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Teaching AL-Quran Via Multimedia Instructional Design: An Empirical Research

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Abstract: **This empirical research will develop an effective multimedia instructional design called Al-Furqan courseware to teach the Holy-Quran to students' in primary schools. The research scope will involve the teaching of the Holy-Quran to Libyan students' who are in the 5th grade at primary school in Malaysia. The main objective of this study is to illustrate an effective learning method that could assist Libyan students to learn the Holy-Quran effectively and efficiently, to the extent that they are able to read, write and memorize it. This research will utilize the ADDIE model as a concept in teaching the Holy-Quran to Libyan students. The study will apply instructional design models to teach the Holly-Quran. Even there are many teaching aid exist in Malaysia. However, this research will use them as a support to develop the Multimedia instruction to teach the Holly-Quran.**
Keywords: **ADDIE, Holy-Quran, Primary School, Multimedia Instruction, learning, teaching, education.**

I. PROBLEM STATEMENT

Due to the development of technology the educational sector has been affected and because of the vast utilization of multimedia courseware, the traditional method of teaching and learning has been transformed. Presently, Multimedia Courseware plays a vital role in transferring knowledge in all aspects, particularly for children. Children have their own method of learning due to their restricted ability to receive and understand knowledge.

The problem analyzed in this research is based on the schools in Libya which are still practicing the traditional methods in teaching the Holy Quran; this is due to the lack of an effective modern teaching platform. As a result Libyan primary school children are weak and lack basic learning skills. One of the multiple problems they face is; the methods utilized when teaching the Holy-Quran to Libyan primary school children. Students are struggling to learn the Holy-Quran using the traditional way. They lose motivation and interest when learning the Holy Quran because the traditional approach seems boring to them. If we allow them to think critically and analytically, they will learn effectively.

The other problem that would be discussed in this study is the technological barriers and the lack of technological infrastructure in Libyan primary schools in general. Thus, that hinders the adoption of new teaching techniques using Arabic multimedia courseware which is based on computer systems and also experienced teachers who are familiar on using such kind of software which in this case will be (Al-Furqan multimedia courseware).

The study identified many barriers existed in the primary schools that need to be evaluated and find proper solutions to eliminate them. One of the main barriers is the poor experience of teachers and supervisors, who should run Arabic multimedia courseware and use it for teaching the student how to read and understand the Holly-Quran. There are a lot of different tools, which are being used in teaching and learning to enhance teaching and learning quality. These tools have been used in teaching Science and Mathematics in the Malaysian Educational system [1].

Therefore, the study identified the lack of training and expertise in this field as one of the main problems that need an effective solution, and one of these solutions is to apply special integrated learning model suitable for Libyan primary schools that enhance teachers ability to run these software effectively and let the student's have the maximum benefit from Arabic multimedia software.

II. RESEARCH BACKGROUND

Creating multimedia composition tools for students in younger ages is not a small challenge. It means more than letting learners make choices among predefined options [2]. Multimedia is less restricted than written text. Many people come to understand text better with broader media support for its interpretation. This study identified the way teaching students the Holly-Quran in primary schools as traditional and not effective, and thus students need to get higher benefit from the development in information technology and the emergence of multimedia courseware which become the main way for teaching young ages different courses, and not restricted to languages but it is expanded all kind of sciences and even religious courses such as Holly-Quran.

The study will utilize ADDIE model, and the reason for selecting ADDIE model in this study because it provides dynamic & flexible guideline for building effective training and performance support tools for the research. Also, ADDIE model does not suggest specific learning theories; it is a project management tool that helps us to think about the different steps in course and instructional design. Furthermore, ADDIE model

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shelps us to connect all learning aspects and give us a clear picture of teaching and learning events. ADDIE model consist of five phases (Analysis, Design, Development, Implementation, and Evaluation), other models that will be discussed in this study include the Dick & Carey and Kemp ISD models to design the last face for the new instructional model by choose some functions and add them to our model.

According to [3] when computers are used in teaching, multimedia courseware becomes more effective and interesting for students. Therefore, this study investigates the effects of multimedia courseware based on the multimedia learning methods in the Libyan teaching system, based on the mentioned evaluation, we will develop an effective courseware model as a solution to the problem of traditional method of learning and teaching the of Holy-Quran.

[4] found that the application of Multimedia Courseware in advanced education assists in improving the effectiveness and efficiency of teaching, when they compared traditional teaching methods and Computer Aided Instruction (CAI). [4] Liu & Nie further stated that, scientific education theories have been utilized to lead CAI courseware and it is suitable for teachers as well as students.

