

DEVELOPMENT OF A WEB-BASED RESOURCE NETWORK FOR OCCUPATIONAL THERAPY EDUCATORS MANAGING ACADEMIC OCCUPATIONAL DISRUPTION AMID THE COVID-19 PANDEMIC

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ABSTRACT

Successful engagement in occupations is often affected by various factors, internal or external, temporary or prolonged, that impairs an individual's participation caused by occupational disruption. Higher education is one of the areas gravely affected by the pandemic which has caused disruptions in academic occupations and has impacted many students. Challenges or impediments in successful engagement in occupations have an effect on the health and well-being of the individual. As such, it is vital for occupational therapist educators to be informed as to how to support their students to minimize disruptions of academic occupations and to mitigate its impact. At present, there is no available resource network for occupational therapist educators in the Philippines as to how they can support academic occupations. This study aimed to develop a web-based resource network for occupational therapist educators in managing academic occupational disruptions of their students. Ten (10) occupational therapist educators and ten (10) IT experts conducted the evaluation of the web-based resource network using the Systems and Software Quality Requirements and Evaluation (SQuaRE). The web-based resource network named Filipino OTs for 'U' was developed and among the characteristics evaluated, reliability and portability was highly rated. Overall, it was rated as very satisfactory based on the Systems and Software Quality Requirements and Evaluation (SQuaRE).

Keywords: Occupational Therapy, Academic Occupations, Resource Network, COVID-19

INTRODUCTION

The transition to remote learning or the virtual environment and blended learning amid the pandemic has affected how students fulfill their roles, engage in academic activities, and complete their responsibilities. Disruptions in academic occupations affect the health and well-being of students which already adds to the existing problems of students in higher education even during pre-pandemic times (Keptner et al., 2016). This stresses a need for a platform to facilitate dialogue among occupational therapy educators to examine the issue using an occupational lens and to support students who experience disruption of their academic occupations as we tread the new normal. Occupational therapist educators are those well-equipped and better positioned to provide support services for their students and to minimize disruptions of academic occupations in order to mitigate its impact. However, there is little

information as to what strategies, facilitators, and barriers are encountered in addressing disruptions in academic occupations (Keptner & McCarthy, 2020b, 2020a). Strategies are limited to scheduling of school tasks. Moreover, this lack of information regarding practices managing disruptions of academic occupations may be attributed to a lack of a platform to facilitate exchange of ideas among occupational therapy educators in the Philippines as there is none at present. In addition, the creation of a web-based resource network can facilitate enhancement of occupational therapy competence and informing occupational therapy educators in strategies and interventions to help support students in the university setting amid the pandemic and even during challenging times. This paper is part of a bigger study that looked into the strategies, facilitators, and barriers encountered by Filipino occupational therapist educators in managing disruptions of academic occupations. This paper aimed to develop a web-based resource network available for occupational therapist educators in managing academic occupational disruptions of their students. Specifically, this paper presented a web-based resource network for occupational therapist educators and its evaluation based on the Systems and software Quality Requirements and Evaluation (SQuaRE).

LITERATURE REVIEW

Online Resource Network

The use of online forums and networks has been used to facilitate and promote connections between people amid the pandemic. Occupational therapy as a profession has supported the use of online platforms to enable occupational therapists from across the world to create networks and exchange ideas through the Occupational Therapy International Online Network (OTION) (World Federation of Occupational Therapists, 2022). Within the platform are various forums dedicated to the international exchange related to education, students, evidence-based practice, research, and studying or working in another country. Moreover, amid the pandemic, Filipino occupational therapists are pushed to adopt the use of information technology to support their practice with the concerns of barriers in terms of resources and infrastructure in the country (Sy et al., 2020).

An online forum was used by Sy et al. (2020) as an avenue for Filipino occupational therapists to connect and facilitate the exchange of ideas and share their views about the impact of COVID-19 has on the profession. Through the online forum, alternative strategies that were adopted by practitioners were identified. Moreover, the online platform enabled sharing of reflections about occupational therapy practice.

