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عنوان البحث

The Impact of E-learning on Health Sector Worker Skills Development: Applied study in Taif, Saudi Arabia

أثر التعليم الإلكتروني على تنمية مهارات العاملين في القطاع الصحي: دراسة تطبيقية في الطائف، المملكة العربية السعودية

إعداد الطالبة/

سهي محمد عبدالله عبد الوهاب

الرقم الأكاديمي/

٢٣٢٠٠١٤٨٥

إشراف/

د. الفيصـل عبد الحميد محمد حسن

د. فايز علي جراد

العام الدراسي:

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Introduction:

In the realm of healthcare education, the integration of technology has catalyzed significant transformations, particularly through the advent of e-learning. This paradigm shift extends beyond traditional classroom settings, offering healthcare professionals unprecedented opportunities for continuous skills development irrespective of their geographical location. However, in cities like Taif, Saudi Arabia, where access to comprehensive healthcare education facilities is limited compared to major urban centers, healthcare workers often face challenges in pursuing specialized training and professional development.

The city of Taif serves as a pertinent case study due to its unique demographic and educational landscape within the Kingdom of Saudi Arabia. Despite its regional significance, Taif lacks universities offering comprehensive healthcare programs, compelling healthcare professionals to seek education and training opportunities in larger cities. This geographical barrier underscores the critical need for alternative educational approaches such as e-learning, which can bridge educational gaps and empower healthcare professionals to enhance their skills while maintaining their professional commitments.

This research aims to investigate the impact of e-learning on the skills development of healthcare professionals in Taif, Saudi Arabia. By employing the IS-Impact Measurement Model, this study will assess how e-learning influences awareness of job-related information, job effectiveness, and productivity among healthcare professionals. The findings aim to contribute empirical insights into the effectiveness of e-learning as a tool for professional development in healthcare settings, thereby informing educational policies and practices tailored to the needs of healthcare professionals in Taif and similar contexts globally.

Keywords: E-learning, Healthcare professionals, Professional development, Skills enhancement, Taif, Saudi Arabia.

Study Problem:

Healthcare professionals in Taif, Saudi Arabia, face unique challenges in accessing continuous professional development due to the city's geographical location and the concentration of major universities with comprehensive health specializations in the main cities like Riyadh, Jeddah, and Dammam. Consequently, healthcare workers in Taif have limited opportunities to pursue further education and training without traveling to these major cities. E-learning presents a potential solution by offering flexible and accessible training options. However, it is crucial to investigate the effectiveness of e-learning from the perspective of healthcare professionals in Taif.

This research aims to assess how well e-learning meets their needs and improves their skills, considering the specific context of Taif where traditional in-person educational opportunities are scarce. By focusing on the perceptions and experiences of healthcare workers in Taif, this study seeks to provide insights into the viability and impact of e-learning as a tool for professional development in this region.

The importance of the study:

The importance of this study lies in its focus on the effectiveness of e-learning for healthcare professionals in Taif, Saudi Arabia, a region where traditional educational opportunities are limited due to geographical constraints. Unlike the major cities of Riyadh, Jeddah, and Dammam, Taif lacks access to universities offering comprehensive health specializations, compelling healthcare workers to travel for professional development. This study addresses a significant gap in the literature by evaluating how e-learning can serve as a viable alternative for continuous professional development in such contexts.

Previous studies have highlighted the general benefits of e-learning in healthcare, noting improvements in knowledge, skills, and performance among healthcare professionals. However, there is a need for localized research that considers the unique challenges faced by healthcare workers in specific regions. By focusing on Taif, this study aims to provide valuable insights into the applicability and effectiveness of e-learning in enhancing the skills of healthcare professionals in areas with limited educational infrastructure. Furthermore, understanding the perceptions and experiences of healthcare workers in Taif regarding e-learning can inform strategies to optimize these educational technologies, ultimately contributing to the broader goal of improving healthcare delivery and outcomes in similar settings.

Objectives of the study:

The objectives of this study are:

- To assess the impact of e-learning on enhancing awareness and recall of job-related information among healthcare professionals in Taif, Saudi Arabia.
- To examine the effectiveness of e-learning in improving the job performance of healthcare professionals in Taif.
- To investigate the influence of e-learning on increasing productivity among healthcare professionals in Taif.
- To identify the challenges associated with the implementation of e-learning in healthcare settings in Taif.
- To explore the factors influencing the satisfaction levels of healthcare professionals with e-learning in Taif.

