NEEDS FOR THE INTEGRATION OF DIGITAL CONTENT IN MUSEUM FLIPPED EXPERIENTIAL LEARNING ACTIVITIES

*Siti Hajar Halili[1]
Mariani Binti Md Nor[1]
Nur Azah Binti Hamzaid[3]
Wan Safwani Binti Wan Kamarul Zaman[4]
Mas Sahidayana Binti Mokhtar[5]
Faridah Noor Binti Mohd Noor[6]
Muhamad Ariff Bin Muhammad Taufiq[7]

[1][7] Department of Curriculum & Instructional Technology, Universiti Malaya
[2] SEGI University
[3][4][5][6] Department of Biomedical Engineering, Faculty of Engineering, Universiti Malaya
*ajai912@gmail.com

Abstract: This study aims to describe a holistic process of needs analysis to be used in the integration of digital content in museum flipped experiential learning activities based on the needs analysis model by Hutchinson and Waters's (1987). A semi-structured interview was used and involved 3 experts mirroring the intended subjects in the field. Six themes emerged during the interview process in terms of the needs of aspect on analysis requirement and module content, module objectives, selection, media, and materials aspect, utilize media and materials aspect, require learner and participation (flipped activities) aspect and finally, evaluate and revise aspect. Finally, this article indicates the suitable themes in designing the integration of digital content in museum flipped experiential learning activities which demonstrated that it is valid and reliable to be utilised in a real study. This article will help researchers in education and museum practitioners to provide a guideline and embrace their work to develop digital content in flipped experiential learning activities.

Keywords: Flipped Experiential Learning Activities, Museum, Needs Analysis, Qualitative, Semi-Structured Interview

INTRODUCTION

In a museum, visitors learn about history and culture, and children constitute up a good portion of the museum's audiences (Karadeniz, 2010). From "about something" to "for someone", museum curation and setting have evolved. The tendency is to design museum exhibitions to attract and construct a memorable learning experience. Moving away from "learning about something" and toward "learning for someone" places the learners at the centre of the learning experience design, while maintaining the theme or content as the learning subject in mind. In the case of historical items, the narrative behind the usage and people utilising the artefacts, as well as the culture and society engaged in producing, preserving, and using the relics, may be powerful 'story-telling' points that can engage young children's imaginations. Learning must be made entertaining through module creation, which poses problems in merging subject pedagogy, love and attention capture, with strategic algorithm and software savviness (Tang & Hanneghan, 2011).

According to Hidayat et al. (2015), there is a need to construct curriculum development based on digital material in museum flipped experiential learning activities that are consistent with contemporary educational trends. Tang and Hanneghan (2011) also stated that efforts must be taken to make learning enjoyable in integrating the digital content in museum flipped experiential learning activities which present problems in merging subject pedagogy, affection and interest capture, with strategic algorithm and software savvy. The process of obtaining information that serves as the foundation for designing a programme or curriculum that fits the learning requirements of a specific set of learners and identifying priorities among them is referred to as needs analysis (Srijono, 2006). It aids in the design of assessments, the compilation of resources, the design of instructional activities, the evaluation of strategies, and the re-evaluation of the precision and correctness of the original requirements analysis for future design (Brown, 2001).

By conducting a needs analysis, the researcher obtains a general understanding of what has been accomplished in this learning scenario as well as what the learners want and need in the future (Li, 2014). As a result, the purpose of this research is to describe a comprehensive needs analysis process that will be employed in the integration of

digital content in museum flipped experiential learning activities. Thus, the research question for this study is 'What is the suitability elements needed in designing flipped experiential learning activities based on the need analysis process?"

METHODOLOGY

Qualitative research is frequently used to collect non-numerical and in-depth insights about a certain paradigm. The validity and reliability of its instrument and data, particularly interviews, are central to the issue of qualitative research (Percy et al., 2015). The qualitative method captures an individual's experiences and delivers rich descriptions and a depth of understanding (Silverman, 2017). Other researchers usually decide on study design elements based on a specific question (Neuman, 2006). The qualitative research method, on the other hand, is more adaptable. As a result, the qualitative method can produce insightful results by allowing researchers to explore new events and capture people's perspectives or perceptions.

The needs analysis conducted in this study is focused on understanding the meaning that participants have created, how participants make sense of their environments, and how participants characterise their experiences in their worlds (Hatch, 2002). This study is based on Hutchinson and Waters' needs analysis methodology (1987). The model echoes the apparent questions, such as "Who are the learners", "How do the learners learn", "What sources are available", "Where do they learn", and "When will they learn". The Hutchinson and Waters's (1987) learning needs analysis model has been taken into account by considering the starting point as "lacks" and the destination as "necessities", although there might be some "wants" discord over what the destination should be, there's a must to consider the "route" as well to understand how do learners going to get from starting point to the destination.

