Enhancing the quality of e-learning by implementing Quality Matters standards(*)

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تحسين جودة التعلم الإلكتروني من خلال
تطبيق معايير الجودة

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الملخص

يكتسب استخدام تقنيات التعلم الإلكتروني زخمًا متزايدًا في المؤسسات التعليمية في جميع أنحاء العالم، بما في ذلك الجامعات السعودية، وفي سياق التعلم الإلكتروني، هناك حاجة متزايدة واهتمام بين الجامعات السعودية، لتحسين، وتعزيز ضمان جودة أنظمة التعلم الإلكتروني. يُعتقد أن تطبيق ممارسات ضمان الجودة، وتطبيق معايير الجودة في التعلم الإلكتروني في الجامعات السعودية، يساعد في تقليل وجهات النظر السلبية لبعض أصحاب المصلحة، وضمان رضا أصحاب المصلحة عن تلبية احتياجاتهم. ولفهم كيف تعمل معايير ضمان الجودة على تحسين أساليب التعلم الإلكتروني في الجامعات السعودية، استكشفت هذه الدراسة، وحققت في استراتيجيات تطوير ضمان الجودة في التعلم الإلكتروني بجامعة الملك خالد إحدى الجامعات في المملكة العربية السعودية، والتي تعتبر جامعة مرجعية جيدة تستخدم أفضل الممارسات الجارية في أنظمة التعلم الإلكتروني بين الجامعات السعودية، تبنت الجامعة معايير الجودة كدليل تحكم لجودة دوراتها الإلكترونية المدمجة والكاملة، وقد اشتمل هذا البحث النوعي على استخدام أنواع مختلفة من المقابلات (ن=30)، فضلًا عن تحليل الوثائق التي تحتوي على بيانات تتعلق بأساليب التعلم الإلكتروني في البيئة الجامعية السعودية، وقد كشفت النتائج أن تصميم المقررات الإلكترونية كان عاملًا مساعدًا ساعد في ضمان جودة التعلم الإلكتروني في البيئة الجامعية السعودية.

الكلمات المفتاحية: التعلم الإلكتروني، ضمان الجودة، معايير الجودة، التعليم العالي.

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Abstract

The use of e-learning technologies is gaining momentum in educational institutions in all parts of the world, including Saudi universities. In the e-learning context, there is a growing need and concern among Saudi universities to improve and enhance the quality assurance of e-learning systems. Applying quality assurance practices and applying quality standards in e-learning in Saudi universities is thought to help to reduce the negative viewpoints of some stakeholders and ensure stakeholders' satisfaction that their needs are met. To understand how quality assurance standards improve e-learning methods in Saudi universities, this study explored and investigated strategies for the development of quality assurance in e-learning in King Khalid in Saudi Arabia,which is considered a good reference university using ongoing best practices in e-learning systems among Saudi universities. The university adopted Quality Matters Standards as a controlling guide for the quality of its blended and full e-course electronic courses. This qualitative research involved the use of different types of interviews (n=30), as well as analysis of documents that contain data related to e-learning methods in the Saudi university environment. The results revealed that e-course design was a supportive factor which helped to ensure the quality of e-learning in the Saudi university environment.

Keywords: e-learning, quality assurance, quality matters standards, higher education.
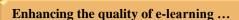
Introduction:

E-learning is a broad topic in online education which involves high interactional levels between students and teachers using digital technologies. It requires critical analysis, experimentation and continuous development of teaching materials and social practices, as dimensions of quality assurance. In other words, quality assurance can now be seen as an important concept in e-learning as the majority of higher education institutions offer online courses. According to press reports, the market for online education will increase at a rate of 16.4% per year from 2016 to 2023 (Shahzad et al., 2022).

Quality assurance has been adopted in traditional learning (Vazzana, Bachmann, & Elfrink, 1997) where face to face interaction with the teacher in the classroom creates various perspectives in every class. As there is no face-to-face interaction in online classes, and online discussion and chat are used to communicate with others in different forums, ensuring quality in e-learning tends to be more complex and challenging as it is difficult to deal with unexpected technical issues in e-learning quality, due to the lack of face to face communication and different stakeholders being involved (Alizadeh, Mehran, Koguchi, & Takemura, 2019).

E-learning has dramatically increased in universities worldwide, which has necessitated the introduction of quality practices both to facilitate its use, as well as to ensure stakeholders' satisfaction. According to Oliver (2005), "As more and more universities seek to use e-learning as a mode of delivery for their units and courses, and as more and more they are being held accountable for the quality of the services they provide, the need grows for accepted standards and benchmarks against which performance can be judged" (p183).

It is therefore important, in terms of managing e-learning quality, to implement a benchmark to ensure good e-course design, so some universities have adopted a model or framework to measure and design their online and blended courses, which helps faculty members to provide a cohesive online curriculum. For example, the Quality Matters benchmark was introduced in the USA and used in K-12 and higher education (Puzziferro & Shelton, 2008).This model developed inclusive rubrics which helped faculty members to design their online courses with a focus on quality outcomes. Many researchers (Al Zumor, 2015; Alizadeh, Mehran, Koguchi, & Takemura, 2019; Hollowell, Brooks, & Anderson, 2017) have demonstrated that QM

models have a positive impact on the enhancement of e-learning quality. In the present study, QM standards was one of the main techniques applied by KKU for quality assurance in their blended and full e-courses.

