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The Degree of Convenience of International Quality Standards to Instructional Content Design for MOOCs from the Point of View of Faculty Members

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Abstract: Objectives: This study aimed to identify the key components of a checklist for assessing the quality standards of instructional content design for Massive Open Online Courses (MOOCs), from the perspective of faculty members who serve as the primary content providers. **Method:** The researchers employed a quantitative approach, specifically a descriptive survey design. The sample included 311 faculty members from the University of Jordan. A questionnaire comprising 51 items across six main criteria was developed to evaluate the relevance and appropriateness of the standards. **Results:** The findings indicated a very high level of agreement among participants regarding the suitability of international standards for enhancing the quality of instructional content design in Arabic-language MOOCs. **Conclusion and Recommendations:** The study emphasized the importance of adopting and implementing quality standards in the design of Arabic MOOCs. These standards provide clear guidelines for instructional designers, contribute to improving the educational process, and encourage university faculty to develop MOOCs aligned with recognized quality benchmarks.

Keywords: International Quality Standards, Content Design Quality, MOOCs, Faculty Members.

درجة ملاءمة معايير الجودة العالمية لتصميم المحتوى التعليمي لـ MOOCs من وجهة نظر أعضاء هيئة التدريس

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ملخص: الهدف: تهدف هذه الدراسة إلى تحديد المكونات الرئيسة لقائمة مرجعية لتقييم معايير جودة تصميم محتوى التعليم في الدورات التدريبية المفتوحة الضخمة عبر الإنترنت (MOOCs)، من منظور أعضاء هيئة التدريس الذين يعملون كمزودي المحتوى الأساسيين. **المنهج:** استخدم الباحثون نهجًا كميًا، وتحديدًا تصميم استبيان وصفي. شملت العينة 311 عضوًا من أعضاء هيئة التدريس بالجامعة الأردنية. تم تطوير استبيان يتألف من 51 بندًا عبر ستة معايير رئيسة لتقييم مدى ملاءمة ومناسبة المعايير. **أهم النتائج:** أشارت النتائج إلى وجود مستوى عالٍ جدًا من الاتفاق بين المشاركين بشأن ملاءمة المعايير العالمية لتعزيز جودة تصميم المحتوى التعليمي في الدورات الجماعية المفتوحة عبر الإنترنت باللغة العربية. **الاستنتاجات والتوصيات:** أكدت الدراسة على أهمية اعتماد وتنفيذ معايير الجودة في تصميم MOOCs باللغة العربية، حيث توفر هذه المعايير إرشادات واضحة لمصممي البرامج التعليمية، وتساهم في تحسين العملية التعليمية، وتشجع أعضاء هيئة التدريس بالجامعات على تطوير MOOCs تتوافق مع معايير الجودة المعترف بها.

الكلمات المفتاحية: معايير الجودة العالمية، جودة تصميم المحتوى، MOOCs، أعضاء هيئة التدريس.

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Introduction

The rapid advancement of information and communication technologies (ICT) has revolutionized the educational landscape, propelling a transition from traditional classroom-based instruction to more flexible, accessible, and scalable modes of learning. This shift has been most evident in the rise of open education models that transcend spatial and temporal limitations making learning opportunities available to anyone, anywhere, and at any time (Yuan & Powell, 2013). Among these innovations, Massive Open Online Courses (MOOCs) have emerged as a powerful tool to democratize education globally.

International organizations such as UNESCO, the European Union, and the OECD advocate open education, emphasizing its potential to bridge educational gaps, promote lifelong learning, and support equity in access to quality education (UNESCO, 2020; Stracke, 2020). This vision aligns with open education's philosophical foundations, which prioritize learner autonomy, self-directed knowledge construction, and the facilitative role of educators (Blaschke *et al*., 2021). Theories such as Connectivism, Rhizomatic Learning, and Heutagogy underpin this approach, offering frameworks that are especially relevant in digital and online learning contexts (Jung, 2019).

Despite the global expansion of MOOCs, stark regional disparities continue to exist—most notably in the Arab world, where both the development and adoption of high-quality MOOCs remain limited. While leading Western institutions such as MIT and Harvard have pioneered global MOOC initiatives, Arab universities face persistent barriers. These include linguistic and cultural mismatches, a shortage of localized and contextually relevant content, and limited alignment with recognized international quality standards (Ruiperez-Valiente *et al*., 2020; Ghamrawi, 2021). As a result, the transformative potential of MOOCs to expand access to education and enhance learning outcomes in the region remains largely untapped.