III. RESEARCH OBJECTIVES

- To evaluate the quality of teaching and learning of existing multimedia Arabic courseware available in the market.
- To identify the main requirements for teaching the Holy-Quran using multimedia courseware in primary schools in Libya.
- To develop an instructional design model and a courseware called (A.F.C) which is self-regulated that could assist the students in their comprehension and reading skills, this model will enhance student's learning skills and improve their understanding.
- To evaluate and validate the new ID Model using Al-Furqan multimedia courseware.

IV. RESEARCH QUESTIONS

- Why the existing learning method using Arabic multimedia courseware is not suitable to be used in Libyan primary schools to teach the Holy-Quran?
- What are the requirements for teaching the Holy-Quran using multimedia courseware in primary schools in Libya?
- What type of learning model that could be suitable for Libyan primary schools and enhances student's understanding to Holy-Quran and improve their reading skills?
- How the teaching and learning quality of the new ID Model and Al-Furqan multimedia courseware contributes to improve student's understanding to Holy-Quran?

V. RESEARCH SIGNIFICANCE:

- Findings from this research will provide guidelines to the future researchers on the methodology and methods of creating a good instructional design.
- The model of this research will help instructors to select the appropriate courseware for their students.
- The results of this research will support scientific theories of learning and teaching and contribute to the existing research.

VI. RESEARCH SCOPE:

This research will be concerned with both learners and instructors of the Holy-Quran in Libyan primary schools located in Malaysia who are currently using traditional method in teaching and learning the Holy-Quran. The survey will be conducted in the Libyan primary school in Jalan Ampang-Kuala Lumpur, and the study population will be Libyan students who are in the 5th grade at primary school.

LITERATURE REVIEW

I. INTRODUCTION

Scholarly literature which entails most of the learning methods including multimedia and also describing the state of the art models for effective learning will be investigated in this chapter.

II. WHAT IS MULTIMEDIA?

According to [5] Multimedia is the combination of audio, pictures, animation, text, video, and interactivity. It is a vital instrument to entertain students in classrooms. For example, teachers use it (multimedia) to explain complex lessons like the science. They believed that it assists the students in understanding science better and it helps teachers to deliver the lessons effectively.

III. THE EFFECTS OF MULTIMEDIA ON LEARNING

Information technology (IT) plays important role in education; according to [6].Computer-assisted instruction (CAI) such as multimedia or interactive software programs (ISP) provides information in sequential modes to increase students' knowledge. Therefore, multimedia supports the transferring of knowledge sufficiently and offers good environments to students to avoid feeling bored in classroom. It can also be argued that IT supports students to receive knowledge effectively. In addition, ISP enabled students to obtain knowledge and communicate with each other via multimedia. The most significant impact of multimedia is the ability to transform tacit knowledge into explicit knowledge so that it is easier to transfer especially for students at primary schools. Students are satisfied with multimedia and it increases their motivation whereas participation allows them to maintain the process of learning for a long period of time compared with traditional classroom methods.

IV. THE MULTIMEDIA AND TEACHING PROCESS

The majority of teachers focus on information technology (IT) to enhance the knowledge transfer (KT) environments, based on study by [7]. Hence, multimedia was proposed as a new method to help students receive knowledge so that they

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may enhance their performance, communication, and solve problems effectively. Computers are also being used by students as an assistant tutor, to develop their skills, facilitate KT and it also serves as a companion to develop their thinking, creativity and skills. Computers also assists navigation among students and teachers concerning the contents of multimedia lessons that they would like to learn, it helps them to gain vital knowledge and increases motivation to avoid difficulties in the learning process, according to [8].

V. MULTIMEDIA AND EDUCATION

Multimedia applications are used in education to transfer knowledge effectively, and enhance the ability of teachers and learners in their process, in terms of memorizing and recalling the information when needed due to the ease of the approach which multimedia provides in teaching through transferring knowledge. Teachers will track the lesson step-by-step so they will not forget any part of the prescribed lessons while, students will be engaged with the content as it is presented visually using multimedia elements [9]. Multimedia in education is implemented in many different modes of learning such as individual, classroom, group, distance and open, and 'closed' learning.

