

PERSUASIVE MULTIMEDIA APPLICATION ON THE TOPIC OF ISLAMIC FUNERAL: THE DEVELOPMENT AND USABILITY TEST

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ABSTRACT

In the Muslim society, everyone should have the knowledge about Islamic funeral. However, educational application which are tailored and designed for mobile devices in the context of Islamic funeral is scarce. Therefore, this study investigates the development and usability of persuasive multimedia application on this topic. This mobile application was developed based on five phases in ADDIE instructional design model. The usability evaluation was adapted from the instrument that included 16 items related to usability and distributed to 12 students. The data of this evaluation were analyzed using the descriptive mean method. The findings of this evaluation revealed that this application fulfilled the usability aspect; for example it is easy to use as well as interesting graphics. It also would support teachers in exposing the topic of Islamic funeral to the learners.

Keywords: Islamic funeral; persuasive multimedia application; mobile application.

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1. INTRODUCTION

1.1.Introduction

Every Muslim needs to learn the knowledge of Islamic funeral because it is a obligation that must be hastened by the person responsible for managing the funeral once he knows the death of another Muslim. It is also the ultimate duty and responsibility of the living person towards the dead [1]. Islamic funeral management is “*FardKifayah*” duty for all Muslims, meaning that it should be done by Muslims or if none of the Muslims did it, they will be sinned. The person entitled to the corpse is comprised of his family or his heirs in order to safeguard the *aurat*, preserve the honour and glory and seal the calamity of the deceased person [2].

1.2.Background of Study

Integrated in the syllabus of the Form Three Islamic Education subject, Islamic funeral is under the topic of Worship. For this topic, it explains the obligation to manage the deceased, which is the immediate rituals following death, cleansing the deceased, shrouding the deceased, funeral pray and burial for the deceased. In addition, this topic also describes the important steps to manage the deceased and the wisdom of each procedure in the Islamic funeral [3].

In terms of the teaching of Islamic funeral, most teachers still adopt traditional teaching methods that only focus on teachers such as lectures, questionnaires and discussions. Furthermore, there is a lack of teaching aids usage based on Information and Communication Technology (ICT), especially for Islamic Education [4]. The use of ICT in the form of interactive multimedia can attract students to learn and encourage student-centered learning. With multimedia, students are free to explore learning and teachers act as facilitators to help students throughout the learning session.

With the use of multimedia, it is an alternative to diversify the strategy to make teaching and learning become exciting and fun [5]. ICT as multimedia presenter can provide various opportunities for educators to apply various teaching techniques while students are given the opportunity to control the session. Students also have the opportunity to choose learning techniques that are appropriate to them, to develop knowledge based on their own needs and to experience more interesting and effective learning environment [6].

With the growing development of multimedia use, it has been applied in mobile learning (m-learning) using mobile application. In Malaysia, the use of mobile devices has increased

while the development of wireless technology has also shown rapid growth. The high demand for mobile phones makes it affordable and its enables information to be acquired wirelessly which can be used in the teaching and learning process in schools and in turn enables m-learning to be implemented. Society has begun to receive views on the use of mobile phones in the interest of education [7].

M-learning is considered as a new field to explore. It can be defined as a technology in learning where the user can use technology because of its movement and no restriction of place or area to get information [8]. According to [9], m-learning is a new concept in the learning process which emphasizes the ability to facilitate the transfer of learning process without being tied to the physical location of learning that learning can be done anywhere and not in the classroom only.

2. METHODOLOGY

2.1. Development Model of the Application

The mobile application of persuasive multimedia application in this study consist of two presentation modes namely the segmented mode or AM-DS and the non-segmented mode or AM-TS. For AM-DS presentation mode, every part of the activity in Islamic funeral is divided into several steps by selecting the button's number that represent the steps of funeral steps or by selecting the next and previous buttons. While for AM-TS presentation mode, every part of the Islamic funeral activities displayed continuously in the form of continuous animations and on the animation there is a break or pause button as well as play button to control the animation. This application also uses mobile conceptual learning using a tablet as mobile device.

Both presentation mode of the mobile application developed based on ADDIE model. The ADDIE model is one of the learning design models which serve as a guideline for software development and learning materials. This model is designed for the purpose of producing lesson plans as well as learning materials so that the delivery will be effective and efficient. The ADDIE model is used in an educational environment to facilitate the construction of knowledge and skills during learning process. Learning guidance is an effort for mutual consensus between students and teachers. Although one is in learning process, the guidance of

learning refers to the construction of knowledge that occurs in the sharing of learning space, physical or otherwise [10]. The basic principle of ADDIE is that all planned activities focus on guiding students to build knowledge in the learning space. Figure 1 below shows the five phases in ADDIE model.