In the broader context of higher education, improving institutional quality has been a central focus in academic discourse. Efforts to enhance quality typically emphasize strong leadership, investment in faculty and staff development, continuous improvement practices, responsiveness to student needs, and the cultivation of a supportive institutional culture. However, many institutions particularly in resource-constrained environments struggle to implement effective quality measures. Common challenges include limited financial and human resources, resistance to change, lack of specialized training, and unclear or fragmented quality assurance systems (Aldaibat & Aldaibat, 2018).

The context of this study is grounded in the urgent need for Arab higher education institutions to enhance the instructional design of MOOCs by aligning them with internationally recognized quality standards. This would not only ensure pedagogical soundness but also improve learner engagement and outcomes across diverse cultural settings. Faculty members, as primary content creators, play a critical role in this transformation.

This study focusses on the degree of convenience and applicability of international quality standards like MOOQ's Quality Reference Framework and OSCQR's course design scorecard by applying them to the instructional content design of MOOCs from the perspective of faculty members. While numerous studies have examined the technical or learner-centered aspects of MOOCs, there is a distinct lack of research exploring how faculty members perceive the feasibility and relevance of these international standards in actual course

design processes—particularly within non-Western, Arabic-speaking contexts.

Theoretical Framework and literature review

Quality of Instructional Content Design in MOOCs

Instructional content is a critical component of educational institutions in the era of the knowledge economy. Consequently, it is essential for these institutions to devote adequate attention to the design, development, construction, dissemination, and management of content to address the diverse needs of learners and support the distance learning process. Digital content can take various forms such as text, images, graphics, and audio and numerous tools and technologies are available for its creation and distribution, with an emphasis on quality (Alawi & Mahmoud, 2017).

Designing content in alignment with recognized international quality standards facilitates its integration into e-learning platforms, enhances both learning and research processes, and fosters an educational environment that suits learners' aptitudes, abilities, and preferred learning styles. This, in turn, leads to savings in time, effort, and cost (Al-Sayed, 2019).

The structure of electronic instructional content forms a fundamental basis for designers and developers in creating and building high-quality online courses and educational materials (Al-Sayed, 2019). The design of such content is grounded in established learning and instructional theories to ensure flexible and effective learning that achieves educational objectives. Educational institutions place great emphasis on developing clear frameworks and procedures to ensure that content aligns with both technical and pedagogical standards. They also monitor learning outcomes and ensure the usability of online courses to support continuous quality improvement (Wang *et al*., 2025)

The study by Swaidan, Abdelhamid, and Sheimy (2017) presented a set of standards and design specifications for web-based electronic content, utilizing constructivist learning supports in the design process. The list included 26 standards and 240 indicators. Among the most significant standards addressed in the study were: educational objectives, selection and formulation of instructional content, instructional strategies, encouraging learner participation, learning activities, assessment, interaction and control, navigation, written text, images used, audio and sound effects, frame and interface design, content usability, and reusability, among others.

The Online Learning Consortium developed a quality framework based on five pillars: Learning Effectiveness, which emphasizes providing equivalent learning experiences for both online and on-campus students; Scale, which considers cost-effectiveness measures and practices from an institutional perspective; Access, which focuses on ensuring meaningful and effective entry for all qualified and motivated learners; Faculty Satisfaction; and Learner Satisfaction (Xiao, 2023).

Chang and Sun (2025) explored how openness is embedded into MOOC course design by gathering insights from in-service teachers tasked with developing MOOC lessons. The findings revealed that while educators often referenced national and international quality frameworks, their design decisions were primarily shaped by prior teaching experiences. This reliance on bottom-up experiential knowledge, rather than a balanced integration with top-down standards, led to inconsistencies in course quality.

Based on a study of successful global experiences at leading universities and a growing focus on cross-border learning, Hanawi (2018) proposed the development of a shared, widely accessible platform for electronic

resources to benefit the Arab world. This initiative aims to address several challenges faced by Arab universities in implementing quality assurance standards, including the need for specialized teams, financial costs, and other obstacles.

Al-Tuwaijri (2019) examined the extent to which quality assurance standards are applied in designing e-courses at the Saudi Electronic University. Using a descriptive survey approach, the study assessed faculty members' perceptions based on variables such as academic qualification, teaching experience, and the number of training courses completed in e-course design. While the study confirmed that evaluation criteria were largely observed, it found that instructional content design standards were among the least applied, underscoring a key weakness in the instructional development process.