VI. MULTIMEDIA AND KNOWLEDGE CONSTRUCTION

Transferring information and enhancing knowledge construction in learners effectively is the main aims of Multimedia. According to [10][11] this is done by presenting relevant materials in text and images, and helping learners to process the presented materials in meaningful ways. Therefore, in their study there are five significant aids to multimedia learning which are quite effective and powerful as supporting ways of transferring knowledge [12].

According to [13] in knowledge management (KM), multimedia plays an important role, which can be used by different entities in various places. Multimedia applications in KM allow employees and students to access, analyze, share, transfer and present information obtained from multiple sources via various means. The usage of multimedia in KM provides opportunities for people to work independently and collaboratively. Knowing and understanding the use of multimedia application prepares students to use such technologies in their daily lives.

MULTIMEDIA LEARNING MODELS

There are three models presented in this study; SECI, ADDIE, and Instructional Design Model (IDM):

The SECIModel is a knowledge transfer (KT) based model and it has diverse ways for knowledge creation and to manage the process effectively and efficiently. SECI model contains combination; explicit knowledge to explicit knowledge, externalization; tacit knowledge to explicit knowledge, socialization; tacit knowledge to tacit knowledge, and internalization; explicit knowledge to tacit knowledge. The SECI elements must be integrated under clear leadership so that the organization can produce knowledge dynamically and continuously. The central idea of this model is that knowledge held by individuals should be shared with other individuals so that it interconnects to a new knowledge [14].

The Instructional Design (ID) Model is identified according to learning theories and the associated design to accomplish the recognized research and learning objectives of students. The ID Model for Planes and Lines in 3-Dimensions (3D) courseware lists media factors with 3D model. The use of a 3D model along with instructional media supports the learning theories in terms of visualization. The contents of the courseware are separated into three major parts namely: Lessons, Overview, and then Questions. In Question section, the students should answer the questions based on the topic learnt which covers the practical aspect as well as SPM format questions. The Question based section supports learners in terms of constructivism learning hypothesis since learners are able to develop their understanding based on self-directed activity [3]. However, the study will select one of the models, which will match and strengthen the study objectives of this research.

I. THE ADDIE MODEL

It is an instructional design model (IDM) which provides step-by-step methods that assists in creating training programs. Its components are as follows: Analysis, Design, development, evaluation and implementation. This process includes the entire training development process; from the time being questioned, about what people need to do to learn? Till the point where someone actually measures, whether or not people learn what they need to learn? , According to [15]. To provide an extremely clear and transparent approach is its aim so that researchers may design the program structure accordingly. It also provides an overall view of the learning process and it is characterized by an orderly process for gathering and analyzing collective and individual performance requirements. Hence, it is helpful for this research and provides step-by-step process which assists in building the prototype.

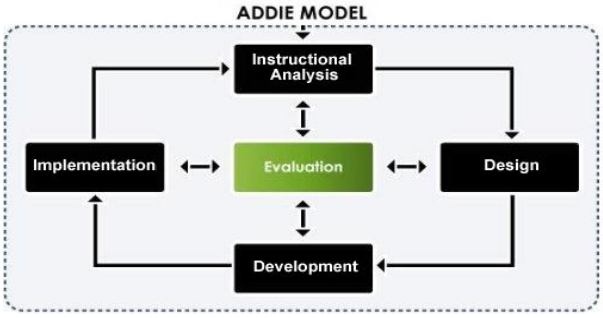

Figure 1. ADDIE design model (Dick & Carey, 2004).

MOTIVATION THEORIES

THEORIES OF LEARNING MOTIVATION (TLM)

The TLM has been adapted by Cross and Steadman, (1996), they adapted it to the elements which have an effect on motivation. In addition, there are psychological factors in motivation. Learners perception of their competence and how they estimate the amount of control they practice in the process of learning greatly affects their performance, some TLM are

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outlined in a short period of time. The significance of the theories in teaching is emphasized to the tutors [16].

I. MASLOW THEORY OF MOTIVATION

This motivation theory is one of the most famous and the influential theories on motivation at workplace. Firstly, Abraham Maslow the psychologist has developed his theory from individual growth and motivation in the 1940's. He proposed that man has a hierarchy of needs, it is that all people behave in a certain way that addresses their basic needs, and this is before moving to satisfy the needs of the upper level. Furthermore, Maslow's motivation shows how important it is for our needs to be met before going up to the hierarchy, to address more composite needs such as, the need to meet the essential, physiological need for water, food and warmth and focus on safety the need to join community and so on. However, the motivation theory of Maslow is typically represented by five steps: Esteem, Physiological, Safety, Social, Self-actualization needs [17][18][19].