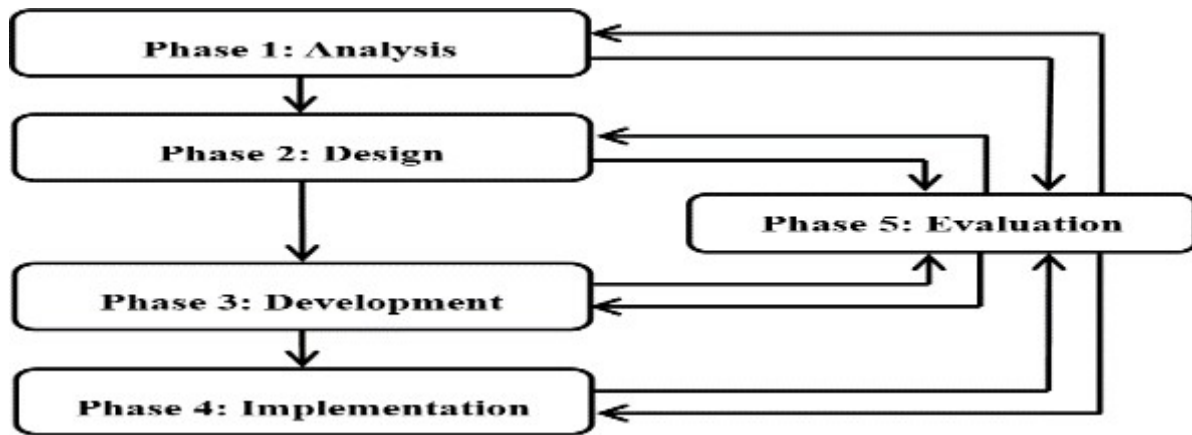


Fig.1. Application design based on five phases ADDIE

2.1.1. ADDIE Phase 1: Analysis

The first phase of the ADDIE Model is an analysis phase. The analysis phase is a basic phase in teaching. The aspects analyzed for this mobile application are problem analysis, target group analysis and learning content analysis.

2.1.2. ADDIE Phase 2: Design

The design phase is a systematic phase involving the process of explaining the view of the theory of learning that will be applied in developing the application. The design process must be systematic and specific. For this phase, researcher put all the theories that have been used in the development of this app.

- **Tutorial Learning Strategy** – Strategy learning is a learning activity in the form of ‘self-initiated’ i.e. it depends on the students’ efforts to facilitate learning [11]. Learning strategy is practiced by students while the strategy teaching is a practiced by teachers. Tutorial learning strategies are strategies or ways to communicate information for students and to guide students to learn something. In this strategy, information given with examples and followed by questions or activity. This will give opportunities to student for learning according to their rate and ability [12]. Learning activity will continue until the students

finish it independently. Figure 2 shows the general structure and sequence of a tutorial learning strategy.

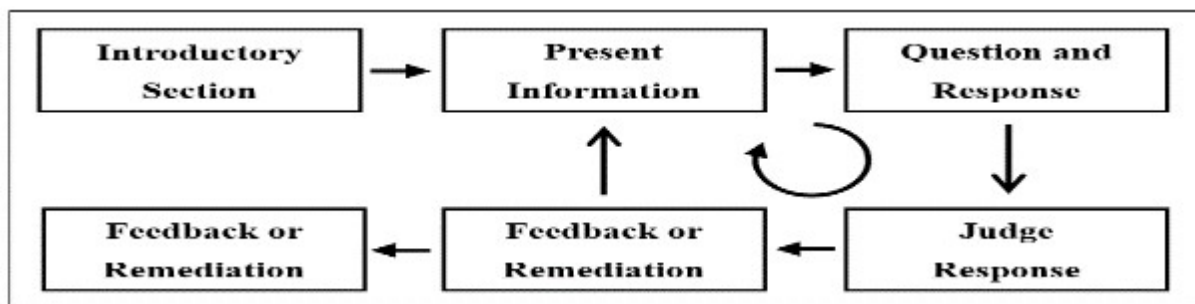


Fig.2. The general structure and sequence of a tutorial learning strategy

- Persuasive Design Principles** - Persuasive Technologies generally defined as technology which is designed to modify the attitudes or behaviors of the user through persuasion and social influence, but not through coercion. In this study, two principles of proprietary technology are used as a macro strategy in the design of multimedia applications which are Principle of Reduction and Principle of Mobile Simplicity. For principle of reduction, reducing technology can make behavioral targets easier by reducing complex activities to a number of simple steps by using computing technology to increase the benefits of user behavior and influence [13]. From this principle of reduction, researchers reduce Islamic funeral activities to five parts, namely immediate rituals following death, cleansing the deceased, shrouding the deceased, funeral pray and burial for the deceased. However, for AM-DS mode, this principle applied to another part there is for each part of Islamic funeral it's divided into several steps in order or in sequence chronology. While principle of mobile simplicity is a principle that focuses on the use of mobile devices. Easy-to-use mobile application have great potential in persuading. This concept is easy to use and easy to learn as well as reducing the complexity. The hassle-free application can attract students to use the application and encourage them to use the application to learn how to persuade and motivate students.
- Multimedia Learning Principle** - The mobile application in this study consist of two presentation modes namely the segmented mode or AM-DS and the non-segmented mode or AM-TS. In the principle of segmentation, complex multimedia messages are broken down into smaller sections presented sequentially with student controls [14]. This