In the context of Saudi universities, there has been an increase in the use of e-learning across academic institutions (Al-Asmari & Rabb Khan, 2014). The Saudi Ministry of Education is also seeking to fulfil its vision 2030 by enhancing education through improving human sustainability, economic sustainability, and environmental sustainability (Mitchell & Alfuraih, 2018)). Quality assurance of e-learning is important for this goal, whether in blended learning or full e-courses. Recently, with so many Saudi institutions adopting digital solutions as a consequence of Covid-19, there is a more urgent need to ensure the design and execution of digital solutions are of high quality (Al-Smadi et al., 2022; Desmaryani et al., 2022; Singh et al., 2023). More broadly, instituting a culture of quality assurance remains outside the norm, and this study highlights the importance of QA. The international application and recognition of its importance is key and should enable more opportunities for cross collaborations in this field.

Sustainable development needs further consideration due to the importance of different quality assurance practices. One of the main functions of the National E-learning Centre (NELC) is the implementation of quality standards for the e-learning environment (Malik et al., 2018). As a result, some Saudi universities are working with the National E-learning Centre to adopt the initiative, sponsored by the Ministry of Higher Education. The NCEL has helped universities to adopt the latest applications in e-learning systems, LMS, and LCMS, and encourages the dissemination of knowledge and skills and the exchange of experiences in this area (Al-Khalifa, 2010; Alqahtani, 2011). Furthermore, the quality of designing and measuring online and blended courses needs more attention, especially as the new Saudi Vision 2020-2030 calls for innovation in the higher education sector using ICT. Applying quality standards in e-learning in Saudi universities could decrease the negative viewpoints of some stakeholders and, importantly, result in more successful outcomes as well as ensuring stakeholders' satisfaction. In order to develop this field, the idea of quality needs to be able to be put into practice and the findings of this study identify strategies that were used to support and try to guarantee quality results when implementing resources in e-learning

activities at KKU. This in turn may support Saudi universities which are not using QMs in their online courses or are using other different standards in their e-courses.

Due to the fact that Quality Matters standards are a new trend in the Saudi higher education sector, studies on the impact are limited, particularly research into the techniques for implementing these standards and identifying any challenges that may arise and possible solutions to overcome them (Alsuwaida, 2022). Given the paucity of research on the quality of e-learning systems, it is critical to examine what strategies contribute to or hinder the growth of e-learning quality in one of the Saudi universities by examining the approaches employed by KKU to implement QM standards in both blended and fully online courses.

The main objective of this case study was to explore the impact of the quality assurance culture on the adoption, development and quality enhancement of an e-learning environment while answering the following question:

1. How has the University developed quality assurance in its online courses?
2. What are the difficulties and potential solutions inherent in implementing QM standards?

Quality assurance in an e-learning context in HEIs:

Defining or explaining the concept of quality is extremely complex (Brink, 2010; Ossiannilsson, 2012). Accordingly, defining quality e-learning is an even harder task (Shelton, 2011). However, the difficulty must not become a pretext for not achieving quality standards. It needs to take into account the sometimes conflicting views of several stakeholders, so the quality of e-learning is typically defined from the provider's perspective (Jung, 2011). Some argue that quality is achieving the performance level as was the norm in traditional or face-to-face learning (Grifoll et al., 2010). However, others contend that quality e-learning is an inimitable process which cannot be measured through traditional approaches (Stella & Gnanam, 2004). The third school of thought believes that traditional standards, along with some specified contemporary practices help to define the quality of e-learning (Jung, 2011; Koul, 2006).

Factors that impact on quality in e-learning:

There are multiple factors that influence quality in e-learning and these factors must be carefully examined in order to determine the relationship with

quality (Al-Hassnawi, 2011; Porter, 2015). A comparative study of the factors of e-learning in the UK and Asian contexts (Lin et al., 2011) divided critical success factors into four categories: organisational, technological, e-learning content related, and general factors and factors arising from different stakeholders. In 2002, the Online Learning Consortium (formerly Sloan-C) synthesized five pillars of online quality education which could be used as a framework for measuring and improving e-learning (Shattuck, 2014). The five pillars for quality online learning were as follows: learning effectiveness; student satisfaction; faculty satisfaction; cost effectiveness, and access. These five pillars provide a structure for assessing and developing an e-learning environment within any institution.

Another important aspect of quality e-learning is the adoption of learning management systems. These are web server-based software applications that provide the administrative and data-tracking functions necessary (Fallon & Brown, 2016) for managing courses. Their functionality varies considerably from one system to another. Khan (Khan, 2001) examined the critical dimensions necessary for quality learning online and found eight primary categories: institutional, management, technological, pedagogical, ethical, interface design, resource support, and evaluation. These dimensions have been widely used in the field of e-learning quality so as to create meaningful learning environments.

For the sake of this study the definition applied for Saudi Arabia, provided by Chapman and Henderson (2010), has been adopted as it is a similar context to Egypt where it has been used previously. They define quality in e-learning as an evaluation process that "judges, measures, or assesses the quality of the development and delivery of online courses/learning environments focused on appropriate design and best practice and is aimed at self-improvement ensuring quality instruction in a non-threatening way".

Institutions assuring quality in e-learning systems:

The fundamental aspects of quality e-learning include the vision of the providing institutions; their commitment to e-learning, their effective leadership and sound planning. Quintessentially, the practice of online learning must be strategically sound. It should be in line with the vision of the university. The leaders and managers must be willing to explain the need for online learning for their university students. In some universities, online learning is implemented as a support system for the more common traditional

learning. Also, the institutions are expected to get their programs accredited from the relevant accrediting bodies. Another point of emphasis for ensuring quality and student satisfaction are providing a variety of skilled staff—IT staff, design staff, trainers, support staff, and administrators (Ali,2012). Ultimately, it is the responsibility of the faculty to ensure that their course design and delivery methods must be quality based. Different universities have adopted different approaches for staff development in order to bolster their online learning. One such example is the University of South Africa (UNISA) (Uvalić-Trumbić et al., 2016). This is the largest open-distance learning institution in Africa and is currently providing professional opportunities to lecturers in diverse areas. The university is also maintaining quality assurance at all levels.