II. COGNITIVE EVALUATION THEORY

These theories move from external to internal and the rewards and outcome leads to motivation. It still survives after the external, internal stimulus stop. It attributes to the pay structure in an establishment or an organization. When treating external elements like inducements, pay, promotion etc and internal elements like interests, drives, obligation etc, individually, they ought to be treated normally to each other. The cognition is such an internal motivation will continue even if the external motivators are not there. However, practically extrinsic rewards are given a lot of weight age [20].

III. SELF-EFFICACY THEORY (SET)

The Self-Efficacy of learning motivation (S-E-T) emphasizes an individual's beliefs about one's ability to learn, according to [21]. Some are of the opinion that one's ability is a characteristic established since birth and is seen as a fixed trait. While others believe that the ability can be expanded and people can achieve success through hard work. This incremental view of ability motivates us to adopt challenges so that we may increase our ability, knowledge and to encourage us never to quit when tasks become extremely difficult. However, for others, impressions about their deficiency to learn are more significant than real skill levels. Learners sitting in class might have high intelligence but lack assurance in their ability to finish tasks successfully by [22]. In addition educators can increase learners' optimism level for possible success and reduce their concern of failure by providing temperate, non-threatening levels of challenge. The fact that learners focus on their ability to succeed depends on two factors which is; their level of difficulty and their confidence in their ability to succeed in a particular duty. Permitting learners to revise their subjects, by giving them options in tasks, and always providing positive feedback on all learning tasks will enhance their duty, intelligence of control, and mastery, University Center for the Advancement of Teaching [23].

VII. TRADITIONAL METHODS OF TEACHING

The conventional method of education where learning plans and activities are all set from the perspective of teachers refers to the traditional face-to-face teaching. In face-to face teachings, traditional methods of instruction are adopted. It is the responsibility of one instructor to teach tens of students a particular subject and then evaluate the student's progress through regular tests. In addition, the only source of learning for the students is teachers and their teaching materials. Besides, this takes place without considering individual differences, materials and courses arrangement and due to this student's competence level cannot be reflected individually. Finally, students are equally treated like beginners and are forced to accept knowledge which might be mastered already. Hence, this instructional model might be a waste of time and even decrease the learning motivations of students [24].

In Addition [25] suggested that traditional learning patterns mostly utilize face to face methods to deliver educational materials during the use of classrooms to students. The method involves the physical attendance of students in order for learning to occur. The evaluation and students assessment are done via the same method. It has a cultural effect as community interacts and learns from each other. Students have the chance to communicate with the teacher and other students in the process of learning which forms strong relationships. However, traditional mode limits the education distance and cannot reach all people as they are separated by space and time.

VIII. INFORMATION TECHNOLOGY AND LEARNING

The Professionals of Computer for Social Responsibility (CPSR) said that web technology feeds our thoughts when they state, the future is driven by technology, but steering it is up to our thinking, so there is a need for our hands to be on the wheel (CPSR, 2007) – according to Rochelle, (2008). So how do we organize ourselves so that we may steer as individuals working with Information Technology? Furthermore, if we start using technology at a young age it is the best time to teach good ethics and morals. But, this discussion desires to continue in our classrooms at the college level. Our learners need assistance to make ethical decisions that are unique in driven technology of today's world. Furthermore, Samuel (British author in the 1700s, famous as Dr. Johnson) wrote that Integrity without knowledge is useless and weak, and the opposite is risky and terrible (Berkowitz, 2007). According to Moor (1985), a usual problem in computer ethics occurs because the policy vacuums about how we should use the technology of computer. It is obvious that nowadays technology driven environment computers offer us new capabilities that provide us new options for action. The aim of computer ethics (CE) is to decide what we should do in such cases. CE contains consideration of social and personal policies for the moral use of computer technology [26][27].

RESEARCH METHODOLOGY

I. OVERVIEW

In this chapter the research methodologies and techniques that will be applied in the study for the analysis of the collected data will be described in details, the study population will be defined, and the area where the study will be conducted as well, also the study design and data collection. This chapter will illustrate the statistical tools that will be used for analysis

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and the type of collected data. In addition to that which measures that will be used to specify the validity and reliability of the results obtained from the analysis of the study, and making the reliability test to identify the overall consistency of measuring the results from the analysis.

