CHAPTER VI

DISCUSSION

6.1 Introduction

The main objective of this experimental research is to develop an effective interactive multimedia to teach Qur'anic recitation based on Tajweed courseware, and compare it's with traditional methodology of learning the Qur'anic recitation, as to 139 students of level 4 and 5 (treatment group) using Almoneer method for learning, and 42 students of level 4 and 5 (control group) using Textbook at Sekolah SK Taman Kosas Ampang, Selangor, Malaysia. The investigations were carried out by utilizing a predetermined general and specific checklists, were developed based on the most trusted and viable instructional design intervention theories, such as Mayer Nine Ways to Reduce Cognitive Load in Multimedia Learning (2003), Gagne's Nine Steps of Instructional Events (1985), Keller's ARCS Model of Motivational Design (1988) and Reigeluth's Seven Steps of Elaborative Theory of Instructional Design (1999). In the process, this study has determined an effective interactive multimedia Quranic recitation with Tajweed courseware called Almoneer.

Almoneer was developed based on the same principles and modalities applied to investigate the effectiveness of the Qur'anic recitation with Tajweed multimedia products exist in Malaysian classrooms and markets. The problem investigated in this research was that the majority of the learning a Holy Qur'an in the classrooms are taught with little or no regards with the current field-tested paradigm of self-centric

acquisition. This situation is unfortunate for the fast growing learners who want to learn the Holy Qur'an based on Tajweed and Harakaat. The theoretical framework for this research is based on the constructivist paradigm of teaching. Constructivists allege that to understand how a person learns; instructor must identify the nature of teaching and learning first before even attempting to teach the Qur'an.

To teach a Holy Qur'an especially the recitation based on Tajweed, one must admit that it requires careful planning from where you should start and thoughtfully designed instructions. As such, to understand how the knowledge transforms, how a learner learns and how a teacher teaches, it is very important to know what the psychologists and mind blowing theorists perceive knowledge transformation.

According to behaviorism, advocates have successfully received this arrangement of prizes and disciplines in their classrooms by remunerating wanted practices and penalizing wrong ones. Rewards however should be critical to the learner somehow.

The constructivism is a worldview of discovery that depicts the information development procedure. In constructivist learning, students learn effectively instead of inactively sitting tight for the instructor to give instructions (Ellison and Wu, 2008). The purpose of learning is for the individual learner to build her/his own meanings. Piaget, one of the prominent educational psychologists of the constructivist paradigm stressed that learners construct knowledge through a rational combination of internal challenges facilitated by the force of environment (Izzo, et al., 2006). These internal challenges are caused by the environment. Piaget (1964) a standout amongst the most forthright constructivist scholars trusted that learners have inner intellectual association and that is the reason they comprehend the world better (Maynard, 2008).

Piaget asserted that kids learn through their activities and trusted, "that we "see" objects with our eyes as well as with our brains. To Piaget, human is always in constant development. We learn something by the help of our past knowledge. In the process, we re-invent a new knowledge.

Vygotsky theory, another prominent educational psychologist of the constructivist paradigm maintains that there is a strong relationship between human beings and the environment. Vygotsky claims that each occasion in the kid's social advancement seems two times: Firstly, it shows up on the social stage i.e. (interpsychological). In this stage, kids create as a consequence of social collaborations. Secondly, it shows up on the individual stage intrapsychological. In this stage, a youngster needs individualistic consideration and backing from a grown-up to advance. For the insight to create there must be a "Zone of Proximal Expansion" among the kids. The learners in the first place are not ready to handle things without anyone else. All things considered, the idea of framework will help them to scaffold that crevice and enhance their comprehension of the mind boggling issue. Jerome Bruner theory, a constructivist philosopher, emphasized that in constructivist learning, the role of the learner is clear. This is because in Constructivist Learning, its chief belief is that people construct their own understanding of the world and in turn, their own knowledge (Ishii and Drew, 2003). As such, learning is student-centered and learners construct knowledge through their own investigation. In constructivist learning, the learner is seen as self-motivated, supportive, comprehensive, objective located, analytical and focused. This instruction is student centered and learners build data via their own investigations. The learner needs to step up during self-evaluation and constantly investigating her/his progress in ensuring that each learning goals and

objectives are met efficiently. According to Theory of Charles (1999) that agreed instruction guideline should be organized form easy to-complicated, general-to-detailed, unique to-solid way for ideal learning and connected to individual lessons inside a course. For an understudy to create from easy to more unpredictable ideas, certain essential learning and aptitudes should first be aced. This essential sequencing gives linkages between every lesson as understudy spirals upwards in a course of study.