Quality of e-learning in developed economies:

There are many institutions that have developed principles, guidelines, or benchmarks to ensure quality of e-learning in countries with more developed economies. E-learning quality in these countries heavily rests on the maintenance of quality standards and improvement of methods (Martin, Ndoye, & Wilkins, 2016). This reduces stakeholder skepticism regarding online learning (Lowenthal & Hodges, 2015). The sections below provide an overview of quality e-learning in several developed economies, specifically the UK, the US and Australia.

A number of UK universities have instituted approaches which aim to guarantee quality in e-learning. For instance, the 3E framework has been established at Edinburgh Napier University. It is an incremental process which helps academic staff become experts at using technology. The 3E framework is not only appropriate for academic staff but is also valid for meeting institutional objectives. This model has been adopted by various universities in the UK, including York, Liverpool, and Sussex (Thomson, 2016).

In the US, the Council for Higher Education Accreditation (CHEA) ensures quality for degree awarding higher education institutions. One important job of this organization is to guarantee governmental and non-governmental endorsement of organizations to advance quality education.

Quality Matters is a faculty-centered peer-review process designed to ensure quality online and blended courses by a group of colleagues in Maryland. The Quality Matters Rubric (QMR) consists of eight general standards and 41 specific standards which are used to evaluate and design

online and blended courses. Quality Matters is considered as a comprehensive set of standards that include course design, curriculum, and instruction, assessment, learner support, faculty support, and program evaluation practices designed to improve quality in online courses (Shattuck, 2014).

Quality Matters is broadly used across educational institutions around the world. In this study, Quality Matters was adopted as the standard for quality assurance at King Khalid University (KKU).

E-learning quality practices in Saudi Arabia:

Saudi Arabia established the National Center of E-learning and Distance learning (ELC) in 2006. The center was created with an aim to foster e-learning in Saudi Arabia as well as to bridge the gap between these two systems of learning. One of the initiatives to address this challenge in Saudi universities has been to provide all classrooms with technology equipment like digital whiteboards, e-podiums, Polycom video conferencing, and others multimedia tools. In terms of capacity building, roles such as the e-learning Deanship have been promoted as the institutional support that is part of managing e-learning and developing the skills and capabilities of university faculty and staff needed for e-learning adoption in learning and teaching practice. Thus, a number of Saudi universities have established an e-learning Deanship in order to examine and ensure the institutional capability to develop their e-learning infrastructure and capability (Alshahrani & Ally, 2016). As a concrete example, The King Khalid University (KKU) established the Deanship of Distance Learning in 2005. In response to the desire and aspiration for a high-quality e-learning system, the Deanship unit and teams (Administrative Management-Training- E-learning team-the Web team- Studio Team) were responsible for different aspects of development.

Theoretical models of e-learning and theoretical framework for the present study:

Numerous frameworks have been designed as part of theories of e-learning. These frameworks provide a foundation for quality e-learning practices. The major factors inherent in these theories affecting quality e-learning are technology, pedagogy, organisational context and creativity. Course design, learning content, and online course environments are all used to perceive the quality of e-learning (Chang & Tung, 2008). In terms of the importance of applying comprehensive models of e-learning to ensure stakeholders'
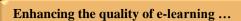
satisfaction, Hansson stated that "When implementing e-learning, it is important to adopt a holistic approach. … aspects … are part of a puzzle in which all the pieces have to fit together. When one part of the puzzle changes, e.g. technology, student behavior, knowledge needs, society, finances or staff requirements, all other parts need to be re-aligned accordingly" (Hansson, 2008, 56). Hadullo, Oboko, & Omwenga (2017) have argued that the design of e-courses can be an issue, especially in less developed economies. To avoid this issue, KKU adopted QMs to underpin its faculty members' work to design blended and full e-courses using meaningful methods.

Quality Matters standards:

This section provides a brief overview of various examples of the use of QM standards, with samples of some of the original transcripts from interviews. The standards in this section will help to illustrate some of the ways in which they are used by faculty members to ensure the success of blended and full e-courses. The research examined the general standards holistically rather than individually, as the main purpose of this study is to explore the development of quality e-learning using existing models or frameworks to ensure the quality assurance of e-learning in the KKU environment. It therefore focuses on three perspectives of QM, from faculty members, administrative staff and from students.

To ensure that quality education is promoted and to improve the quality of e-learning systems, KKU have adopted the Quality Matters model to support its e-learning systems. This model makes use of a measurement tool based on eight general standards of quality assurance. Based on a peer-review process and training provided to the faculty, it is central to implementing quality assurance procedures at (KKU). The eight Quality Matters (QM) general standards are supported by 41 specific review standards used to evaluate the design of online and blended courses. In addition, it is an initiative for improving quality which follows the University's vision of applying quality assurance in e-learning and assists some faculty members to gain more expertise in designing their online courses. In the context of KKU, a quality assurance department has developed and enhanced quality management of the e-learning courses it offers. One such quality assurance procedure adopted by KKU is the King Khalid University Learning Certificate (KKU-EC) for staff. This certificate program helps build capacity and competence and raises awareness among KKU faculty members to establish high quality standards

in their online courses. The program works under the umbrella of the Quality Matters Course, which is the standardised quality assurance program at KKU.

Overall, there are three essential ways QM standards are used in KKU:

1. To support faculty members in designing their online courses.
2. To evaluate faculty members' performance by e-specialists.
3. To develop a peer review process.

QM standards are considered to be vital tools for guiding the "development of a quality product, as defined by faculty, course designers, administrators, and learners, primarily through faculty professional development and exposure to instructional design principles" (Greenberg, 2010, 214).