II. RESEARCH DESIGN

The research design consists of mixed methods (qualitative & quantitative). The qualitative approach will be conducted in the early phase of the research to study social and cultural phenomenon; while the quantitative approach will be conducted in the next phase to study natural phenomena. In other words, The Qualitative method has been used for collecting and analyzing the data. The quantitative method is used to support the qualitative data because of statistical analysis which provide accurate analysis and prediction. Utilizing both methodologies will enhance the reliability of the results and tests. The expected result will evaluate the children's learning, reading skills and memorizing the Holy-Quran by using Al-Furqan courseware. The quantitative data will support the final conclusion according to evaluating the qualitative data. In research study we should use both of our eyes better than one. The instruments consist of constructed interviews, observations, post-test, pre-test and questionnaires. In addition, an observation is one of the main elements in our instruments. However, it will focus on the teacher's technique and the reaction of their students. Thus, to know the effectiveness of Al-Furqan courseware on students level of knowledge [28].

According to [28] qualitative methodology is extremely naturalistic and carried on in real time with the researcher in control. In addition, study proves that mixed methodology design lets the investigator understand the research problem very well. Furthermore, the researcher of this study combined the qualitative and quantitative methods to complement each other in the field. Finally, to evaluate the research questions the researchers used these two research methods. The figure below illustrates the research design methodology which will answer the research questions:

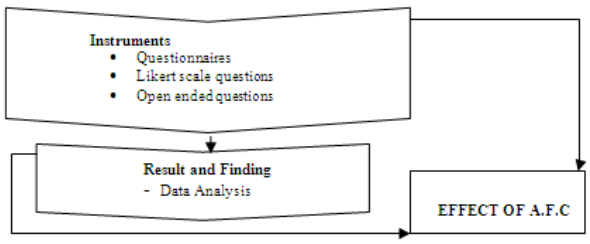

Figure 2. Research design

III. DATA COLLECTION METHODS

The researcher will utilize random sampling in selecting the participants in 5th grade from Libyan primary schools in Malaysia. In addition, data will be collected using checklists, interviews, observations, post-test, pre-test, and questionnaires. The questionnaires will be issued to learners and illustrators. Interviewing the instructional staff and some students will also be observed as a means of obtaining data. Furthermore, pre-test and post-test will also be performed so that the student's performance may be monitored before and after using Al-Furqan courseware to learn the Holy-Quran. The checklists will be distributed for experts and designers of the courseware illustrations.

I. QUESTIONNAIRE

A questionnaire is list of survey questions addressed to respondents and designed to extract specific information according to (Kumar, 2005). Questionnaires will be used in this study for data collection. The questionnaire consists of numerous questions which helps collect the appropriate data. Two types of questionnaires are produced. Firstly, multiple choice questions which contains 11 questions. The study has been developed in order to help the researcher in prove how strong the participants agree or disagree with a particular item of the questionnaire based on the courseware. Furthermore, a questionnaire helps the researcher to assess the participant's feelings towards a certain issue of the prototype; such as, the navigation, flexibility in use and techniques. Secondly, an open ended survey contains will be issued which contains two questions seeking the participants thoughts and opinions which will lead to the research objectives which had been developed to investigate the effectiveness of multimedia courseware in knowledge transfer and also as a helpful approach to enhance knowledge transfer for 5th grade students in Libyan primary schools.

II. PRIMARY DATA

The primary data will be collected by using questionnaires so that the objectives of this research may be met. This questionnaire will be issued to learners and instructors. In addition, the researcher will interview particular teachers and students to discover the learning and teaching problems pertaining to the Holy Quran.

III. SAMPLING TECHNIQUES

The Simple purposive sampling method has been utilized in the questionnaire process pertaining Libyan primary schools. The technique of purposive sampling is defined as "A purposive sample which is a sample selected in a deliberative and non-random fashion to achieve a certain goal" by (Steve, 2008). Purposive sampling technique is appropriate and useful for this research as it obtains a successful questionnaire and covers the research objectives. The advantages of using purposive sample is very useful for educational research, the people who have been chosen for the sampling each have a particular purpose already in mind and the results of purposeful sampling are expected to be more specific than those achieved via alternative means of sampling. This method was chosen by the researcher in order to achieve the accurate result.

IV. PARTICIPANTS

The study population will comprise 60 students in the Libyan primary school which is located in Jalan Ampang-Kuala Lumpur. The research aims to develop an effective multimedia instructional design and multimedia courseware called Al-Furqan to teach the Holy-Quran. Then measure its impact in knowledge transfer addressed at 5th grade students learning of the Libyan primary school. The 60 participants/students between the ages of 10 and 14 years old,

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the answers had been provided individually by the students and from teachers in different positions.