These objectives will guide the research in systematically evaluating the various dimensions of e-learning's impact on skills development among healthcare professionals in Taif, aligning with the overarching goal of enhancing professional development in this sector.

Study questions:

Main Research Question:

How does e-learning impact the skills development of healthcare professionals in Taif, Saudi Arabia?

Subsidiary Questions:

- How does e-learning enhance awareness and recall of job-related information among healthcare professionals in Taif?
- To what extent does e-learning improve the effectiveness of healthcare professionals in their job roles in Taif?
- How does e-learning contribute to increased productivity among healthcare professionals in Taif?
- What are the perceived challenges of implementing e-learning in healthcare settings in Taif?
- What are the factors influencing the satisfaction levels of healthcare professionals with e-learning in Taif?

Study Hypothesis:

Null Hypothesis (H0):

There is no significant impact of e-learning on the skills development of healthcare professionals in Taif, Saudi Arabia, as measured by awareness enhancement, job effectiveness, and productivity improvement.

Alternative Hypothesis (H1):

E-learning significantly enhances awareness and recall of job-related information, improves job effectiveness, and increases productivity among healthcare professionals in Taif, Saudi Arabia.

These hypotheses will be tested through statistical analysis of data collected via the IS-Impact Measurement Model questionnaire, aiming to provide empirical evidence of the effectiveness of e-learning in healthcare professional development in Taif.

Previous studies and theoretical framework:

Healthcare professionals, especially those in rural and remote areas, can utilize technology to advance their professional development. These practitioners are required to complete a specified number of training hours annually to sustain their proficiency and competency. However, accessing continuing professional development remains challenging, particularly for those who face geographical constraints or lack formal enrollment in educational programs. These issues present significant obstacles to traditional teaching methods, making e-learning an essential solution to overcome these barriers (Ardestani et al., 2023).

Rural healthcare professionals can particularly benefit from the flexibility and accessibility offered by online and hybrid continuing education programs. Nonetheless, they often encounter technological challenges, such as inadequate internet access, which can impact their satisfaction and the overall effectiveness of these learning formats (Chaker et al., 2024).

In Saudi Arabia, e-learning adoption in higher education has been growing since 2006, with medical colleges gradually shifting towards computer-based systems (Algahtani et al., 2020). During the COVID-19 pandemic, e-learning became an alternative to conventional education for healthcare students in Saudi Arabia. However, its effectiveness was influenced by psychological stress, technical issues, and lack of experience (Alavudeen et al., 2021).

The impact of e-learning systems on university students in Saudi Arabia, using the IS Success/Impact Measurement framework finding that the implementation of e-learning systems positively influences students' awareness of educational processes, productivity,

and overall satisfaction. The majority of students hold a favorable perspective on the functionality and effectiveness of these e-learning systems (Alkhalaf et al., 2012).

E-learning has revolutionized healthcare education by offering training and development opportunities to healthcare professionals, irrespective of their geographical location (Ardestani et al., 2023). Online and hybrid continuing education programs for healthcare professionals result in substantial enhancements in their knowledge, skills, performance, confidence, self-efficacy, satisfaction, and attitudes, and provides more accessibility compared to traditional in-person settings (Chaker et al., 2024).

Key factors affecting e-learning success in healthcare include satisfaction, availability, effectiveness, readability, and engagement (Ardestani et al., 2023). Despite challenges, e-learning offers benefits such as increased accessibility, interactivity, flexibility, and cost efficiency for healthcare professionals' development.

Theoretical premises of study:

E-learning:

E-learning refers to the use of electronic technologies to deliver educational content and facilitate learning interactions. In this study, e-learning encompasses online and hybrid learning environments aimed at enhancing healthcare professionals' skills development.

IS-Impact Measurement Model:

The IS-Impact Measurement Model, proposed by Gable, Sedera, and Chan, provides a theoretical framework to assess the impact of Information Systems (IS) on various dimensions. This study applies the model's Individual Impact dimension to measure how e-learning influences healthcare professionals' awareness, job effectiveness, and productivity (Gable et al., 2008).