Methodology:

This study employed a qualitative method to frame it, as qualitative research is considered most appropriate for understanding real-life phenomena and their complexity (Merriam, 1998). To obtain a deeper understanding of quality assurance a single case study which elicited stakeholders' perceptions was thought most appropriate. The main reason for choosing an exploratory study was the general lack of research into how the Arab academic communities understand e-learning and how the quality of e-learning is understood.

Two complementary data collection methods were adopted: interviews and document analysis. These were used to explore the quality of e-learning development and stakeholders' perceptions regarding new experiences in using international QM standards and how to become a member of the Quality Matters organisation. A variety of interview formats, including face to face, single participant, telephone interviews and focus group interviews were included, and the document analysis covered the e-course design materials, KKU e-learning policy, journals, magazines, and KKU's webpages.

Semi-structured interviews were undertaken with open-ended questions which, according to Kvale and Brinkmann (2009) are a flexible way to elicit views and experiences from participants, so as to obtain more information regarding their perspectives of the quality of e-learning, which provided an opportunity to concentrate on the strategy for implementing QM standards and exploring any obstacles encountered while delivering these standards to stakeholders in the KKU e-learning environment. Ethical considerations were identified to ensure informed consent and that participants' privacy rights and concerns were met.
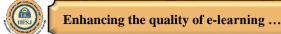
Participants:

An initial questionnaire was used to identify possible participants and their experience of e-learning. From this, respondents willing to be interviewed were selected. A purposive sampling approach was adopted (Patton, 2002, 230) as this identifies "Info-rich cases … from which one can learn a great deal about issues of central importance to the purpose of the inquiry, thus the term purposeful sampling ".

One method of identifying the purposive sample was to obtain a list of faculty members' names who had completed all necessary components of the Quality Matters training programme and passed all levels. In total, 25 participants including 18 faculty members (3 male, 15 female) and 7 administrative staff (4 male 3 female) were recruited to take part in this qualitative study. This study examined female and male stakeholders from across the university using face to face interviews and online interviews, as appropriate, to address cultural concerns. The participants' ages ranged from 25 to 50, and the nationality, ethnicity, cultural background and department of the participants varied due to the study's primary emphasis on their experience with the e-learning system and its quality assurance.

All faculty members who were involved had a background in using blended and full e-learning modes, particularly under Quality Matter standards, as were faculty members who became trainers and reviewers of e-courses across the KKU. To understand the advanced knowledge pertaining to quality assurance in e-learning (administrative staff), the decision makers (managers, e-specialists and trainers) were interviewed based on their experience and practices in e-learning quality.

Data analysis:

For data analysis, a thematic analysis method was used (Braun & Clarke, 2006), which allows the researcher to extract coding and define important themes from original texts (interviews and documents). The data was coded according to an inductive approach, which implies there were no specific theoretical frameworks that would be influenced by generating coding as the emergent themes were data-driven (Braun & Clarke, 2006). There is rich data, from a total of 25 interviews from different stakeholders in KKU and various documents. Thus, this technique enabled the researchers to convert the raw data into meaningful themes using a systemic approach (Braun & Clarke,

2006). The lead researcher sought to familiarize herself, in depth, with the data content by carefully reading and rereading the content of each interview and document, based on responses to the research questions. All-important text from the data was manually highlighted with colored pens and codes. Subsequently, Microsoft Word was used, which involved three columns: the text from the original interview, the code, and themes and sub-themes.

Findings:

The stakeholders' questionnaire encompassed open-end questions that obtained information regarding their experience in e-learning quality and responses to how KKU University developed quality assurance in its online courses. The most important theme that emerged from the qualitative data was the support for the design of e-courses. This theme was reported by participants to be a vital underlying supportive factor related to the quality of the e-courses they were involved with. Three further sub-themes emerged under this factor: the training for QM standards, the obstacles to adopting QM standards, and the impetus from QM standards.

Training QM standards program:

This represents how participants described their experience of improving the design of e-courses and blended courses using Quality Matter standards, and the ways in which the courses with Quality Matter standards ensured that overall quality assurance was met.

Obstacles of adopting QM standards:

This sub-theme also included three further sub-themes highlighting some of the obstacles to using QM standards, some of which were being managed by the University.

Impetus from QM standards:

This sub-theme discussed how participants transferred what they learned from the Quality Matter training program to the rest of their e-course or blended courses, and how it drove them to get the Quality Matter seal.

According to one document analysed, from 2006 to 2017, the university attempted to complete all of the actions under its five goals, which resulted in the adoption of e-learning goals and the reconciliation of these goals through the use of e-learning tools. This was especially important for allowing faculty members to become qualified to teach by utilising both internal and external resources. This was significant for enabling faculty members to become certified to teach by utilising both internal and external resources.

Before KKU started working with QM to improve the quality of e-courses, faculty members first needed to receive various training programs including the fundamentals of Microsoft's Office program, the fundamentals of Blackboard's tools system, and QM standards. One participant stated:

> *In the beginning of using e-learning we had some faculty members who lacked experience in using Blackboard, its tools, and downloading lectures. Also, some faculty members had less experience in using software programs.*

The Quality Matters Standards course was the final part of a professional development programme. This stage was more advanced than others in that it focused on training qualified faculty members and administrative staff to create international standards in e-course design. This means these faculty members were more capable and well-prepared to progress to the next level of training, the Quality Matters standards, and put them into practice in their e-course. Participant confirmed that:
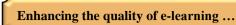
> *From my experience, before I started the QM standard training program, I first undertook the Maris training program, which included different topics in managing e-courses such as how to use virtual class and recorded lecture. During this training program, I submitted all the required assignments and when I passed the exam at the end, they gave me a completion certificate.*

