Success Factors of Designing Quality Online Learning

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Abstract— The COVID-19 pandemic has impacted and disrupted the conventional face-to-face classroom settings in all levels of education and training since the beginning of early 2020 due to lockdowns and social distancing measures. Hasty transition from face-to-face to online education was the Hobson's choice for most schools and institutions due to school closures and pressures from government and parents. The ASEAN University Network-Quality Assurance which offers quality assurance training for accreditation of study programmes to faculty members of universities in ASEAN is no exception and it faced the challenge of continuing its training offerings during the pandemic.

Transiting to online learning without a well-thought-out plan on quality affects the effectiveness of learning. OneClass, a community of over 4 million+ university students, surveyed more than 1,000 colleges students in the United States on the quality of eLearning experience in April 2020 and found that 75% of the students were unhappy. The students' dissatisfaction arises from the unpreparedness of the institutions and faculty, loss of hands-on experience, learning curve for new technology, unfavorable home learning environment and concerns over grades.

Online teaching and learning without quality will not be sustainable and effective. The quality of online teaching and learning rests on the learning design embracing learning methods, learning environment and learning assessment.

This paper identifies the success factors of designing quality online learning based on the pilot implementation of self-assessment report writing workshop. The success factors include pre-workshop instructions, training environment, delivery and assignment, interaction and engagement etc.

Index Terms— COVID-19 pandemic, online learning, quality, success factors.

I. INTRODUCTION

Since the beginning of COVID-19 pandemic in early 2020, many education institutions including the ASEAN University Network-Quality Assurance (AUN-QA) Network which offers quality assurance training for accreditation of study programmes to faculty members of universities in ASEAN were tasked to transit from the conventional face-to-face setting to online learning in order to remain open and to operate as business as usual. Online learning can be defined as all instructions and interaction that are fully online in synchronous or/and asynchronous modes [1].

This paper identifies the success factors of designing quality online learning based on the pilot implementation of self-assessment report writing workshop. Using a questionnaire survey, the success factors including pre-workshop instructions, training environment, delivery and assignment, interaction and engagement etc. were identified to ensure the quality of online learning and the achievement of the learning outcomes.

II. PILOT IMPLEMENTATION

Transiting to online learning without a well-thought-out plan on quality affects the effectiveness of learning. OneClass, a community of over 4 million+ university students, surveyed more than 1,000 colleges students in the United States on the quality of eLearning experience in April 2020 and found that 75% of the students were unhappy. The students' dissatisfaction arises from the unpreparedness of the institutions and faculty, loss of hands-on experience, learning curve for new technology, unfavorable home learning environment and concerns over grades.[2]

Online teaching and learning without quality will not be sustainable and effective. The identification of the success factors of quality online teaching and learning take reference from the Quality Matters (QM) standards for online learning quality assurance in North America [3]. The QM rubrics covers eight standards as follows:
1. Course Overview and Introduction
2. Learning Objectives (Competencies)
3. Assessment and Measurement
4. Instructional Materials
5. Learning Activities and Learner Interaction
6. Course Technology
7. Learner Support
8. Accessibility and Usability

To meet this end, pilot implementation of online training over 5 sessions of one and a half hour each over five days or 7.5 hours in total was carried out to identify the success factors for achieving the learning outcomes and designing of online learning. Two online self-assessment report (SAR) writing workshops led by the authors were held via zoom platform on 20 – 24 April 2020 (Batch 1) and 27 April – 1 May 2020 (Batch 2). A total of 73 participants which consisted of 35 from Batch 1 and 38 from Batch 2 and they

were quality assurance (QA) officers and faculty members from 46 ASEAN higher education institutions from Brunei, Cambodia, Indonesia, Malaysia, Myanmar, the Philippines, Thailand and Vietnam (see Figure 1).
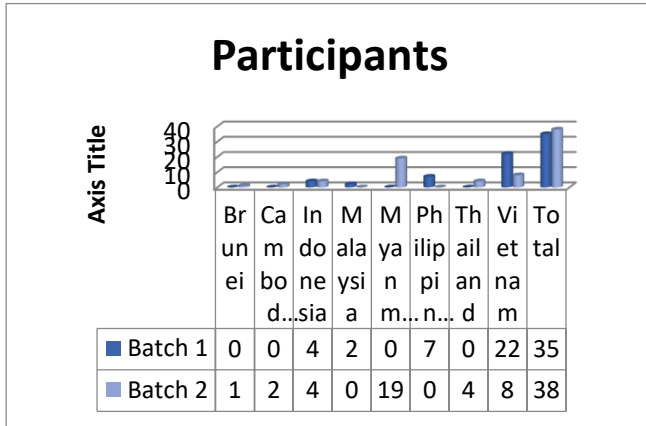
Figure 1: Nationality of the participants (Batch 1& 2)