This study applied triangulation methodology or a mixed methods approach of quantitative, qualitative and descriptive design are applied in carrying out the investigation. The researcher utilized qualitative method to collect and analyze data while quantitative method is used to further strengthen the qualitative data. Descriptive method is used to analyze data, which is non-numerical such as interviews, and classroom observation.

In this study, the five classes were selected two classes of level four and two classes of level five named treatment group, other one class is mix between level four and five students named as control group. The control group were recite a Holy Qur'an based on Tajweed and Arabic Alphabets with Harakatt, through traditional method of face-to-face teaching methodology. The teacher utilized chalks, a Holy Qur'an textbook, Arabic textbook and the white board to teach the Islamic Subjects. While the treatment group were taught the Qur'anic recitation and Arabic Alphabets with all vowels via Interactive multimedia intervention using Almoneer. This courseware is designed based on the constructivist principles of teaching and learning paradigm.

In an attempt to statistically generalize the research finding based on the analysis reported in the previous chapter, various analyses carried out focused on complementing each other in providing a clear indication on the performance of the Almoneer instructional learning system. Descriptive statistics such as mean, standard deviation and frequency and inferential statistics such as T-test statistics were used to analyze the numerical data collected from SK Taman Kosas primary school students. Bootstrapping was employed to derive estimates of bias and standard errors as well as the confidence intervals for complex estimators of the distribution based on the percentile points. Bootstrap statistical analysis was used to check the stability of the results reported in this thesis. Bootstrap is asymptotically more accurate than the standard intervals obtained using a sample variance and assumptions of normality (Cameron et al., 2006). The subsequent section of this chapter provides a detailed discussion specifically on the research questions and extends to informants' perspective to the Almoneer program as well as students view. Careful classroom observation conducted to validate the appropriateness of the multimedia learning system in impacting student rightly with knowledge of the recitation based on Tajweed were reported and the post evaluation of the Almoneer over traditional learning system. The impact of the multimedia instructional learning system was also discussed to ascertain the relevance in providing learning support to students. The prime reason of developing an alternative teaching and learning platform based on a multimedia instructional system of learning is to genuinely establish an instructional learning system to impact knowledge and skills pertaining to religious practices to students at the primary level so as to create a strong foundation to overcome the barriers to Arabic language as well as difficulty in recitation.

6.2 Research Question 1

The strength and weakness of the multimedia program in teaching Qur'anic recitation.

The discussion reported in this section is confined to the strengths and weaknesses of the Almoneer instructional learning program developed and validated in the present research to teach students Qur'anic recitation based on Tajweed rules. Based on the results presented in the previous chapter of this research, the multimedia instructional learning system allows the students to acquire the necessary skills and get clear insights needed to empower their learning capability. The multimedia instructional learning system developed and validated in the present study, was found to have provided enormous insights on the suitability of a multimedia system in improving students' performance. In an attempt to examine the strengths and weaknesses of the multimedia programs to teach Qur'anic recitation based on Tajweed in Malaysian classrooms, the results has shown that the Almoneer program comprising different learning features including puzzles improves the students the learning capability and encourages them to learn more. However, multimedia instructional technology requires a total paradigm shift from face-to-face learning to visual presentation incorporating technological features that requires skills. The computer network such as the internet is required in applying a multimedia learning system to classroom teaching. This stands to establish changes in the way students communicate and interact with other students as well as their teachers. This paradigm shift in the way students learn could consequently lead to a major change in the way educational materials are designed, developed, and delivered to students. For instance, instructional technology referred to as 'learning objects' provides a reusability,

adaptability and scalability learning platform (Downey et al., 2005; Gibbons et al., 2000; Kay & Knaack, 2005; Lts, 2000). Although weaknesses associated with a multimedia instructional learning system involves a total shift in the use of materials and learning skills, a multimedia program is versatile and provides students with a step-by-step learning approach and is self-explanatory. A multimedia system is a computer-based instructional learning program that is grounded in an object oriented paradigm. Object orientation entails the creation of components referred to as "objects" which are reusable in multiple context. Fundamentally, instructional designers build small learning objects as an instructional component to support a number of learning contexts. In addition, learning objects are generally digital entities significantly different from learning objects and other instructional media. Supporting the notion of reusable instructional media learning objects, Reigeluth and Nelson (1997) suggested that a teacher is required to gain access to the instructional materials. This is because, they support individual instructional goals and has remained the important strength of a multimedia instructional system. This has facilitated the widespread application of learning objects (Lts, 2000). Learning objects are digital or non-digital entities that are used, re-used to reference technological learning support such as computer based training systems, interactive learning environments; intelligent computer aided instruction systems as well as a collaborative learning environment. The learning objects that support a multimedia program can be delivered across the network on demand. Typical examples of reusable digital resources such as digital images or photos, live data feed, live and prerecorded video or audio snippets, text, animations, and smaller web-delivered applications, like a Java calculator are among small reusable objects. Larger reusable digital resources encompass the web pages comprising text, images and other media or applications that deliver a complete