When the KKU started using QM in designing e-courses, these standards were delivered in English which posed a major challenge for faculty members. Only a few faculty members who spoke and understood English could learn these standards. One faculty member reported that:

> *I was really happy when the University implemented QM standards to help us to design our e-course, but unfortunately, I could not benefit from them because they were in English. My major is Islamic learning, which is why I did not need to learn English extensively.*

However, this challenge was not an issue for other faculty members and administrative staff who could understand English, or for international faculty members. For example, one faculty member stated that:

> *"The training program in QM standards was first given in English. I was one of the faculty members who took these courses, and we had the opportunity to take it again if we did not pass it.*

As mentioned earlier, language was an important barrier to these standards being learned, therefore it was necessary for the courses to be translated into Arabic. It was the University's responsibility to seek to overcome this barrier, thereby making QM standards available to every faculty member and all administrative staff. Consequently, the University obtained permission from QM to translate these standards into Arabic; thus, they became a very useful resource in designing e-courses and blended courses. One administrative staff member pointed out that:

> *When QM was first adopted, training programs were provided in English, so it was difficult for non-English speakers - and you know most of the faculty members and administrative staff speak Arabic language - thus, we tried to solve this problem by translating the programs into Arabic after obtaining permission from QM.*

According to participants' responses, Quality Matter standards supported faculty members in generating a significant impact by applying quality assurance in their full e-courses and blended courses, which helped students to learn and engage with their instructors. The participants considered that the QM standards were beneficial in helping them to design their courses. One faculty member asserted:

> *"I believe that QM criteria help faculty members to identify the most important areas that must be built, and to design e-courses which enable the students to deal with the content of the e-course easily".*

Another member of the administrative staff held a similar view on the importance of taking QM standards into account to ensure optimal e-course design, stating:

> *"I would say that it fosters a culture of continuous improvement by integrating QM standards and processes into organisational plans to improve the quality of online education".*

In relation to assuring quality in e-courses, faculty members were able to create a useful and powerful online-course aligned with QM rubrics which included eight standards, course overview and introduction, learning objectives, assessment, instructional materials, learner interaction, learner support, and accessibility. It was apparent that all faculty members perceived these general and specific standards as guidance to create their e-course effectively. One replied:

Yes, I do usually follow the Fifth Edition (2014) of the QM Rubric to ensure the e-course is constructed and taught professionally. It consists of eight general standards and 40 specific standards. I can say that these standards make my e-course more attractive and accessible to my students.

By introducing QM standards in e-courses methodically, it was recognised as one of the processes supporting the quality assurance program in the University. In this regard, the participants reported that following these standards had a positive impact on improving faculty members' pedagogical skills, which then helps to build quality assurance into their e-course and blended course. It increased monitoring of faculty members' use of the e-learning environment, whether these standards were met or not. In addition, practicing these standards enabled faculty members to achieve successful outcomes and reduce negative outcomes from the e-course, by providing a qualified e-course which encouraged students to learn effectively. One faculty member stated that:

"For me, it all boils down to course design which is critical to the quality assurance process as it affects the course delivery and overall success of online and blended learning programs".

Each standard was linked with the quality assurance process, with participants describing their experiences of using these standards in order to meet quality assurance in their e-teaching practices. For instance, creating a course specification according to the course overview standard was identified as helpful guidance which clarified the e-course for students. According to another faculty member:

I believe that QM standards have made my e-course more useful. I teach two e-courses this semester based on QM standards. One aspect of the quality assurance process involves the description of the e-course providing clear learning objectives, whether I will teach this e-course by dialogue or discussion, and whether I will give the students projects or research. I must state the policies of my e-course. They monitor us to ensure we adhere to the e-course specifications and syllabus for the hybrid module.

One QM standard is the course overview standard which includes the 'Start Here' section that enables faculty members to begin their e-course

structure. It is also important for faculty members to welcome the students and introduce themselves at the beginning of the e-course. Most of the participants reflected positively on the Start Here section. Interestingly, one faculty member described this section as 'drip irrigation' which takes students around the e-course step by step saying:

> *I consider the Start Here icon in e-courses to work as the drip irrigation system process to make e-content clear and easy. Through it, I can post a description of my e-course. I welcome them, I give a brief of myself and clarify the policy of my e-course. Thus, students are able to access all the details of the e-course such as the Welcome Message, course description, learning outcomes assessment, and grading.*

In relation to accessibility, participants reported that one QM standard which was concerned with making the style of e-course content attractive, helped to hold the attention of students during the e-course. In achieving this, the faculty member uses a suitable font size and various colors for body text, which makes the content of the e-course more readable. For example, according to one participant:

> *"I designed an attractive form which includes the right theme font, bold or normal font, and theme colors to produce a good e-course design".*

One document, published by Naim & Bashir (2016), shows a clear example of an e-course syllabus that was taken from a blended-course, which was delivered using two methods (70% face-to-face and 30 % online). It describes how faculty members, following a course overview and introduction standard presented in the form of the syllabus, should be involved. Moreover, QM standards were used as the main evaluation tool in monitoring faculty members' performances in the e-learning environment by e-specialists in each college. In terms of practising different e-tools features during the actual e-course delivery, based on course technology standards, it was found that the participants identified positive experiences of using the virtual classroom in the e-learning environment.