This needs analysis model is essential for assisting with the improvisation of the primary study. In this situation, validity and reliability are two important factors to consider while assessing the instrument used in qualitative research (Dikko, 2016). Validity is an important criterion for assessing the quality and acceptability of research to assure the truth of a study or how much it can be believed (Zohrabi, 2013). The initial phase of programmed design is needs analysis, which provides validity and relevance for all subsequent design efforts (Johns, 1991). From the reliability standpoint, it stresses the dependability and consistency of the data, which is devoid of bias in measuring the concepts that are meant to be measured (Sekaran & Bougie, 2003). Reliability also refers to consistent outcomes and repeatable procedures that provide the same result (Huck, 2007).

The semi-structured interview was utilised by the researcher to obtain data. Interviews, according to Merriam (2009), are required to allow researchers to comprehend a certain phenomenon from a person's perspective. The most essential stage is to choose a suitable panel of experts since it impacts the quality of the study's results (Taylor, Judd, Witt, & Moutinho, 1989). According to Berliner (2004), professors with more than five years of experience are considered experts since they have persistent experience teaching and managing. The researcher opted semi-structured interview because it would allow us to cover all the issues concerning this study and at the same time, it allows the interviewees to provide more information according to the controlled conversation direction. the participants should be the key informants that can represent a community and provide rich information (Sava, 2012).

Akbari and Yazdanmehr (2014) defined an expert in the field of education as someone who has more than five years of particular expertise. Several criteria were stated for the expert panel's selection, including Professors or senior lecturers involved in numerous academic disciplines, either as researchers or lecturers, with more than ten years of professional experience involving technology and communication. In this study, a purposive sampling approach was utilised. This approach is appropriate for utilization since Patton (2015) stated that it may help in identifying the requirements based on their experience. Sava (2012) stated that the participants in needs analysis research should be key informants capable of representing a community and providing rich information. As a result, the participants in the need analysis are chosen at random from a group of three academics from a public institution.

Cresswell (2003) proposed that researchers acquire expert validation to validate the elements or questions in the instrument of study. For instrument validation in this work, three experts from diverse academic disciplines were recruited. According to Dimopoulus and Pantis (2003), the instrument's validity requires a minimum of three experts. As a result, before the instrument is delivered to the lecturers, the panel of experts will assess its face validity. Participants were requested to participate in a 45-minute online interview using the Google Meet platform (duration depends on time-paced, semi-structured interview questions, and checking of the research instrument).

In addition, thematic analysis was used to identify, analyse, and report on patterns or themes in the data (Braun & Clarke, 2006).

FINDINGS

The interview findings revealed that participants responded positively to the requirement to integrate digital information for the museum's flipped experiential learning activity. According to the participants' agreement, the majority of the participants have positive perceptions about the need for students to engage in museum flipped experiential learning activities utilising digital content. In this study, the researcher categorises raw data from participants' perceptions into specific themes. Six themes emerged during the interview process in terms of the needs to explore: (1) aspect on analysis requirement and module content, (2) module objectives, (3) selection, media, and materials aspect, (4) utilize media and materials aspect, (5) require learner and participation (flipped activities) aspect and (6) evaluate and revise aspect.

Theme 1: Analysis requirement and module content,

Based on the summary of the interview sessions held on that day, all 3 participants (P1, P2 and P3) were answered genuinely to the questions. For the first question, all 3 participants were answered that there is a need to explore the aspect of analysis requirement and module content. P1 stated that it is important to look into the requirement and content of the module. He also added:

> *"...I recommend look into the module requirement and the content of the module…. It is important to make the module is something fun to learn and then can learn in a fun manner*" (P1, 5/3/2021, line 3)

While P2 verbalized that understanding the module requirement and content was the most difficult part during the process of designing a module.

> *"...still need to understand on how to design the module…That's why we need to identify the requirement and content to develop the module"* (P2, 5/3/2021, line 7)

This statement was also supported by the teacher (P3) who mentioned:

> *"...lack of content requirement knowledge will hinder to involve in designing module process "(*P3, 5/3/2020, line 11)

Theme 2: Module objectives

Based on the questions during the interview session, the participants conveyed and expressed that identifying the module objectives was a huge challenge.

P1 mentioned:

> *"..... I think it will be better if need to form what is the module objectives. It easier to navigate the purpose of designing the module...*" (P1, 5/3/2021, line 16)

This statement was strongly agreed by the P2 and P3, they also mentioned that it is important to address the module objectives. They believe that if do not address the needs of identifying the objectives of the module, it will not be the best module to design for the learners. It is considered that identifying the module objective was the greatest challenge process to design the module.