Building on this direction, Adam, Abu Al-Khair, and Allam (2020) proposed a framework for designing MOOCs by identifying a set of ten key criteria and 88 indicators. These included general course information, instructional content design, multimedia use, collaborative learning tasks, learner autonomy, content interactivity, navigation, assessment strategies, and documentation. The study employed a descriptive survey approach and emphasized the centrality of instructional content design in shaping effective MOOCs. The authors recommended that decision-makers prioritize the adoption of open-access MOOCs to expand learning opportunities.

Bazaraa, Barayan, and Al-Mohammadi (2021) contributed by evaluating international standards—particularly the Quality Matters (QM) framework—for e-course design in Yemeni higher education institutions. Their study followed a descriptive-analytical method to propose a model that emphasizes clarity in learning objectives, alignment between course outcomes and instructional content, and the diversification of delivery formats and learning activities. While the study offered a comprehensive view of instructional standards, it did not explore alternative international frameworks such as MOOQ or OSCQR.

Jadallah (2021) aimed to construct a quality model for electronic educational platforms using global benchmarks. Using two questionnaires administered to 152 faculty members at Assiut University, the study assessed dimensions such as course description, learning objectives, instructional strategies, content organization, and learner assessment. Results indicated moderate implementation of standards, and the author emphasized the need for cultivating a quality-oriented culture in online education platforms.

Stracke *et al*. (2023) updated the MOOQ Quality Reference Framework and validated its application across various international contexts. Their research demonstrated that MOOQ is both scalable and adaptable, making it suitable for faculty-centered quality evaluation processes in MOOC design. The study emphasized the framework's usefulness in assessing instructional content across all phases of course development.

Sebbaq and El Faddouli (2024) offered a comprehensive quality assurance framework that addresses both pedagogical and design-oriented elements of MOOCs. Their micro-level approach, grounded in a systematic literature review, proposed a set of quality indicators that include instructional clarity, learner engagement, content alignment, and technological integration. Importantly, their framework emphasizes the active role of instructors in ensuring that instructional content not only meets abstract standards but also supports effective learning. The inclusion of instructor feedback loops in their framework illustrates a growing recognition of faculty

perspectives in quality discourse, highlighting their critical role in interpreting and applying international standards.

In a more practice-oriented study, Al-Abri and Elhaj (2024) identified core design principles for online courses based on a dual-method analysis: literature review and content evaluation. They found that essential components such as organized learning materials, integrated assessments, interactive activities, and multimedia usage play a vital role in enhancing the quality and effectiveness of online learning environments. Their guidelines are highly applicable to MOOC design and resonate with international quality models like OSCQR and Quality Matters (QM). The study also recognized that instructors often struggle with implementation due to a lack of formal training in instructional design, suggesting a gap between theoretical standards and practical application.

Rizvi *et al*. (2024) approached the quality question from a learner engagement perspective, examining how cultural inclusivity and design decisions impact MOOC learning experiences. Their findings revealed that many MOOCs lack culturally responsive design features, which can reduce accessibility and engagement for global audiences. This highlights the necessity of designing instructional content that not only meets international standards but also considers the cultural and linguistic backgrounds of diverse learners. For faculty members, this suggests that adherence to quality frameworks must be balanced with sensitivity to the cultural dimensions of content delivery.

While all reviewed studies acknowledge the critical role of quality standards in MOOC design, there is a clear gap in empirical research focused on faculty members' firsthand perspectives on the applicability and ease of use of frameworks like MOOQ and OSCQR. Most existing studies either rely on expert opinion or theoretical analysis, with few addressing how international frameworks are perceived and implemented at the course design level particularly in Arab higher education institutions.

The current study addresses this gap by focusing specifically on instructional content design in MOOCs and assessing the perceived convenience and relevance of applying MOOQ and OSCQR standards. Unlike prior research that relied heavily on the Quality Matters rubric, it also contributed to providing a list of the most important standards and indicators to be followed when designing MOOCs instructional content and applying them in the educational process.

Study Problem and Questions

Considering the rapid and unprecedented growth in various forms of education, particularly online learning, there is an increasing need to adopt quality standards for the instructional content design of Massive Open Online Courses (MOOCs). This need stems from the imperative to align with modern educational demands and the aspirations of Arab nations to achieve high-quality education within the limits of local capabilities. Implementing such standards can also contribute to saving time, effort, and resources in the preparation, development, and delivery of educational content for all users of these platforms (Badran *et al*., 2019).

This need aligns closely with Jordan's Vision 2025, a national roadmap that seeks to enhance the country's economic, social, and institutional development through clear policy frameworks and reform strategies. One of the central pillars of the vision is the development of human capital through education, with an emphasis on inclusivity, innovation, and sustainability. The vision acknowledges education as a transformative force for economic empowerment, civic engagement, and

national identity building (Government of Jordan, 2022).

