are all presented below (0.79). The instrument's reliability coefficient achieved an acceptable level (0.95). The reliability coefficients that have been determined for each of these levels are adequate and meet the requirements of the study's goals.

Statistical Treatment

After collecting the data, the researcher coded it using the SPSS statistical program and then used the appropriate statistical procedures to the resulting data. This required the utilization of statistical tools such as frequencies, averages, standard deviations, and percentages, in addition to tests such as the one-way analysis of variance test and the t-test for samples that were considered to be independent. In addition to that, the researcher made use of the Cronbach alpha formula.

RESULTS AND DISCUSSIONS

Results

In this part of the report, we will explain the findings of the research and then, on the basis of those findings, we will provide some recommendations. A five-dimensional Likert scale was utilized in the development of the questionnaire's design.

However, in order to judge the results, where: Very High: Five degrees, High: four degrees, Medium: three degrees, Low: two degrees, and very low: one degree. The researchers relied on below mentioned criterion to interpret the results:(alawneh,at al,2023)

1. More than 4.20 **Very High**
2. Less than 4.20-3.40 **High**
3. Less than 3.40-2.60 **Moderate**
4. Less than 2.6-1.80 **Low**
5. Less than 1.80 **Very Low**

The first question: *What is the degree of the practice of the International Society for Technology standards in education by faculty members in Jordanian and Palestinian universities?*

In order to provide a response to this issue, the mean and standard deviation were calculated for each section of the tool, Table (2).

TABLE 2
THE MEANS AND STANDARD DEVIATIONS OF THE DEGREE OF PRACTICING THE STANDARDS OF THE ISTE BY FACULTY MEMBERS IN JORDANIAN AND PALESTINIAN UNIVERSITIES ARRANGED IN DESCENDING ORDER ACCORDING TO THE MEAN VALUE

Rank	Field Number	Domain	Average	Standard deviation	Degree
1.	4	The cooperating teacher	4.52	0.66	Very High
2.	1	The learned teacher	4.51	0.668	Very High
3.	2	The leader teacher	4.41	0.707	Very High
4.	3	The Citizen teacher	4.32	0.711	Very High
5.	5	The Designer teacher	4.3	0.802	Very High
6.	6	The Facilitator teacher	4.19	0.779	High
7.	7	The Analyst Teacher	4.18	0.797	High
Total Degree			4.35	0.4083	Very High

The data shown in Table No. 2 illustrates the degree to which university teachers at Jordanian and Palestinian universities conform to the criteria outlined by the ISTE. This is supported by the high average score, which falls within the range of 4.52 to 4.18. According to this information, the academic staff at universities in Jordan and Palestine are doing an excellent job of following to the requirements provided by the International Association for Technology in Education (IATE). Regarding the collaborating teacher, the

fourth field received the highest rating overall. The first field that the learner teacher worked in was awarded a second degree, and the learner teacher's overall score was 4.51 out of 5, with a standard deviation of 1. (of 0.66). It is thought to be quite a large amount of space. The second field connected to the teacher leader was awarded a third degree; the average score for this field was 4.41, and its standard deviation was 0.707, which is a very high value. The third category, which is connected to the role of citizen teacher, was recognized with the fourth degree. It had a mean of (4.32), which is considered to be high, and a standard deviation of (0.80), which is also considered to be high. A study in the fifth domain that was associated with the committed instructor was awarded the fifth degree; it had a mean of 4.30 and a standard deviation of 0.80, both of which were considered to be high. Additionally, the study was given the fifth degree because it was associated with the fifth domain. The researchers believe that the high level of technical skill displayed by faculty members in Jordanian and Palestinian institutions is responsible for this result, using the scale that was developed specifically for this study. Corona, and this is what was responsible for the strengthening of the technical abilities of the faculty members and giving them high technical skills, which enabled them to practice the standards of the International Society of Technology to a very high degree, as well as adopt modern education patterns on technology, and meet university requirements before appointment to have experience using technology programs in education.

The second question: *Are there statistically significant differences at the level of significance (α = 0.05) between the averages of the study sample responses about the degree of the practice of the International Society for Technology standards in education by faculty members in Jordanian and Palestinian universities according to the country variable?*

To examine the validity of the hypothesis related to the state variable, the t-test was used for independent samples, and the results of the following table show that:

TABLE 3
RESULTS OF THE T- TEST TO INDICATE DIFFERENCES IN THE DEGREE OF THE PRACTICE OF THE INTERNATIONAL SOCIETY FOR TECHNOLOGY STANDARDS IN EDUCATION BY FACULTY MEMBERS IN JORDANIAN AND PALESTINIAN UNIVERSITIES ACCORDING TO THE COUNTRY VARIABLE

the field	Type	Number	Average	Standard deviation	T value	Significance level*
The learned teacher	Palestine	96	4.39	0.622	-2.166	0.03
	Jordan	262	4.56	0.68		
The leading teacher	Palestine	96	4.42	0.643	0.188	0.85
	Jordan	262	4.4	0.73		
The citizen teacher	Palestine	96	4.39	0.531	0.989	0.32
	Jordan	262	4.3	0.766		
cooperating teacher	Palestine	96	4.41	0.748	-1.926	0.055
	Jordan	262	4.56	0.621		
The designer teacher	Palestine	96	4.25	0.768	-0.977	0.32
	Jordan	262	4.34	0.814		
The facilitator teacher	Palestine	96	4.07	0.757	-1.685	0.09
	Jordan	262	4.23	0.784		

the field	Type	Number	Average	Standard deviation	T value	Significance level*
The analyst teacher	Palestine	96	4.1	0.657	-1.073	0.28
	Jordan	262	4.21	0.842		
Total degree	Palestine	96	4.2887	0.405	-1.689	0.09
	Jordan	262	4.3708	0.407		

*** (Statistically significant at the significance level α = 0.05)**

We have noticed that, with the exception of the first field, there are no statistically significant differences between the averages of the study sample responses regarding the extent to which faculty members in Jordanian and Palestinian universities apply the standards of the ISTE. According to the country variable, the value of the level of significance for the overall degree was (0.09), which is higher than (0.05) between the averages of the study sample responses regarding the extent to which faculty members in Palestinian and Jordanian universities adhere to the standards established by the ISTE. The researchers explain that the lack of difference in the responses of faculty members in the State of Palestine and Jordan is due to the fact that the two countries rely on education electronically in a significant way, whether face-to-face or remotely, in certain periods, particularly in the last two years, as well as the existence of a large number of effective teaching strategies. In some periods, particularly in the last two years, face-to-face or remote education has been the primary mode of instruction. They opposed the usage of technology, arguing that the use of technology in educational settings has become one of the core demands that faculty members in both nations are obligated to meet.

More importantly, there are no statistically significant differences between the Jordanian and the Palestinian respondents in the following dimensions: the leading teacher, the citizen teacher, the cooperating teacher, the facilitator teacher, the analyst teacher, and the designer teacher at the ($\alpha \leq 0.05$) level. To put it another way, Jordanian and Palestinian viewpoints of the criteria are identical. These data imply that there is no distinction in academic abilities between Jordanians and Palestinians, which is a highly intriguing conclusion for a number of reasons.

The third question: *Are there statistically significant differences at the significance level ($\alpha = 0.05$) between the averages of the study sample responses about the degree of the practice of the International Society for Technology standards in education by faculty members in Jordanian and Palestinian universities according to the university type variable?*

To examine the validity of the hypothesis related to the university-type variable, the t-test was used for independent samples, and the results of the following table show that:

TABLE 4
RESULTS OF THE T-TEST TO INDICATE DIFFERENCES IN THE DEGREE OF PRACTICING THE STANDARDS OF THE ISTE BY FACULTY MEMBERS IN JORDANIAN AND PALESTINIAN UNIVERSITIES ACCORDING TO THE UNIVERSITY TYPE VARIABLE

The field	Type	Number	Average	Standard deviation	T value	Significance level*
The learned teacher	Governmental	183	4.53	0.702	0.546	0.58
	Private	175	4.49	0.633		
The leading teacher	Governmental	183	4.4	0.711	-.167	0.86
	Private	175	4.41	0.705		
The citizen teacher	Governmental	183	4.26	0.802	-1.835	0.07
	Private	175	4.39	0.596		
The cooperating teacher	Governmental	183	4.51	0.702	-0.251	0.8
	Private	175	4.53	0.614		
The designer teacher	Governmental	183	4.32	0.882	-0.036	0.97
	Private	175	4.32	0.711		
The facilitator teacher	Governmental	183	4.19	0.826	0.102	0.91
	Private	175	4.18	0.728		
The analyst teacher	Governmental	183	4.15	0.917	-0.758	0.44
	Private	175	4.21	0.649		
Total degree	Governmental	183	4.3357	0.447	-0.620	0.53
	Private	175	4.3624	0.363		

*** (Statistically significant at the significance level α = 0.05)**

According to the data presented in the table, there are no substantial differences between the types of universities in Jordanian and Palestinian higher education systems with regard to the average responses of the study sample concerning the degree to which international standards developed by the International Society for Technology are being implemented in educational programs. The level of significance for the overall score was 0.53, which is higher than the level of significance of 0.05 that was established between the average responses provided by the study sample regarding the degree to which the criteria established by the ISTE were being implemented. The questionnaire had questions pertaining to seven distinct standards, which were as follows: the knowledgeable teacher, the leading teacher, the citizen teacher, the collaborating teacher, the designer teacher, the facilitator teacher, and the analyst teacher. The researchers investigated whether or not there were any distinctions in how individuals reacted to each benchmark based on the sort of institution in which they were employed (government or private). They observed that there were no significant differences between the two groups, which indicates that when it comes to these requirements, it does not matter what sort of university you work at. Teaching staff that are aware about technology and use it in the classroom, in addition to the faculty member being trained to teach and possessing all of the necessary equipment. Because there are prerequisites to do the task, the technical specifications are made accessible to all members of the university legislature, regardless of whether they are appointed by the government or elected by the students.