In an article by Clark et al. (2018), they examined the effects of social networking sites on the individual's wellbeing. Using the interpersonal-connection-behaviors framework, one can justify the benefits of having technology-mediated communication. Through social network sites, individuals are able to create meaningful connections with others who may be physically distant but share commonalities. Moreover, social networking sites promote connection among its users and address their needs for belonging. A downside to social networking sites is that this may be an avenue that can also promote social comparison and potential isolation. A scoping review was done by Chan and Leung (2018) to describe the uses, benefits, and limitations of the use of social networking sites for communication among health professionals. The Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) guidelines were followed and published

literature in the last 10 years were included (a total of 33). Results show that the use of social networking sites promoted effective communication among the health professionals and increased the exchange of information. Network building and collaboration were also other areas that benefited from the use of social networking sites. Identified limitations were technical skills, data protection and privacy.

ISO/IEC 25010:2011

The Systems and Software Engineering — Systems and software Quality Requirements and Evaluation (SQuaRE) — System and software quality models set the standards for ensuring quality requirements specification for software and quality evaluation (ISO, 2011). These standards are in place to aid those who are in the development of software products and for the specific evaluation of quality requirements. This ensures that developed software satisfies the stated and the implied needs of the target audience.

With the quality model, one will be able to determine the quality characteristics that will be considered when doing evaluations of software products. The needs of the target audience are represented by the eight quality characteristics, namely: functional stability, performance efficiency, compatibility, usability, reliability, security, maintainability, portability.

Functional stability refers to the extent the product evaluated has functions that meet the stated and implied needs when in use. This is composed of functional completeness, functional correctness, functional appropriateness. Performance efficiency refers to the performance of the product relative to the number of resources available. This is composed of time behavior, resource utilization, and capacity. Compatibility refers to the extent the product is able to perform functions such as exchanging information with other products while in the same environment.

This is measured in terms of co-existence, and interoperability. Usability refers to the extent how the product can be utilized by the target audience effectively and efficiently. This is composed of appropriateness to recognizability, learnability, operability, user error correction, user interface aesthetics. Reliability refers to the extent the product is able to function under specific conditions over a certain period of time. This is further subdivided into maturity, availability, fault tolerance, and recoverability. Maintainability refers to the extent the product can be effectively and efficiently modified for improvements. This is composed of modularity, reusability, analysability, modifiability, testability. Portability refers to the extent a product can be effectively and efficiently transferred from one environment to another. This is composed of adaptability, installability, and replaceability.

An article by Estdale and Georgiadou (2018) examined how the ISO/IEC 25010 can be used for software products. It detailed that the ISO/IEC 25010:2011 provided a good mode for the evaluation of software products. It helped establish the delivery performance of the products and improvements. The article concludes that the standard is a major step for quality requirements and specifications.

METHODOLOGY

Research Design

A descriptive-developmental design (Creswell & Creswell, 2018) was used by this study. Contents of the web-based resource network was based on the findings of an initial study conducted by the authors about the strategies, facilitators, and barriers encountered by Filipino occupational therapist educators in managing disruptions of academic occupations.

Developed Web-based Network: Filipino OTs for ‘U’

A web-based resource network was developed to help facilitate connections between Filipino occupational therapist educators. Amid the pandemic, online networking platforms have been utilized for information exchange, and this will continue to be the primary mode of communication among a wide group of professionals even in the post-pandemic period. It is of great importance for a future sustainable development of occupational therapy competence to inform occupational therapy educators on how to support students to minimize disruptions of academic occupations and to mitigate its impact during especially difficult times. The web-based resource network is hosted on Google Sites under the University of Perpetual Help System Laguna. The website is composed of the following pages: a Home page, an Educator’s Forum, Resources page, Announcements page, Feedback page, and a Contact Us page.

Research Tool

In evaluating the developed web-based resource network, an online ISO/IEC 25010 Project Evaluation Survey (Orozco, 2019) which was embedded on the developed website for the users to complete to assess the effectiveness of the website. The 5-point Likert Scale survey consisted of 30 items that evaluated the following properties of the website: Functional Suitability, Performance Efficiency, Compatibility, Usability, Reliability, Security, Maintainability, and Portability.