experience such as an instructional event. These features complement in providing students with a visual learning platform that outperform traditional learning systems. The learning skills pertaining to multimedia enable the students to learn knowledge underpinning visual learning. They learning capability enables students to develop and evaluate multimedia systems for a variety of audiences basically in the context of classroom teaching. The ability of the students to consistently recite the Qur'an has improved their learning capability. This was evident from their regular usage of computers at school and at home. Research has shown that regular use of computer programs advertently improves students' performance and indicates how their knowledge is closely linked to proficiency skill and additionally, leads to greater success and achievement in school (Tozcu & Coady, 2004). They claimed that multimedia instructional system provides clarity and enable students to diversify courses. The incorporation of the Almoneer in the present research makes it easier for students to read and write Qur'an better, understand the main ideas and recite correctly, as they recite the words. In this respect, research findings indicate that the importance of learning using the multimedia learning system is lexical problems and frequent interference with communication breakdown especially when wrong terms are used. The implementation of a multimedia learning system in schools has been helpful in ensuring accuracy and clear illustration of the teaching context. Fuller et al. (2004) reported that progress has been made in relating students to practice mastery in learning outcomes, which in the present research is to recite the Qur'an fluently. Fuller et al. (2009) found that students are concerned about inconsistency in making adjustments throughout their courses. It was found that most students may require too many adjustments to cope with the multimedia learning system. However, this research shows that the Almoneer program was easier than the traditional learning

system. The students showed great interest in using it consistently for learning and reciting the Qur'an using Tajweed rules. The strong commitment to use the newly developed instructional program could be considerable as 'motivational' in providing students with a set of learning tools that meet their intended need. This will promote compliance with the specifications for online learning as well as keeping to the rules of the Tajweed. It becomes imperative that the program will drive more template based designs in extending the practices to other subjects. Learning objects seemed to be poised to become the instructional technology of online learning. However, technical standards and venture capital are not enough to promote learning. In order to promote learning, technology use should be guided by instructional principles designed to meet the intended goal depicting the strengths of a program. The weakness is confined to the necessary changes and modifications to accommodate learning processes, especially in translating written texts and images to visual presentations that are reusable.

6.3 Research Question 2

The most important criteria for self-centric learning in the recitation of the Holy Qur'an based on Tajweed.

The most important criteria for self-centric learning of the Recitation a Holy Qur'an based on Tajweed would be the ability to use the system independently. This will achieved by following the steps of approach.

In the first step, an Arabic letters will pop up on the screen. The button when clicked will reveal the audio file which shows the correct phonetic of each letter. The student is thus given the opportunity to recognize the letter and by listening to the audio will

succeed in correct phonetics of each letter. This technique enables the students to learn and practice saying the letters in the correct manner. In the second step, a puzzle link is established to help the students learn the order of writing the Arabic alphabets correctly. In case the students make a mistake The Almoneer system will direct the students will allow multiple attempts for the students to get it right. In the third step, the students is introduced to the five General-Makharij points. The Almoneer system allows the student to click on the various Makharij Points and see which letters are discharged from which area. The student can click multiple times until they get the correct pronunciation and the proper phonetics of each letter. The Almoneer system is also geared to helping students understand an important factor of Arabic language ie. The vowel Sound or (Harakaat) is enabled the screen to display both letters in their original and the letters bearing a Sukoon. The position of the lips and tongue are clearly demonstrated in the program to facilitate the learning process for the students. The program by the process of mirroring will continue to learn the correct alphabets in a relatively easy manner in a shorter time frame. On successful learning of the alphabets, the students would move to reading words and small sentences in Arabic. This will automatically lead the students to recite the Qur'an in the proper manner, as now they will only need to remember and apply the rules of Tajweed. Furthermore, a repetition function enable the students by hovering the mouse over the word to hear the Quran words several times. This is to make the students learn how to recite Quran based on Tajweed. Then after the students know how to recite the words of Qur'an based on Tajweed, they will learn how to recite the whole verse of the Quran. The learning how to read a whole verse mean that the students will read more than one word in sequence. Based on the results of reciting the whole verse, some students face some difficulties and could not recite the words of the verse correctly with the