Jordan Vision 2025 explicitly calls for strengthening educational systems by raising the quality of instruction, upgrading curricula, expanding digital and blended learning environments, and aligning educational outcomes with labor market needs. This is to be achieved through investment in modern infrastructure, promotion of lifelong learning, and integration of technology in all educational stages (Jordan Vision 2025 Executive Summary, 2022). Notably, the Economic Modernization Vision (2022–2033), launched under royal directives, reinforces these goals by prioritizing digital transformation in education and leveraging technological innovations to increase access and equity especially in underserved regions (Jordan Vision, 2023).

Additionally, recent strategic reforms such as the World Bank-supported Education Reform Support Program highlight Jordan's commitment to professionalizing teaching, improving school readiness, expanding access to quality education, and digitizing learning systems (World Bank, 2022). These reforms are complemented by international collaborations, including partnerships with UNESCO, aimed at implementing competency-based curricula and integrating e-learning platforms that promote inclusive and equitable education for all (UNESCO, 2023).

Within this context, developing and localizing quality standards for MOOCs becomes both timely and essential. MOOCs offer a scalable solution for providing continuous education and upskilling opportunities in alignment with Jordan’s broader development agenda. However, despite their growing importance, there remains a lack of a standardized, nationally accredited framework for evaluating and designing high-quality MOOC instructional content in the Arab world.

Through ongoing observation of Arabic MOOC platforms, the researchers noted a marked deficiency in advanced scientific and technical content, particularly in disciplines such as computer science, mathematics, engineering, and natural sciences. This content gap drives many Arab learners to rely on global MOOC platforms like edX and Coursera, where linguistic and cultural barriers often impede full participation and course completion. On the other hand, Arabic platforms focusing on educational and literary topics show higher completion rates, underscoring the importance of localized content and culturally responsive design.

This situation highlights the urgent need for a structured framework of quality standards tailored to Arabic MOOCs. Therefore, the current study aims to identify the most relevant international instructional content design standards applicable to MOOCs, from the perspective of Jordanian faculty members, who are among the primary contributors to content development on these platforms.

By adopting and evaluating well-established frameworks—such as the MOOQ Quality Reference Framework (QRF) and the Open SUNY OSCQR Scorecard—this research seeks to contribute to the development of a practical and contextually relevant guideline for the instructional design of MOOCs in the Arab world. This aligns directly with Jordan’s national goals for digital education transformation, educational quality assurance, and the advancement of lifelong learning opportunities.

Research Questions

This study specifically seeks to answer the following research questions:

1. What is the degree of convenience of applying international quality standards to

instructional content design for Massive Open Online Courses (MOOCs), from the perspective of faculty members at the University of Jordan?

2. Are there statistically significant differences at the level of significance ($\alpha = 0.05$) in faculty members' perceptions of the degree of convenience of these standards, based on variables such as: Teaching experience, and Number of training courses completed in instructional content design for e-learning platforms.

Study Objectives

This study aims to critically investigate the degree of convenience and applicability of international quality standards in the development and enhancement of Arabic Massive Open Online Courses (MOOCs). The investigation is based on the perspectives of faculty members at the University of Jordan, who serve as the primary content developers for these courses.

In addition, the study seeks to examine whether statistically significant differences exist in faculty members' perceptions of the applicability of international quality standards based on demographic variables, specifically teaching experience and the number of technological training courses attended.

Study Significance

The significance of this study is multifaceted, encompassing both theoretical and practical dimensions that contribute to advancing the field of online education, particularly in the context of Arabic Massive Open Online Courses (MOOCs).

Firstly: Theoretical Significance

1. Addressing a Key Academic Community: This study focuses on faculty members at the University of Jordan, a critical group responsible for the development and delivery of higher education content. By exploring their perspectives and experiences, the study fills a gap in understanding how academic staff engage with quality processes in the emerging field of MOOCs.
2. Bridging Theory and Practice: The research provides a comprehensive theoretical framework linking contemporary educational theories and knowledge with modern educational technology tools, including MOOCs. This framework supports the practical application of international quality standards in course design, thereby enriching the academic literature on quality assurance in online education within Arab contexts.
3. Contributing to Regional Scholarship: While MOOCs have been extensively studied globally, there is limited research addressing the unique linguistic, cultural, and pedagogical challenges in Arabic MOOC design. This study contributes original insights and expands scholarly discourse on the adaptation of global quality standards to meet the specific needs of Arabic-speaking learners and educators.