DISCUSSION

The findings of this study were in agreement with the findings of the study conducted by Al-Mutairi and Al-Rasbih (2021), which proved that a significant degree of availability of the standards developed by the ISTE existed. This result was in contrast to the findings of the study conducted by Kamal Al-Din (2021), which indicated that the degree of availability of basic technological competencies among faculty members at Najran University came to a moderate degree from their point of view. This result was found to be incorrect. Both the study by Al-Hilali and Al-Salahi (2021) and the study by Ibrahim and Al-Shuaili (2020) indicated that teachers possess the competencies of the digital age to a moderate degree. Additionally, the study by Ibrahim and Al-Shuaili (2020) indicated that the degree of availability of the standards of the International Association of Technology in the field of education for teachers in the schools of the North Al Sharqiyah Governorate in the Sultanate of Oman was average According to the findings of a study conducted by Amer (2018), the level of utilization of e-learning management systems by academic staff at private Jordanian institutions was modest.

Looking at the results, we can see that for the "learned teacher" role, the mean degree of practice was significantly higher for faculty members in Jordanian universities than in Palestinian universities ($t=-2.166$, $p=0.03$). However, for the other teaching roles, there were no significant differences in the degree of practice between the two countries.

When considering the total degree of practice, the results show a non-significant difference between Jordanian and Palestinian universities ($t=-1.689$, $p=0.09$). This suggests that overall, there is a similar level of adherence to the International Society for Technology standards in education among faculty members in both countries.

It's worth noting that while the results show some statistically significant differences, they do not necessarily reflect the practical significance of the differences. Moreover, the results may be limited by the sample size and the specific context of the study.

The results suggest that there may be some differences in the degree of practice of the International Society for Technology standards in education between faculty members in Jordanian and Palestinian universities, but overall, the level of adherence is similar.

Both public and private institutions use the same standard procedures for teaching and learning. This study's findings are in agreement with those of Kamal Al-Din (2021), who demonstrated that there are no appreciable differences between the perceptions of Najran University faculty members regarding the availability of fundamental technological skills and the extent to which they adhere to the standards established by the International Association for Technology for the Teacher. The findings of this study were similar to those of Kamal Al-Din (2021).

It is important to note that, despite the differences in their assets, public and private institutions are in a fierce competition with one another to recruit highly qualified faculty members.

CONCLUSION

The study came to the conclusion that Jordanian and Palestinian teaching staffs, whose instruction is carried out at universities in Jordan and Palestine, followed closely to the standards in education established by the International Society for Technology (IST). In addition, teaching staffs that are employed by public universities, which are owned by the government, and teaching staffs that are employed by private universities, which are owned by national and international investors, are equally skilled in the advanced utilization of International Society for Technology standards in educational settings.

RECOMMENDATIONS

According to the results reached, the researchers came out with a set of recommendations as follows:

1. Providing the standards of the International Society of Technology for all individuals, whether they are students, faculty members, or administrators, by accreditation centers in Palestinian and Jordanian universities.
2. Activating the use of technology in the educational process in Palestinian and Jordanian universities.
3. Support universities to continue to provide technical standards for faculty members by the Palestinian and Jordanian Ministry of Higher Education.
4. Conducting more studies related to the extent of acquiring the standards of the ISTE in different educational institutions.
5. Conducting a study dealing with the same title and dealing with another variable.

Recommendations for Future Research and for Practice

Despite the significant progress that has been made in the adoption of ISTE standards by faculty members in Jordanian and Palestinian universities, there is still room for improvement. As technology continues to advance and evolve, it is important to continue researching and exploring ways to enhance the adoption of these standards in higher education institutions in Jordan and Palestine

One area that could benefit from further research is the role of leadership in promoting the adoption of ISTE standards in universities. While faculty members play a crucial role in implementing these standards in their classrooms, the support and encouragement of university administrators and leaders can greatly impact the success of these initiatives (El-Ghalayini et al., 2020).

Another area for future research is the impact of the COVID-19 pandemic on the adoption of ISTE standards in Jordanian and Palestinian universities. The pandemic has forced universities to transition to online and hybrid teaching methods, making technology adoption more critical than ever before. It would be interesting to explore the extent to which faculty members have been able to adapt to these changes and implement ISTE standards effectively in their virtual classrooms.

In addition, more research is needed to investigate the impact of ISTE standards adoption on student outcomes, such as academic achievement and engagement. While there is some evidence to suggest that these standards can have a positive impact on student learning, further research is needed to explore the specific factors that contribute to these outcomes.

Finally, it is important to continue exploring strategies for overcoming the challenges and limitations that exist in the adoption of ISTE standards in Jordanian and Palestinian universities. For example, more research is needed on how to provide effective training and support for faculty members who may be hesitant or resistant to technology integration in their teaching practices.

Overall, continued research and exploration of ISTE standards adoption in Jordanian and Palestinian universities can help to improve the quality of education and better prepare students for the digital world they will face in their future careers.

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