V. VALIDITY AND RELIABILITY

The reliability and validity of this courseware will be illustrated to decide the degree of the suitability of Al-Furqan Courseware in teaching The Holy-Quran. However, reliability test will be done to establish the appropriateness of the instrument which will be utilized this will be done via the scale of Cronbach alpha. Furthermore, this scale is going to be used as it is the most used reliability test tool by the researchers. In previous studies, we will find that the appropriateness of the instrument is at least 70% or above. The analysis process will include descriptive statistics and inferential statistics to ensure the reliability of the results on the scale of Cronbach Alpha. In addition, the validity of Al-Furqan courseware will discover the suitability of the courseware that will be used as a method in the teaching process. This will be done by giving a copy of the courseware with checklist to experts and skilled people to test and evaluate. Also, the appropriateness of this courseware in teaching the Holy-Quran will be ensured. Moreover, as mentioned above, the validity and reliability are aims to evaluate the research instruments. Reliability is "the degree of accuracy or precision in the measurements made by research instrument. The lower the degree of "error" in an instrument, the higher is the reliability according to (Kumar, 2005, p. 156). Reliability is the ability of using the instrument and getting the same or at least similar result at similar conditions. In addition, when data is collected on multiple occasions using the same instrument under the same or similar conditions indicates an error. Furthermore, it reflects an instrument's unreliability. Therefore, to obtain a higher reliability level in this research, the data collected will be given the same result or at least similar to what the researchers have obtained.

IV. DATA ANALYSIS

The statistical Analysis will be carried out using the primary tools to analyze data were the Statistical Package for Social Sciences (IBM SPSS Statistics software SPSS version 20) to analyze data of instruments in two sections: General Review and specific review of Arabic Multimedia Courseware in Markets. To find out the standard deviations, means, frequencies and counts as well as the percentage of the data. In addition, a mixture of inductive and deductive analyses will be used to form collected data in extent of that to make the statistical analysis, researcher will apply analysis of variance type which is (one way ANOVA) to know the differences between the products.

V. EXPECTED RESULT

The expected results of this study as follows:

- It will help students' to acquire new skills after using Al-Furqan courseware.
- It will increase the learning skills of students to read and memorize the Holy-Quran.
- It will motivate and change students' and teachers' attitude after using Al-Furqan courseware.
- The interactive learning style will help students to read the verses of the Holy- Quran in an interesting way.

VI. CONTRIBUTION

To achieve the objective of this study, the following are some contribution:

- The technique used to evaluate the market courseware will be a guide line to the future researchers.
- The instructional design model which has been developed in this study brings out a guide line for the future designers.
- The experts' evaluation and recommendations will pave the way for future researcher.
- The results obtained from the courseware will be a guide line to future researcher to develop a suitable courseware to their students in the class.

VII. DISCUSSION

This study will find that students who were used AL-Furqan Courseware, significantly will improve their motivation, satisfaction, comprehension skills, and significantly will improve their grades in final exam compared to the students who use the traditional method. In addition, it is essential to note that AL-Furqan Courseware will aid students to improve their critical thinking skills. As a result from the critical thinking segment from the pre-test signify that the majority of the students in traditional classes will fail to score in the test. However, it is important to note that students who will use traditional method will fail to stand in the same level, whereas, the grades and results of students who will use AL-Furqan Courseware were improved in the post-test.

VIII. CONCLUSION

Results from this study will show that the environment of multimedia learning such as AL-Furqan Courseware motivated students to carry on learning the Holy-Quran in the class. Students' exposure to the environment of multimedia such as AL-Furqan Courseware also statistically will enhance the performance of students' in the final exam. These findings are supported by several findings in the field of multimedia education. Results also will suggest that the multimedia instruction design such as AL-Furqan Courseware will enhance students' motivation, satisfaction, confidence, attitude and perception about learning the Holy-Quran. As such, this study will demonstrate that instructional design such as AL-Furqan courseware when embedded with state of the art technology and combined with the latest theories with paradigms of teaching and learning indeed will assist students to excel in their studies. It is interesting to mention that AL-Furqan courseware will incredibly effective in assisting students to understand the concepts of the Holy-Quran. Thus, the findings will designate that the students in the constructivist setting using AL-Furqan courseware will be fully benefited in comparison to the traditional method.

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