Secondly: Practical Significance

1. Enhancing Educational Quality through MOOCs: MOOCs represent innovative and flexible educational tools capable of creating interactive and authentic learning environments. By investigating the integration of international quality standards, this study aims to empower designers and educators to develop higher-quality MOOCs that effectively engage learners and improve educational outcomes.
2. Supporting Institutional and Policy Development: The findings of this study will provide valuable guidance to educational institutions, including the Ministry of Higher Education and Scientific Research in Jordan, by outlining best practices for designing MOOC content that adheres to international benchmarks. This can facilitate the accreditation of courses and contribute to

awarding internationally recognized qualifications.

3. Fostering Global Competitiveness: By aligning Arabic MOOCs with global quality standards, educational providers can enhance the credibility and recognition of their offerings on an international scale. This supports the broader goal of integrating Arab higher education institutions into the global knowledge economy, promoting lifelong learning, and expanding access to quality education.
4. Informing Professional Development: The study's insights will inform the development of targeted training programs for faculty members and MOOC designers, enhancing their capacity to apply international quality standards effectively within the local educational context.

Limitations of the Study

Objective Limitation: The study tools were limited to the questionnaire due to its suitability to the nature and methodology of the study.

Spatial Limitation: This study was limited to the University of Jordan.

Human Limitation: This study was limited to faculty members at the University of Jordan.

Study Terms and Their Procedural Definitions:

Quality of teaching content design: Defined by Khalil and Al-Hosary (2012, p. 2) "A set of standards used to evaluate the quality of electronic content in light of the requirements of e-learning, as well as tools that guide the process of evaluating and developing digital educational content." It is defined procedurally as a set of procedures and processes for building and setting standards for the quality of teaching content design for massive open online courses on open learning platforms, including Arabic, in a way that ensures their quality in accordance with international quality standards.

Massive Online Courses: "MOOCs are courses designed for large numbers of learners, accessible by anyone anywhere with an Internet connection, open to everyone without entry qualifications, and offering a complete online course for free" (OpenupEd, 2015, p. 1). It is defined procedurally as electronic courses whose design uses Internet-based educational activities and materials, based on MOOC and taking into account a number of international quality standards.

Study Methodology

In this study, the researchers followed the quantitative approach by using a questionnaire to obtain quantitative data, then analyzing it using descriptive statistics, and obtaining results related to the degree of suitability of quality standards from the point of view of faculty members at the University of Jordan that must be adopted when designing content.

The population of the current study consisted of all faculty members at the University of Jordan, numbering 1,527 according to the University's Human Resources Department, Appendix (1). The study sample was selected using the convenience sampling method and it consisted of (311) faculty members.

Convenience sampling method was selected for this study primarily because it offers practical advantages aligned with the study's scope and resources, while effectively addressing the research objectives. The key reasons include:

1. Accessibility of the Target Population: The study focuses on faculty members at the University of Jordan, who are the main content developers for Arabic MOOCs. Convenience sampling allows easy access to this specific group, as they are readily available within the researcher's institutional environment.

2. Relevance to the Research Objectives: Since the study aims to explore faculty perspectives on the degree of convenience and applicability of international quality standards, it is essential to engage directly with those actively involved in MOOC design. Convenience sampling ensures that the participants have relevant experience and insights, increasing the study's validity.

Study Tools

To achieve the study objectives and answer its questions, the researchers used a questionnaire after reviewing relevant literature and consulting previous studies, such as Elatroush *et al*. (2019), Jadallah (2021 Al-Saadi (2021), Ichimura *et al*. (2022), and the MOOQ Quality Reference Framework developed by the European Union (MOOQ, 2023), as well as the OSCQR standards (OSCQR, 2023).

A list of the key areas related to quality standards for instructional content design aimed at developing MOOC content was compiled, and it was formulated into a questionnaire. Initially, it consisted of 75 items distributed across 6 domains: (Analysis of MOOCs; Design and Planning of MOOC Content; General Information about MOOCs; MOOC Content; Interaction with MOOC Content; Evaluation and Feedback for Content).

After reviewing the opinions and feedback of the experts, the questionnaire was revised and modified based on their suggestions. The modifications included linguistic reformulation of some items, dividing and editing some items due to their length, deleting redundant examples, and removing some items altogether. As a result of these modifications, the final version of the questionnaire consisted of 51 items distributed across six domains and was divided into two parts:

1. The first part included statements related to the demographic variables of the study sample.
2. The second part included several main domains comprising the items, and a five-point Likert scale was used, with the verbal ratings as follows:

- Mean Score (4.21 - 5) = Strongly Agree
- Mean Score (3.41 – 4.20) = Agree
- Mean Score (2.61 – 3.40) = Neutral
- Mean Score (1.81- 2.60) = Disagree
- Mean Score (1 – 1.80) = Strongly Disagree

All items in the questionnaire were positively worded, and the final list of quality standards from the perspective of faculty members is detailed in Appendix 2. Table 1 illustrates the domains of the study tool (the questionnaire) in its final form.