The following was used in the evaluation and scoring of the responses:

Table 1
Scoring and Interpretation of SQuaRE

Verbal interpretation	Scale	Likert Scale options
Strongly Agree (Outstanding)	4.50 - 5.00	SA Strongly Agree
Agree (Very Satisfactory)	3.50 - 4.49	A Agree
Neutral (Satisfactory)	2.50 - 3.49	N Neutral
Disagree (Fair)	1.50 - 2.49	D Disagree
Strongly Disagree (Poor)	0.50 - 1.49	SD Strongly Disagree

RESULTS AND DISCUSSION

This section presents the results of the evaluation of the developed web-based resource network based on the Systems and software Quality Requirements and Evaluation (SQuaRE) (Orozco,

2019) which is based on the ISO 25010:2011. Table 5 presents the weighted means and verbal interpretation of each characteristic.

Table 2
Systems and Software Quality Requirements and Evaluation (SQuaRE) of Web-based Resource Network

Characteristics	Weighted Mean	Verbal Interpretation
1. Functional suitability	4.18	Agree (Very Satisfactory)
2. Performance efficiency	4.18	Agree (Very Satisfactory)
3. Compatibility	4.23	Agree (Very Satisfactory)
4. Usability	4.63	Strongly Agree (Outstanding)
5. Reliability	4.83	Strongly Agree (Outstanding)
6. Security	4.28	Agree (Very Satisfactory)
7. Maintainability	4.72	Strongly Agree (Outstanding)
8. Portability	4.83	Strongly Agree (Outstanding)
Overall Weighted Mean	4.49	Agree (Very Satisfactory)

Based on the ISO/IEC 25010:2011 standards, the web-based resource network was evaluated for its functional suitability, performance efficiency, compatibility, usability, reliability, security, maintainability, and portability.

The following characteristics for the systems and software quality requirements and evaluation are rated as very satisfactory based on the evaluation, functional sustainability ($M = 4.18$), compatibility ($M = 4.23$), security ($M = 4.28$).

Among the characteristics for the systems and software quality requirements and evaluation, the developed web-based network was rated the highest for its reliability and portability, both having been rated as outstanding ($M = 4.83$). Overall, the web-based resource network has been rated as very satisfactory ($M = 4.49$). This indicates that the web-based resource network has successfully met the functions it serves for its users, the Filipino occupational therapist educators.

The high rating for the developed web-based resource network may be attributed to the continuing trend of utilizing information technology in the creation of links and facilitation of information exchange (Habibi et al., 2018). Moreover, educators and students alike are adopting the use of online resources to help supplement their learning experience (Panigrahi et al., 2018). The high rating of the web-based resource network in terms of portability may also be attributed to the convenience of accessing the world wide web at your fingertips through mobile devices of your choice. This bypasses the need for the users to install specific applications on their respective devices just for them to gain access to the website.

The high rating for the web-based resource network might also echo a similar initiative done by the World Federation of Occupational Therapists. The WFOT launched the Occupational Therapy International Online Network (OTION) (World Federation of Occupational Therapists,

2022) which serves as a platform for occupational therapists around the world to exchange ideas and best-practices. The high rating indicates that Filipino occupational therapist educators are open to utilizing such web-based resource network to help them with their practice which coincides with existing literature that online platforms provided opportunities in emergency situations and are readily available and accessible (Chen et al., 2020; Ferri et al., 2020).

It is of great importance for a future sustainable development of occupational therapy competence to inform occupational therapy educators on how to support students to minimize disruptions of academic occupations and to mitigate its impact during especially difficult times such as pandemics. The web-based resource network for occupational therapy educators in managing academic occupational disruption of their students, is a good example of activities that can be undertaken.

The development of the web-based resource network can be considered as an initial step in addressing the needs for the occupational therapy academic workforce for a platform to facilitate communication and exchange of ideas. Moreover, this web-based resource network can serve as a platform for other events catering occupational therapist educators, such as online forums, webinars and the like. Given the portability of the web-based resource network. Announcements can easily be made and can reach multiple registered accounts in a short span of time. Documentation of said activities can also be posted on the web-based resource network to easily keep track of what has been accomplished and what still needs to be done.

CONCLUSIONS

To address the need for a platform to facilitate exchange of ideas among Filipino OT educators, Filipino OTs for 'U' was the web-based resource network developed to help Filipino OT educators in addressing disruptions in academic occupations. Filipino OTs for 'U' was rated as very satisfactory in meeting the systems and software quality requirements and evaluation. The developed web-based resource network is an initial step in sustainable development of occupational therapy competence to inform occupational therapy educators on how to support students to minimize disruptions of academic occupations and to mitigate its impact during especially challenging times.

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