principle is chosen because the heading management has many steps to be taken throughout its implementation and it allows students to control their own learning rate. Learning in the form of multimedia is divided into smaller segments. The "connection" or "next" button is provided to enable students to continue their learning to the next segment and this can help to build more meaningful learning. It also supports the transfer of knowledge in solving problems. This principle also helps students to carry out Islamic funeral and reduces student cognitive burden. Figure 3 shows the mobile application interface of AM-DS presentation mode, while Figure 4 shows mobile application interface of AM-TS presentation mode.



Fig.3. Interface of AM-DS presentation mode



Fig.4. Interface of AM-TS presentation mode

2.1.3. ADDIE Phase 3: Development

The phase of development is to build up application by using existing software. This phase is also the process of authoring and producing the material needed to achieve learning objectives. In the development phase, all multimedia elements such as audio, video and text materials are available and completed using a number of software such as programming

software, authoring, graphics, audio, video and so on. The entire app is developed using Articulate Storyline 2 and Adobe Flash CS6 authoring software. There are four activities in this phase which is to prepare storyboard, prepare prototype, produce text and prepare graphic.

2.1.4. ADDIE Phase 4: Implementation

Implementation phase is a phase when learning session is conducted. In this research, each student is given a tablet device to use in the learning process. During the learning session, teachers will act as facilitators to assist students. While students are having access to their own learning, teachers will follow the students' progress from time-to-time. There were two groups of students involved in this learning session. The first group was exposed with learning using AM-DS mode learning and the second group was exposed to learning using AM-TS mode learning. The learning process was carried out for 40 minutes which is appropriate with the learning approach used; the tutorial learning strategies.

2.1.5. ADDIE Phase 5: Evaluation

The evaluation phase is a phase to measure the effectiveness and quality of the final developed product design. Evaluation needs to be done in all design processes. Evaluation information will be consolidated to ensure effective learning, student motivation, content and technical quality that can be implemented. Evaluations are also made to ensure that the mobile application can be used without any problems and to get an initial reaction to the learning material being constructed. Any changes or improvement implemented from feedback received was to fix as well as improve the quality of developed applications [10]. There were two types of assessments used which were formative and summative assessments.

2.2. Usability Test

The usability evaluation to test this application was adapted from the instrument established by [15] that included 16 items related to usability. The questionnaires were distributed to respondents consisted of 12 students from a secondary school. The data of this evaluation were analyzed using the descriptive mean method (SPSS version 22.0). Each student is given a mobile device, a tablet with two different modes of application. Six students use segmented mode applications (AM-DS) while six students use non-segmented mode applications (AM-TS). The students involved in the assessment are students who are not involved as the

sample of the study. Students were given assessment questionnaires after applying their respective applications to get feedback to evaluate the usability level of the application. Table 1 below shows the finding from the usability test.

Table 1. Finding of usability test (N = 12)

No.	Items	Mean
1.	This app is easy to use.	4.08
2.	The use of icons is appropriate.	4.25
3.	The command button is clear.	4.00
4.	Appropriate use of background color.	4.33
5.	The color combination is appropriate.	3.92
6.	The writing used is easy to read.	4.67
7.	The active button is highlighted clearly.	4.08
8.	Out button is clearly displayed.	4.08
9.	The design of the screen is uniform.	4.25
10.	This app structure does not cause students to get lost during their quest.	4.25
11.	The journey of information presentation in this app is easy to follow.	4.83
12.	Users are easy to access the required information.	4.17
13.	Applications can be explored without causing technical problems to computer systems.	4.58
14.	This application is free from program errors that may affect its use.	4.00
15.	Graphics quality is good.	4.08
16.	The presentation of the Content Management app is organized.	4.83

3. RESULTS AND DISCUSSION

The result indicated that the application received positive feedback from the participants since all questions recorded a high mean value. This indicates that the items in the application developed are relevance in terms of the content and information. They were effective, significant and efficient in helping the students in their studies. The application also was

deemed to be useful and easy to use, especially the multimedia design features that are user-friendly. The students involved are satisfied with the application developed and there is no problem of program errors as well as students giving positive feedback.

4. CONCLUSION

Overall, the development of the mobile application in the topic of Funeral Islamic is seen to be effective and can attract students to learning. It also has elements such as the use of teaching and learning facilities using animations and interactive design functions and giving priority to technical aspects to be installed in the mobile device. The study also shows that by using multimedia application that adapts the segmenting principle and tutorial learning strategy have some positive impacts to improve the knowledge of students toward the topic of Islamic Funeral. The development of this mobile application has also contributed to the increased number of computer-based applications that are used in learning. It is the aim of this study that this mobile application will support teachers in exposing the topic of Islamic funeral to the learners.

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