Table (1): Domains of the Questionnaire in Their Final Form.

Domain Number	Domain	Items
1	Analysis of (MOOCs)	10
2	Design of (MOOCs)	9
3	General Information about (MOOCs)	8
4	Teaching Content of (MOOCs)	9
5	Interaction with (MOOCs)	6
6	Evaluation and Assessment of (MOOCs)	9
Total	**51**	

Study Results

To address the first question, the arithmetic means, and standard deviations were calculated for the degree of agreement among the study sample participants regarding the suitability of international quality standards for designing the instructional content of massive open online courses (MOOCs). The results were as follows:

Table (2): Arithmetic Means and Standard Deviations Ranked in Descending Order for the Degree of Agreement Among the Study Sample on the Suitability of Survey Domains for Developing the Quality Design of MOOCs According to International Quality Standards.

Domain number	Domain	Number	Arithmetic mean	Standard deviation	Grade
4	Teaching Content of (MOOCs)	311	4.48	.35	Strongly Agree
3	General Information about (MOOCs)	311	4.47	.36	Strongly Agree
2	Design of (MOOCs)	311	4.47	.36	Strongly Agree
1	Analysis of (MOOCs)	311	4.46	.36	Strongly Agree
6	Evaluation and Assessment of (MOOCs)	311	4.46	.37	Strongly Agree
5	Interaction with (MOOCs)	311	4.44	.38	Strongly Agree
--		311	4.46	.28	Strongly Agree

From the above table, regardless of the domain, it was found that the degree of agreement among the study sample participants regarding the suitability of the proposed domains for developing the quality design of instructional content for MOOCs according to international quality standards was very high. The overall arithmetic mean for the proposed perception of developing the quality design of instructional content was 4.46, with a standard deviation of 0.28.

It is also evident from the table that the fourth domain, related to the instructional content of MOOCs, ranked first among the six domains, with an arithmetic mean suitability score of 4.48 and a standard deviation of 0.35. In contrast, the fifth domain, related to interaction within MOOCs, ranked last, with an arithmetic mean of 4.46 and a standard deviation of 0.38.

To address the second question, arithmetic means and standard deviations were calculated to determine the degree of perceived suitability of the proposed framework from the perspective of faculty members at the University of Jordan, based on their teaching experience and the number of technological courses they had completed. The results were as follows:

Table (3): Arithmetic Means and Standard Deviations for the Degree of Suitability to International Quality Standards According to Teaching Experience and Number of Technological Courses Received.

Variable	Domain	Category	Number	Arithmetic mean	Standard deviation
teaching experience	Analysis of (MOOCs)	Less than 5 years	63	4.45	.35
		From 5-10 years	60	4.46	.30
		More than 10 years	188	4.46	.39
	Design of (MOOCs)	Less than 5 years	63	4.46	.36
		From 5-10 years	60	4.47	.35
		More than 10 years	188	4.48	.36
	General Information about (MOOCs)	Less than 5 years	63	4.45	.40
		From 5-10 years	60	4.45	.35
		More than 10 years	188	4.49	.34
	Teaching Content of (MOOCs)	Less than 5 years	63	4.48	.34
		From 5-10 years	60	4.46	.30
		More than 10 years	188	4.48	.37
	Interaction with (MOOCs)	Less than 5 years	63	4.54	.37
		From 5-10 years	60	4.42	.34
		More than 10 years	188	4.41	.39
	Evaluation and Assessment of (MOOCs)	Less than 5 years	63	4.50	.35
		From 5-10 years	60	4.44	.34
		More than 10 years	188	4.45	.39
	Total	Less than 5 years	63	4.47	.28
		From 5-10 years	60	4.45	.25
		More than 10 years	188	4.46	.29
	Analysis of (MOOCs)	nothing	42	4.42	.36
		From 1-2	101	4.47	.30