Professional Development:

Professional development refers to the continuous acquisition of skills, knowledge, and competencies that enhance job performance and career growth. In this context, e-learning serves as a tool for ongoing professional development among healthcare professionals in Taif, Saudi Arabia.

These theoretical premises underpin the conceptual framework of the study, guiding the exploration and analysis of e-learning's impact on healthcare worker skills development in the specified context.

Methodology and research methods:

This study employs a quantitative research approach to investigate the impact of e-learning on healthcare worker skills development in Taif, Saudi Arabia. The research design involves the distribution of a structured questionnaire, based on the IS-Impact Measurement Model (Gable et al., 2008), to healthcare professionals in Taif. The sampling technique will be random, ensuring representation across various healthcare settings in the city.

Data collection will primarily utilize online platforms such as email and social media channels to reach healthcare professionals. Participants will be selected randomly from databases of healthcare providers in Taif, ensuring a diverse and representative sample. The questionnaire will include demographic questions to contextualize responses and Likert-scale items aligned with the dimensions of the IS-Impact Model. This approach aims to gather quantitative data on healthcare professionals' perceptions of e-learning's effectiveness in enhancing their skills and job performance.

The quantitative nature of this research allows for statistical analysis of collected data to draw objective conclusions regarding the impact of e-learning on healthcare worker skills in Taif. This methodological approach ensures rigor and reliability in evaluating the effectiveness of e-learning as a professional development tool in the healthcare sector.

Study tools (data Collection tools):

The choice of the IS-Impact Measurement Model (Gable et al., 2008) for data collection in this study is grounded in its established reliability and suitability for assessing the impact of e-learning on individual healthcare professionals. This model provides a structured approach to measure various dimensions of impact —information quality, system quality, individual impact, and organizational impact—within the context of IT systems, focusing specifically on Individual Impact within the context of healthcare education in Taif, Saudi Arabia.

The IS-Impact Measurement model has been widely recognized for its effectiveness in evaluating the outcomes of information systems, including learning effectiveness, awareness of job-related information, job effectiveness, and productivity enhancements (Alkhalaf et al., 2012). These dimensions align closely with the objectives of this research, which seeks to understand how e-learning influences the skills development of healthcare workers in Taif.

Drawing from previous studies that utilized similar methodologies (Alkhalaf et al., 2012), the questionnaire will include demographic information and Likert-scale items based on the four measures of the IS-Impact Model. Thus, employing the IS-Impact Measurement Model will facilitate a nuanced exploration of the impact of e-learning on healthcare professionals, contributing to both theoretical advancements and practical insights in healthcare education.

Study Limitation:

- **Sample Size and Representation:** The study's findings may be influenced by the sample size and the representativeness of healthcare professionals in Taif, Saudi Arabia, who participate in the survey. Limited access to a comprehensive database of all healthcare professionals in the region could affect the generalizability of the results.
- **Response Bias:** The accuracy and reliability of the data collected through the questionnaire may be impacted by response bias. Participants' willingness to provide honest and accurate responses, as well as their interpretation of the survey questions, could introduce bias into the findings.
- **Self-Reported Data:** The study relies on self-reported data from healthcare professionals regarding their experiences and perceptions of e-learning. This may introduce subjective interpretations and potential inaccuracies in reporting the impact of e-learning on their skills development.
- **Time Constraints:** The limited duration allocated for data collection and analysis could restrict the depth and breadth of the study's investigation into the various dimensions of e-learning impact on healthcare professionals in Taif.
- **External Factors:** External factors such as technological disruptions, changes in healthcare policies, and economic conditions may influence the implementation and outcomes of e-learning initiatives, thereby impacting the study results.

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Appendix:

Survey (IS-Impact Measures):

Demographic information:

- Gender
- Employment

Category A (Individual Impact):

Individual-Impact is concerned with how (the IS) has influenced your individual capabilities and effectiveness on behalf of the organization.

1. I have learnt much through the presence of (the IS).
2. (the IS) enhances my awareness and recall of job related information.
3. (the IS) enhances my effectiveness in the job.
4. (the IS) increases my productivity.