III. SURVEY INSTRUMENT AND POPULATION

The questionnaire survey was structured into five parts based on Kirkpatrick Training Evaluation Model [4]. Part 1 consists of learning outcomes; Part 2 includes questions about the learning gained after the training. Part 3 is about the success factors of the online training. Part 4 includes one open question about how the participants apply their knowledge and skills in writing a SAR. and Part 5 requests respondents to provide additional comments (see Figure 2).
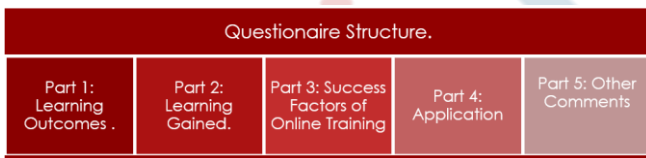
Figure 2. Questionnaire Structure

A five-point Likert scale is used to indicate the responses in present and expected situation in need assessment (PNI) as follows:

    5: indicates "Strongly Agree"
    4: indicates "Agree"
    3: indicates "Neutral"
    2: indicates "Disagree"
    1: indicates "Strongly Disagree"

The interpretation of the scale is as follows:

    4.50 – 5.00: Very high
    3.50 – 4.49: High
    2.50 – 3.49: Moderate
    1.50 – 2.49: Low
    1.00 – 1.49: Very low

The questionnaire survey via Google Form was sent to all participants and 66 valid responses were received with a response rate of more than 90%. The 80% of the participants have the working experience of more than 10 years with more than 70% of the participants holding positions as faculty

managers and QA managers. This indicates that most of participants have the relevant knowledge and experience in higher education and quality assurance. However, less than half or 47% of them have the experience in writing SAR for programme assessment when asked.

IV. SURVEY RESULTS

Learning outcomes achievement and their reasons are documented in Table 1 and Table 2 respectively.

Table 1 – Achievement of Learning Outcomes

Learning Outcomes	Batch 1		Batch 2	
	Mean	Meaning	Mean	Meaning
1. Identify the AUN-QA Criterion requirements for writing	4.66	Very High	4.69	Very High
2. Apply the techniques for writing a good SAR	4.56	Very High	4.28	High
3. Improve the quality of good SAR for AUN-QA assessment	4.5	Very High	4.5	Very High

Table 2 – Reasons for Achieving Learning Outcomes

Reasons	Batch 1		Batch 2	
	Mean	Meaning	Mean	Meaning
4. The presentation and handout are useful and relevant	4.78	Very High	4.61	Very High
5. The examples and exercises are practical and realistic	4.50	Very High	4.50	Very High
6 The way of delivery and engagement by the facilitator facilitate my learning and understanding	4.42	High	4.52	Very High
7. The discussion and sharing via breakout, chat and questions are helpful which deepen my learning and understanding	4.53	Very High	4.38	High
8. The number of sessions and its duration is suitable	3.82	High	3.92	High

The results in table 1 and table 2 show that most of participants achieved the learning outcomes of the training with a very high score (Mean > 4.5), which indicates the success of the online training. The reasons for achieving the learning outcomes are "the presentation and handout are useful and relevant" with the highest score (Mean = 4.78; 4.61), whereas "the number of sessions and its duration is suitable" (Mean = 3.82, 3.92) has the lowest scores.

The learning gained was measured by the comparative question asking how much knowledge and skills, which the participants gained before and after attending the training.

The results from both two batches reported a gain between 55% and 63% in knowledge and skills in SAR writing after the training (see Table 3).

Table 3 – Learning Gained

Learning Gained	Batch 1			Batch 2		
	Before	After	Gained	Before	After	Gained
Mean	2.71	4.21	1.5	2.57	4.19	1.62
Meaning	Moderate	High	55%	Moderate	High	63%

Eight success factors of online learning were identified and the responses to them are in Table 4.