This indicated that the virtual classroom was effective as a collaborative tool that offered additional learning materials to students and enabled them to interact with each other as well as with the instructor. Also, the students can reiterate the content of the course at any time. At the same time, the use

of this e-tool by faculty members helps them to save time in terms of recording the lecture, and they are therefore available for students after they finish the virtual meeting. One participant stated:

> *Virtual classes improve the process of communication between students and faculty members during the time of the lecture. I think that virtual classes are the best for me because I can record the e-lecture and save it for students, and they benefit from it at any time.*

By contrast, some faculty members viewed QM standards as a burden in terms of it consuming time to prepare and create an e-course that is compliant.
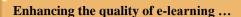
> *I think that QM standards are useful to guide us to approach a good e-course and blended course. However, these standards really take much time to prepare, and as I am a faculty member, I must manage my teaching time and my office hours. I do not have sufficient time to do all of these tasks.*

From the above, it is clear that there were some challenges regarding the time it takes, the modification process, and the updating of QM standards, which were perceived as impeding faculty members' use of QM standards in e-courses. For example, participants noted that time constraints were a major issue they encountered when using QM standards, especially for faculty members who wanted to attain the QM seal and become certified peer-reviewers and trainers. In following these standards, faculty members are required to offer well-designed e-courses which must be reviewed by various specialists, including peer-reviewers and subject-matter specialists. This, in turn, affects the time faculty members have to spend in preparing and designing the e-course properly. In addition, faculty members have to spend extra time with these specialists to discuss whether they apply these standards or not, and how.

Discussion:

This study contributes to the limited literature on quality assurance in e-learning especially in Saudi Arabian higher education, explaining how KKU embraced international standards in its learning environment to ensure the quality of e-learning, and some of the hurdles that the university was managing in using QM standards. Furthermore, this study was aimed at developing an understanding of how quality may be enhanced in an e-
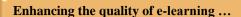
learning environment in KKU, by examining the experiences and perspectives of faculty members and administrative staff, in particular ways of improving the design of e-courses by using Quality Matters standards after faculty members have been involved in different training programs.

The results indicated that faculty members who implemented QM standards in their blended and full e-courses practised these standards and developed their skills in order to offer students relevant and effective e-courses. Practising QM standards has a significant beneficial impact on the teaching and learning processes at KKU and has resulted in the University receiving the Quality Matters seal for many online courses. The QM standards were considered to be vital tools in guiding the "development of a quality product, as defined by faculty, course designers, administrators, and learners, primarily through faculty professional development and exposure to instructional design principles" (Greenberg, 2010, 214).

From responses in the interviews and documents, it can be interpreted that a quality improvement initiative that adheres to the KKU's vision of implementing quality assurance in e-learning can assist faculty members in gaining more expertise in designing their online courses. Due to the high demand for foundation courses by students, KKU has converted these courses to full e-courses. The foundation courses are offered to all students in their first year with qualified design, interaction, and delivery. This is one of the reasons the University adopted the international model, Quality Matters, to design an effective e-course infrastructure.

The findings show that the university began training faculty members in how to use the Blackboard system's tools and QM standards in their blended and fully online courses. The University, however, encountered significant difficulties because the Quality Matters requirements were delivered in English, as a result of which several faculty members were unable to participate in the training because of their limited English language proficiency. Later, the University was able to agree with QM that these standards would be translated into Arabic in order to fulfil its needs with respect to QM standards. It is important that cultural and cultural–pedagogical notions should be considered when developing e-learning quality models (Ehlers, 2009). This is evident as QM broadens its international influence in different countries such as China, Spain, France, and the Kingdom of Saudi Arabia. As a result, the ability to translate these

standards into other languages, such as Arabic, may increase the effective use of e-learning systems while reducing the negative impact of e-learning in Saudi institutions.

Another challenge to some faculty members using Quality Matters standards was that it increased their workload, in terms of taking more time to create an e-course, especially in the modification process. This result is consistent with a number of other studies (e.g. Chen et al., 2017). Abdelhmed (2020) conducted a descriptive study to examine the reality of using Blackboard in line with Quality Matter Standards at another Saudi university, and similarly reported that Faculty members struggled to estimate how much time they spent designing the course in accordance with Quality Matter standards.

In this study, Quality Matters provided guidance for faculty members to design online courses and for e-learning specialists to evaluate faculty members' performance based on their standards. Some faculty members expected QM standards to be difficult, but after the development training program, they were able to refer to the standards as guidance whenever they needed them. This finding highlighted that faculty members believed QM standards were an appropriate holistic development for linking the quality assurance of blended and full e-courses. When the researcher asked how quality assurance could be addressed in e-learning, all participants responded that it could be done by using and benefitting from QM standards to produce effective, organized, and qualified e-course design, as well as eliminating negative perceptions of poor quality in e-learning. This finding is consistent with earlier studies (e.g., Legon, 2015; Bento & White, 2010), that have examined what constitutes quality assurance in online courses by using QM standards. The results of their studies similarly reported that Quality Matters standards impacted positively on e-learning quality assurance.

According to the perspectives of faculty members, QM standards have the potential to improve students' engagement with online course materials. In this regard, the QM standards ensure there is a guide for students and faculty members as they engage with the entire e-course through the 'Start Here' tap, including instructor information and allowing students to easily contact each other. This finding is consistent with Al Zumor's (2015) study who investigated Arab students studying English as a Foreign Language course and found that using QM standards made a difference by improving the

quality of the interactive e-learning environment for students and faculty members. According to Martin et al.'s (2016) study in relation to e-courses aligned with QM standards, faculty members and students who interact collaboratively in activities are more proactive in the enhancement of the e-course experience and quality.

Study limitations and considerations for future research:

The study has a number of limitations. For example, the sample of this study was from only one university in Saudi Arabia (KKU), and all the participants came from that university; therefore, this study cannot be generalised to other contexts. However, as a qualitative case study this was not the intention; rather, the aim was to understand how one quality assurance framework was adopted in a single setting to identify particular issues in this case. Even here, KKU is made up of a large number of colleges spread out over the region so this study may not have captured the full variation in one institution. It was also undertaken at a specific point in time, during the adoption and early development of QM at KKU. Whilst this may be helpful to others in a similar position, it may not reflect the challenges of embedding quality assurance over a longer time period.