Theme 3: Selection, media, and materials aspect

P1 suggested that usage of information, communication and technology (ICT) integration during the lesson will engage the pupils in communication. He mentioned that:

> "*...It will be more fun and arouse the interest to participate in activities that utilize the media and technology tools*". (P1, 5/3/2021, line 24)

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Another suggestion also added by the P1 is the usage of technology will improve users' experiential learning. He mentioned that the users will involve in the activities by using the technologies.

While P2 added that online materials were needed to improve their experience in learning. She exclaimed that:

> "*It will help them to articulate the experiential learning in the module with the integration of technologies*" (P2, 5/3/2021, line 28)

P3 also suggested that there are plenty of media and materials in the market for the to use it. He also stated:

> "*...usage of hands-on activities using technologies will improve the users experiential learning ...*" (P3, 5/3/2020, line 30)

Theme 4: Utilize media and materials aspect

The findings in this theme considered that it is important to engage the learners in utilizing the module.

P1 stated:

> "*... need to do more activities which engage the learners in experiential learning...the learners will start to do activities with the use of technologies ...*"   (P1, 5/3/2020, line 33)

P2 explained that the learners need more guidance using the module and using different types of interesting and fun activities will help the learners to engage in using the module.

P3 also suggested that there is a need to do more activities that engage the learners in the module activities. He exclaimed that:

> "*... need to do more activities that engage the learners...*" (P3, 5/3/2020, line 35)

Theme 5: Require learner and participation (flipped activities) aspect

The participants (P1 – P3) exclaimed that the learners of the module need to be familiar with the media and also participate in the activities. They also need to fully utilize the use of the media and materials. Thus, the requirement of users to participate using the module will improve the users' experience in utilizing media and materials.

The P1 exclaimed that "*usage of media and materials will improve the users' experience in utilizing media and materials*". (P1, 5/3/2020, line 38)

P2 also stated:

> "*The use of media and materials will be helpful for users to participate in the activities*". (P2, 5/3/2020, line 40)

P3 also supported this by stating that requiring learners is important so that it will help them to participate in the activities.

Theme 6: Evaluate and revise aspect

There is a need to record respondents' perceptions regarding the challenges in the usage of the module.   All participants were mentioned that it is important to evaluate and revise the module. The respondents justified their opinions by stating the examples as follows:
P1 stated:

> "*Evaluating and revising the module will indicate and discover the needs for the module content before designing the next steps*". (P1, 5/3/2020, line 47)

P2 also stated:

> *"After the identification of the module needs analysis, it will help to discover the suitable selections in designing the content"*. (P2, 5/3/2020, line 49)

P3 also agreed that:

> *"Evaluate and revise are the process of matching initial expectations in the form of objectives with what will the outcomes achieved"*. (P3, 5/3/2020, line 51)

Further, they believe that by doing this process, the researcher can understand what resources are required for necessary learning experiences in the module. Thus, it is seen as an important aspect in module development because it greatly influences the efficiency of instruction and the degree to which major changes are brought about in the module.

DISCUSSION AND CONCLUSION

Understanding the process of need analysis will help the researcher to discover and determine whether the purposes are attained in designing a module. The interview data revealed that all the participants declared that using ICT will attract the learners to gain in the experiential learning process. It will arouse the learner's interest to engage in the learning process and they will start to participate in using the module. Thus, the module content needs to design according to the objectives. The themes are the overall themes that are based on the outcomes of the interviews. It is now easier for the researcher to categorize it into themes for study.

The findings of the study in the analysis conducted provide clear instructions on how to identify the suitability elements needed in designing flipped experiential learning activities based on the need analysis process. It will also provide a comprehensive flipped experiential learning experience that is interrelated with each other in assisting pupils in achieving the learning activity based on digital content. Based on interview analysis, participants were satisfied with the instrument, which covered all elements of the digital content for the museum flipped learning activity. As a result, the change or refinement made to the instrument solely in terms of language has demonstrated that the instrument is valid and trustworthy for use in the actual research.

These findings from the need analysis fulfil and correspond to the whole scale of validity and reliability requirements in the qualitative approach, which sequentially followed the deciding, assessment, adjustment, revisiting, and reflection phases. The significant outcomes of this need analysis give valuable insights for the researcher to adapt and improve the research instruments to fulfil the study's goal. Finally, the results demonstrated that the chosen instrument performs the required task and that semi-structured interviews could be conducted effectively to gather data on the concepts that the researcher expected to assess in the main study. It is intended that this work would serve as a resource for other researchers who may conduct a needs analysis context in a qualitative research study. Future research should also venture rigorously into the long-term effects which the use of digital content especially the artefacts and heritage when designing the module based on digital content in a flipped experiential learning activity. This article will assist other researchers in adapting their work to the development of digital content in museum flipped experiential learning activities. Moreover, educational developers, instructional designers, and instructors will have a comprehensive understanding of the insights on the module development.

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