Table 4 – Success Factors of Online Learning

| Items	Batch 1		Batch 2	
	Mean	Meaning	Mean	Meaning
1. The pre-workshop instructions are useful	4.19	High	4.42	High
2. The online learning environment is conducive and friendly	4.23	High	4.38	High
3 The use of visuals and multimedia aids are effective	4.19	High	4.40	High
4. Zoom platform is simple and easy to use	4.19	High	4.45	High
5. The workshop is structured and easy to follow	4.65	Very High	4.54	Very High
6. Ample opportunity is given for participants to discuss and interact	4.42	High	4.54	Very High
7. Facilitator motivates the participants to learn and be enthusiastic	4.57	Very High	4.38	High
8. The size of the class is just right	4.5	Very High	4.19	High

Table 4 shows the two most successful factors (with very high scores) of the online training are "The workshop is structured and easy to follow" (Mean = 4.65; 4.54) and the "Ample opportunity is given for participants to discuss and interact" (Mean = 4.42; 4.54). Besides, Zoom is also recognized as a good training platform by two batches with the rating from 4.19 to 4.45.

When asked about how they will *apply what they have learned in the training*, most participants responded that they will modify and improve their SAR quality. They also wanted to provide internal training on how to write a good SAR at the faculty and universities and to hold seminars to share their knowledge and experience with other colleagues. In addition, some participants shared that they would apply what they have learnt in developing the guidelines on how to write a good SAR in their institutions.

Additional comments to improve the online training in include lengthening the training session with more time for discussion during the breakouts, engagement between the trainers and participants, and adding more examples of SAR writing and data for each programme criterion.

V. REDESIGN OF ONLINE LEARNING

Taking the survey results into consideration, the online SAR writing training was redesigned with a longer duration of 13 hours with two full-day and one half-day sessions over 2 weeks to allow more time for breakouts, discussion, and engagement. An asynchronized group assignment on writing the SAR was added to allow participants to apply what they have learned. Figure 3 illustrate the new online training structure.
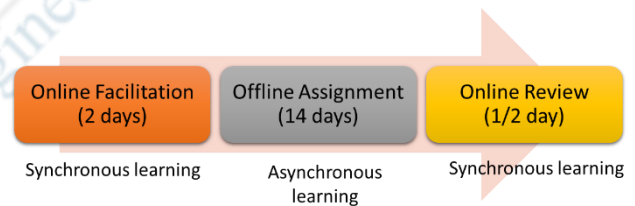
Figure 3 – New Online Training Structure

This new structure is adapted from CAFE (Content, Activities, Facilitation, & Evaluation), an instructional design model for remote teaching [5]. Table 5 describes the application of the CAFÉ model.

Table 5 – Application of CAFÉ Model

CAFE	Description	New Structure
Content	Organize contents in a systematic way	The contents are progressive organized starting with the knowledge followed by application.
Activities	Design and develop wide variety of	Pre-workshop readings, breakout activity at the end of each topic and

CAFE	Description	New Structure
	learning activities	offline assignment are planned.
Facilitation (online)	Facilitate (1) learner-content interaction, (2) learner-instructor interaction, and (3) learner-learner Interaction	(1) Online pre-recorded videos are listed on YouTube for participants to watch prior to the training. (2) Facilitator explains the contents to learners in a systematic and structure manner following the handouts. (3) Breakout for participants to discuss and share ideas and experience.
Evaluation	Evaluate online learning performance holistically	The offline group assignment is given to allow participants to apply what they have learned, and review of their writing is given at the final training workshop. Feedback is solicited from the participants on the training vis survey.

Following the success of the pilot implementation, twelve SAR Writing training workshops with the new structure were implemented as of December 2022 and more than 300 faculty members and QA officers from universities in ASEAN have attended. More than 94% of the participants have rated the new structured online training as excellent and very good, with the reminding rated as good. Most participants commented that the offline SAR writing assignment was the most beneficial which allows them to apply their knowledge in writing the SARs for their study programmes.

VI. CONCLUSION

A well-thought-out plan to identify the success factors for online learning through pilot implementation was crucial to the design and sustainability of quality online learning. Online engagement and assignment are critical factors for better learning and application of the acquired knowledge. Furthermore, the design and development of a wide variety of learning activities over pre-workshop, during and end of the workshop helped the participants understand the content more structurally as well as in achieving the learning outcomes of the training. The facilitation mode also plays an important role of the online training as it requires not only the trainer interacts with the participants but also creates the opportunities for them to interact and share ideas and experience. Finally, the trainer quality and good experience on the use of technology or digital platforms are crucial in

contributing to the effectiveness and success of the online training. Indeed, the online learning environment can be more conducive and friendly if the trainer can skillfully use the visuals and multimedia aids to enhance the learners' understanding and learning progression.

Although the research results focus on the professional training of faculty in quality assurance, the principles and success factors on the quality of online learning can be implemented and adapted for other online or remote courses offered by higher education institutions as the success factors are universal. This research is helpful for institutions which are planning for more online, hybrid course offerings, and more use of technology to complement in-person teaching and learning.

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