Variable	Domain	Category	Number	Arithmetic mean	Standard deviation
the number of technological courses received		From 2-4	88	4.45	.47
		More than 4	80	4.48	.31
	Design of (MOOCs)	Nothing	42	4.46	.34
		From 1-2	101	4.43	.33
		From 2-4	88	4.46	.44
		More than 4	80	4.54	.30
	General Information about (MOOCs)	nothing	42	4.41	.40
		From 1-2	101	4.40	.33
		From 2-4	88	4.49	.38
		More than 4	80	4.58	.32
	Teaching Content of (MOOCs)	nothing	42	4.40	.33
		From 1-2	101	4.42	.33
		From 2-4	88	4.51	.41
		More than 4	80	4.55	.30
	Interaction with (MOOCs)	nothing	42	4.40	.36
		From 1-2	101	4.41	.33
		From 2-4	88	4.50	.44
		More than 4	80	4.43	.37
	Evaluation and Assessment of (MOOCs)	Nothing	42	4.36	.36
		From 1-2	101	4.43	.36
		From 2-4	88	4.43	.42
		More than 4	80	4.58	.32
	Total	nothing	42	4.41	.29
		From 1-2	101	4.43	.25
		From 2-4	88	4.47	.33
		More than 4	80	4.53	.23

Table 3 indicates noticeable differences in the perceived suitability of the proposed framework to international quality standards from the perspective of faculty members at the University of Jordan, based on teaching experience and the number of technological courses completed. To determine the statistical significance of these differences, a Two-Way MANOVA (Multivariate Analysis of Variance) was conducted to examine variations in the participants' perceptions of the suitability of the proposed framework according to these two variables. The results are presented in Table 4 below:

Table (4): Results of the Multivariate Analysis of Variance (MANOVA) for the Statistical Significance of Differences in Perceived Suitability to International Quality Standards According to Teaching Experience and Number of Technological Courses Completed.

Source of variation	Domain	Sum of squares	Degrees of freedom	Mean square	F value	Significance level
Experience	Analysis of (MOOCs)	.026	2	.013	.095	.909
	Design of (MOOCs)	.011	2	.005	.039	.962
	General Information about (MOOCs)	.061	2	.031	.238	.789
	Teaching Content of (MOOCs)	.009	2	.005	.037	.964
	Interaction with (MOOCs)	.438	2	.219	1.487	.228
	Evaluation and Assessment of (MOOCs)	.178	2	.089	.627	.535
	Total	.029	2	.014	.180	.836
Number of technology courses attended	Analysis of (MOOCs)	.163	3	.054	.401	.753
	Design of (MOOCs)	.247	3	.082	.611	.608
	General Information about (MOOCs)	.820	3	.273	2.112	.099
	Teaching Content of (MOOCs)	.558	3	.186	1.494	.216
	Interaction with (MOOCs)	.530	3	.177	1.199	.310
	Evaluation and Assessment of (MOOCs)	1.216	3	.405	2.857 *	.037
	Total	.361	3	.120	1.513	.211

Source of variation	Domain	Sum of squares	Degrees of freedom	Mean square	F value	Significance level
Experience * number of courses	Analysis of (MOOCs)	1.722	6	.287	2.114	.052
	Design of (MOOCs)	.219	6	.037	.271	.950
	General Information about (MOOCs)	.454	6	.076	.585	.743
	Teaching Content of (MOOCs)	.539	6	.090	.722	.632
	Interaction with (MOOCs)	.674	6	.112	.762	.601
	Evaluation and Assessment of (MOOCs)	.210	6	.035	.246	.961
	Total	.367	6	.061	.770	.594
Error	Analysis of (MOOCs)	40.587	299	.136		
	Design of (MOOCs)	40.233	299	.135		
	General Information about (MOOCs)	38.689	299	.129		
	Teaching Content of (MOOCs)	37.217	299	.124		
	Interaction with (MOOCs)	44.072	299	.147		
	Evaluation and Assessment of (MOOCs)	42.427	299	.142		
	Total	23.768	299	.079		
Corrected total	Analysis of (MOOCs)	42.435	310			
	Design of (MOOCs)	41.042	310			
	General Information about (MOOCs)	40.697	310			
	Teaching Content of (MOOCs)	38.817	310			
	Interaction with (MOOCs)	45.923	310			
	Evaluation and Assessment of (MOOCs)	44.715	310			
	Total	24.775	310			

* Statistically significant at (α=0.05) level.

It is evident from Table 4 that there are no statistically significant differences at the 0.05 level of significance (α = 0.05) in the perceived suitability of the proposed framework to international quality standards from the perspective of faculty members at the University of Jordan, based on the variables of teaching experience, the number of technological courses completed, or the interaction between these variables.