The results drawn from this study apply the design of e-courses based on QMs involved in improving the quality of e-learning. The current study did not focus on this factor by examining or investigating each standard or the impact of each standard separately. As the use of QMs is very new in the Saudi context, it is recommended that future studies should place greater emphasis on each QM standard individually and investigate how each of these standards could be useful in supporting the interaction between learners and faculty members in the Saudi context or other Arab contexts.

Conclusion:

The results of this study indicate that QM targets faculty members and instructional designers to support them in designing their courses. A unique aspect of Quality Matters is that it assists in the development of faculty members with training, which in turn appears to enable them to become more confident in designing their courses as well as qualifying them to become peer-reviewers. In this study, QM standards were believed to have a significant effect in achieving the success of e-learning. Furthermore, QM appears to reduce some of the difficulties faced by faculty members or instructional designers when designing their online courses. In this study, for

example, QM standards supported faculty members by providing them with guidance in designing both blended and online courses.

Overall, QM standards were seen as bringing positive outcomes for e-courses and open courses indicating QM standards have created important changes and supported the process of continuous improvement of quality assurance in the e-learning environment. Quality Matters standards were clearly related, in the participants' views, to achieving quality assurance in e-learning and making valuable changes in e-learning design and delivery. However, institutions and faculty members may need to put more time and effort into QMs in order to manage the process, including training and reviewing in particular. Overall, this qualitative study has added a unique and original contribution to the existing knowledge regarding the development of e-learning quality in Saudi higher education, and how this can improve e-learning quality in Arab universities in general. Furthermore, the findings could be used broadly in the context of western literature as QM is an international framework launched by Maryland Online, which is a consortium of community colleges and senior institutions, and these standards have been used in most United States universities. Therefore, although this study has explored the flexibility of adopting QMs in a different educational system and in Saudi universities in particular, it may also inform the adoption and use of QM in other international contexts.

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Reference:

Abdelhmed, G. M. (2020). The Reality for Applying E-Learning Management System (Blackboard) According to Quality Matters Standards for Social Work Education in Saudi Arabia and Its Requirements to be applied in Egypt. *Egyptian Journal of Social Work*, 9(1), 37–58.

Al Zumor, A. W. Q. (2015). Quality Matters Rubric Potential for Enhancing Online Foreign Language Education. *International Education Studies*, 8(4), 173–178.

Ali, W. G. M. (2012). Factors affecting nursing student's satisfaction with e-learning experience in King Khalid University. *Saudi Arabia. Dimension*, 5, 13–18.

Al-Smadi, A. M., Abugabah, A., & Al Smadi, A. (2022). Evaluation of e-learning experience in the light of the COVID-19 in higher education. *Procedia Computer Science*, 201, 383–389.

Alsuwaida, N. (2022). Designing and Evaluating the Impact of Using a Blended Art Course and Web 2.0 Tools in Saudi Arabia. *Journal of Information Technology Education. Research*, *21,* 25.

Bento, R. F., & White, L. F. (2010). Quality measures that matter. *Issues in Informing Science and Information Technology*, 7, 61–72.

Desmaryani, S., Kusrini, N., Lestari, W., Septiyarini, D., Harkeni, A., Burhansyah, R., Kilmanun, J., Dewi, D., Syafutra, M., David, J., & others. (2022). The role of digital leadership, system of information, and service quality on e-learning satisfaction. *International Journal of Data and Network Science*, 6(4), 1215–1222.

Ehlers, U. D. (2009). Understanding quality culture. *Quality Assurance in Education*.

Kvale, S., & Brinkmann, S. (2009). *Interviews: Learning the craft of qualitative research interviewing*. sage.

Legon, R. (2015). Measuring the impact of the Quality Matters Rubric™: A discussion of possibilities. *American Journal of Distance Education*, 29(3), 166–173.

Malik, H. A. M., Abid, F., Kalaicelvi, R., & Bhatti, Z. (2018). Challenges of computer science and IT in teaching-learning in Saudi Arabia. *Sukkur IBA Journal of Computing and Mathematical Sciences*, 2(1), 29–35.

Mitchell, B., & Alfuraih, A. (2018). The Kingdom of Saudi Arabia: Achieving the aspirations of the National Transformation Program 2020 and Saudi vision 2030 through education. *Journal of Education and Development*, 2(3), 36.

Naim, A., Sattar, R. A., Al Ahmary, N., & Razwi, M. T. (2021). Implementation of quality matters standards on blended courses: A case study. FINANCE *INDIA Indian Institute of Finance*, 35(3).

Patton, M. Q. (2002). Two decades of developments in qualitative inquiry: A personal, experiential perspective. *Qualitative Social Work*, 1(3), 261–283.

Shahzad, A., Hassan, R., Aremu, A. Y., Hussain, A., & Lodhi, R. N. (2021). Effects of COVID-19 in E-learning on higher education institution students: The group comparison between male and female. *Quality & Quantity*, *55*, 805–826.

Singh, P., Alhassan, I., Binsaif, N., & Alhussain, T. (2023). Standard Measuring of E-Learning to Assess the Quality Level of E-Learning Outcomes: Saudi Electronic University Case Study. *Sustainability*, 15(1).

Al-Asmari, A. M., & Rabb Khan, M. S. (2014). E-learning in Saudi Arabia: Past, present and future. *Near and Middle Eastern Journal of Research in Education*.

Al-Hassnawi, A. R. (2011). *Approaches of Assessing Quality in Higher Education Institutions*.