However, an exception was found in the Assessment and Evaluation domain related to MOOCs. In this domain, there were statistically significant differences at the level of significance (α = 0.05) based on the number of technological courses completed. The calculated F-value was 2.857, which is statistically significant at α = 0.05.

To determine the direction of these differences, the Scheffé post hoc test was conducted. This test was used to identify which groups differed in their perceptions of the suitability of the proposed framework in the Assessment and Evaluation domain, based on the number of technological courses completed. The results are presented in Table 5 below:

Table (5): Scheffé Test Results for Between-Group Differences Based on the Number of Technological Courses Completed in the Assessment and Evaluation Domain of MOOCs.

Domain.	Number of courses	Number of courses	Average difference	Sig.
Evaluation and Assessment of (MOOCs)	nothing	From 1-2	-.0677	.811
		From 2-4	-.0694	.810
		More than 4	-.2223*	.024
	From 1-2	From 2-4	-.0017	1.000
		More than 4	-.1546	.059
	From 2-4	More than 4	-.1529	.077

Note. Statistically significant at (α=0.05) level.

Table 5 shows that the differences in perspectives among faculty members at the University of Jordan regarding the suitability of the proposed framework to international quality

standards in the *Assessment and Evaluation* domain of MOOCs were limited to comparisons between faculty members who had completed more than four technological courses and those who had not completed any. Faculty members who had taken more than four technological courses perceived the proposed framework as more suitable to international quality standards compared to those with no technological course experience.

Furthermore, the table indicates that there were no statistically significant differences in perspectives among the other groups based on the number of technological courses completed.

Discussion of Results

The results related to the first research question revealed that the degree of alignment with international quality standards, from the perspective of faculty members at the University of Jordan, was extremely high, with a mean score of 4.46 and a standard deviation of 0.28. This finding is consistent with several domains of the MOOQ and OSCQR international quality frameworks, as well as with the findings of previous studies (Jadallah, 2021; Ichimura *et al*., 2022; Ruiperez-Valiente *et al*., 2020; Stracke, 2019).

The researchers attribute this high level of agreement to the study's foundation in well-established, internationally recognized quality standards, which have demonstrated their effectiveness over time. The MOOQ European standards, in particular, are designed specifically for MOOCs, making them uniquely suited to evaluate this type of course. Additionally, the criteria used in the study were derived from the OSCQR framework, developed by the State University of New York, which is designed to help institutions ensure their online courses are learner-centered and instructionally sound. The credibility and widespread acceptance of these standards further contribute to the perceived high level of alignment.

The researchers also emphasize the growing importance of quality assurance in open learning environments, particularly MOOCs, in the context of modern education. There is an urgent need to identify the core quality dimensions in instructional content design, as well as to determine the appropriate stages and processes involved. Analyzing the specific requirements of MOOCs is essential to ensure effective development, implementation, and continuous improvement.

Regarding the second research question, the findings indicate that statistically significant differences in perceptions of international quality standards were limited to faculty members who had received more than four technological training courses, compared to those who had not received any. Faculty with more extensive training viewed the proposed framework as more aligned with international standards.

The researchers attribute this outcome to the fact that trained faculty members are generally more familiar with contemporary digital assessment methods that align with online and technology-enhanced learning environments. This result highlights the importance of professional development in raising awareness of modern electronic assessment practices, as also demonstrated in the study by Floey *et al*. (2019).

Recommendations

Based on the results of this study, the researchers recommend the following:

1. Providing the Necessary Human, Technical, and Material Resources to Enhance the Quality of MOOC Content: It is crucial to allocate sufficient resources to support the development of high-quality MOOC content in educational institutions. This includes investing in human capital, offering training

and professional development for faculty members, ensuring access to up-to-date technological tools and infrastructure, and securing adequate funding for content creation and enhancement.

2. Encouraging Faculty Members to Develop MOOCs Aligned with Recognized Quality Standards: Universities should actively support and motivate faculty members to design and produce MOOCs that adhere to internationally recognized quality standards. As the primary content creators, faculty members play a key role in maintaining educational quality. Providing incentives, recognition, and institutional support can further encourage them to participate in MOOC development initiatives.
3. Conducting Further Research on the Role of MOOCs in Enhancing Higher Education Quality: There is a need for additional research to examine the impact of MOOCs on improving the quality of higher education. Future studies should explore areas such as the effectiveness of various instructional design approaches, student engagement and satisfaction, learning outcomes, and the integration of MOOCs with traditional classroom teaching. These insights can inform educators, policymakers, and institutions in making data-driven decisions to enhance teaching and learning through MOOCs.

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- **Ethical approval and consent to participate:** it was done according to established procedures.
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