Al-Khalifa, H. S. (2010). E-learning and ICT integration in colleges and universities in Saudi Arabia. *eLearn,* 2010(3).

Al Zumor, A. W. Q. (2015). Quality Matters Rubric Potential for Enhancing Online Foreign Language Education. *International Education Studies, 8*(4), 173-178.

Alizadeh, M., Mehran, P., Koguchi, I., & Takemura, H. (2019). Evaluating a blended course for Japanese learners of English: why Quality Matters. *International Journal of Educational Technology in Higher Education,* 16(1).

Alqahtani, A. (2011). Evaluating the E ectiveness of the E-learning Experience in Some Universities in Saudi Arabia from Male Students' Perceptions.

Alshahrani, K., & Ally, M. (2016). *Transforming Education in the Gulf Region: Emerging Learning Technologies and Innovative Pedagogy for the 21st Century*: Routledge.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology,* 3(2), 77-101.

Brink, C. (2010). Quality and standards: Clarity, comparability and responsibility. *Quality in Higher Education,* 16(2), 139-152.

Chang, S. C., & Tung, F. C. (2008). An empirical investigation of students' behavioural intentions to use the online learning course websites. *British Journal of Educational Technology,* 39(1), 71-83.

Chapman, B. F., & Henderson, R. G. (2010). E-learning quality assurance: A perspective of business teacher educators and distance learning coordinators. *Delta Pi Epsilon Journal,* 52(1).

Chen, K. Z., Lowenthal, P. R., Bauer, C., Heaps, A., & Nielsen, C. (2017). Moving beyond smile sheets: A case study on the evaluation and iterative improvement of an online faculty development program. *Online Learning*.

Fallon, C., & Brown, S. (2016). *E-learning standards: a guide to purchasing, developing, and deploying standards-conformant e-learning*: CRC Press.

Greenberg, G. (2010). *From the ground up: Conceptions of quality in course design for Web-supported education.* The Ohio State University.

Grifoll, J., Huertas, E., Prades, A., Rodriguez, S., Rubin, Y., Mulder, F., & Ossiannilsson, E. (2010). *Quality Assurance of E-learning. ENQA Workshop Report 14*: ERIC.

Hadullo, K., Oboko, R., & Omwenga, E. (2017). A model for evaluating e-learning systems quality in higher education in developing countries. *International Journal of Education and Development using ICT, 13*(2).

Hansson, H. (2008). E-learning quality. Aspects and criteria for evaluation of e-learning in higher education.

Hollowell, G. P., Brooks, R. M., & Anderson, Y. B. (2017). Course design, quality Matters training, and student outcomes. *American Journal of Distance Education, 31*(3), 207-216.

Jung, I. (2011). The dimensions of e-learning quality: from the learner's perspective. *Educational Technology Research and Development, 59*(4), 445-464.

Khan, B. H. (2001). A framework for web-based learning. *Web-based training*, 75-98.

Koul, B. N. (2006). Towards a culture of quality in open distance learning: Present possibilities. *Towards a Culture of Qualitya Ramzy, Edi*, 177.

Lin, C.-C., Ma, Z., & Lin, R. C.-P. (2011). Re-examining the Critical Success Factors of e-learning from the EU perspective. *International journal of Management in Education, 5*(1), 44-62.

Lowenthal, P., & Hodges, C. (2015). In search of quality: Using Quality Matters to analyze the quality of massive, open, online courses (MOOCs). *The International Review of Research in Open and Distributed Learning, 16*(5).

Martin, F., Ndoye, A., & Wilkins, P. (2016). Using Learning Analytics to Enhance Student Learning in Online Courses Based on Quality Matters Standards. *Journal of Educational Technology Systems, 45*(2), 165-187.

Merriam, S. B. (1998). *Qualitative Research and Case Study Applications in Education. Revised and Expanded from" Case Study Research in Education."*: ERIC.

Naim, A., & Bashir, A. (2016). Application of Quality Matters Standards on Supportive and Online Module in Higher Education Program. *Research Revolution*, 5(3), 6-12.

Oliver, R. (2005). Quality assurance and e-learning: blue skies and pragmatism. *ALT-J,* 13(3), 173-187.

Ossiannilsson, E. (2012). Benchmarking e-learning in higher education: lessons learned from international projects. *ACTA University Oulu, 436*.

Porter, M. (2015). Online Education, Accrediting Standards, and Student Success: An Examination of the Relationship Between the Southern Association of Colleges and Schools Commission on Colleges Standards for Online Education and Student Success.

Puzziferro, M., & Shelton, K. (2008). A model for developing high-quality online courses: Integrating a systems approach with learning theory. *Journal of Asynchronous Learning Networks,* 12, 119-136.

Shattuck, K. (2014). Assuring Quality in Online Education: Sterling, VA: Stylus.

Shelton, K. (2011). A review of paradigms for evaluating the quality of online education programs. *Online Journal of Distance Learning Administration,* 4(1), 1-9.

Stella, A., & Gnanam, A. (2004). Quality assurance in distance education: The challenges to be addressed. *Higher education,* 47(2), 143-160.

Thomson, S. (2016). To What Extent Do Academic Staff See An E-learning Framework As Being Effective In Supporting Technology Enhanced Learning (TEL) Discussions And Activities? *Journal of Perspectives in Applied Academic Practice,* 4(2), 2-11.

Uvalić-Trumbić, S., Daniel, J., & Accreditation, E. (2016). *Innovative forms of Quality Assurance for Innovative Programmes.* Paper presented at the The Online, Open and Flexible Higher Education Conference.

Vazzana, G., Bachmann, D., & Elfrink, J. (1997). Does higher education practice what it teaches? *Quality Progress,* 30(12), 67.