Tajweed rules. To solve this problem the students have been directed by the panel (the researcher and the teachers) to watch the tutorial video that demonstrates vowels (Harrakatt) such as Waqaf, Waqaf Ijbari and Sali. After watching, the tutorial video the panel noticed that there is was a clear improvement in students' recitation and Tajweed. This enables the students to distinguish between the rules of recitation and the rules of tajweed such as Iglab, Idgham, Mad Jaize, Mad Tabbi, Qalqalah and Idhar. For the validity of the criteria including the four vowels in the present research added and its harmony with the other variables, the factor analysis are computed for the all vowels. (The four vowel were added to the vowels helped students to know how to compare between many letters in right pronouncing such as the different between adh and az). Now the students can read the letters with the four vowels better than before and they can differentiate between its pronunciations. In addition, I listened to the previous records and I found the students read the Holy Quran with right method. In Table 63 there are some words from Surah Al-Fatihah that was pronounced wrongly, but it has already improved after used criteria of Almoneer.

TABLE 63: Words Improving from Surah Al-Fatihah

Before Improving	After Improving
الحمز	الحمدْ
الرَّحمن	الرَّحْمَنِ
يَوْم	يَوْمِ
الوين	الدين
نعبز	نعبدُ
عَليهِمْ	عَلَيهِمْ
إهزنا	إهد نا
المغزوبى	المغضوبى
ولا الزالين	ولا الضَالين
سراط	صِراط

The hypothetical statement of the research two were addressed statistically using the Spss Amos version 21, to fit a structural equation model to the values of a sample,

dataset used was extracted from analysis results after performed CFA. The hypothesis testing presented in this section were used to determine the probability that the proposed statement guiding the research for a self-centric learning were tested the variables used in this this research.

According to the results from the hypnotical research two

1. Four movement has a significant and positive influence on students towards Self-Centric learning.
2. Recitation rule has a significant and positive influence on students towards self-Centric learning.
3. Tajweed rule has a significant and positive influence on students towards Self-Centric learning.

6.4 Research Question 3

The requirements for developing a self-centric learning prototype to learn Recitation Qur'an with Tajweed?

The usefulness of the developed multimedia instructional learning system confines to its capability to deliver the intended service. The advances in technological innovations have prompted for an increasing need to develop competencies that prepare students for a lifelong learning. This is necessary to possess a foundational knowledge to foster learning using new knowledge in ways that facilitates the application of multimedia instructional program. The adoption of multimedia learning system becomes attractive not only because of the multiple learning features, but because of the convenience of using the system at different locations including remote areas. Unfortunately, classrooms, teaching and training methodologies are confined to

write program requiring face-to-face interaction. Most students find it very difficult to study under a confined environment with limited sources of information which multimedia instructional system provides. Therefore, an efficient and effective instructional system requires a rich learning curricular with activities that complement each other in fostering learning (Mathieu et al., 2000).

In an attempt to fully answer the third research question of the present study, the Almoneer program methodological concept used for instructional learning designed for teaching Qur'anic recitation based on Tajweed rules was very compatible with the students learning temperament and has significantly contributed to tackling specific acute learning problems associated with learning the Arabic Alphabets with vowels, correct pronunciation of the Qur'an based on Tajweed rules. The initiation of multimedia learning system has shown that the requirements of SCR prototype are as follows:

The prototype must use a range of media features during learning and observation process. Features such as games have shown a significant improvement in student's engagement with their learning materials as compared to the conventional learning approach. Furthermore, the students accesses to the learning materials, improved with the use of multimedia instructional system. The effectiveness of the learning system assists in a classroom learning environment and home practice, especially among those who has access to computers at their respective home. By increasing the students learning capability and greater exposure to learning materials, has consistently enhanced Qur'an learning compare to previous years and the features entices students to learn even at their free time. The method of learning and teaching Qur'an recitation in the present study offers great opportunities and insight that

enables the development of a learning environment that motivates students to learn and recite a Holy Qur'an properly *(Qur'anic teachers from the classroom).* The multimedia learning system allow students to visualize complex phenomena and text and at the same time provides opportunities to practice very effective in particular contexts. According to Vogel et al. (2006) highlighted that training based on multimedia instructional system offer a number of advantages. Many students look to the video and watch the computer games in the multimedia system as an opportunity to enhance their learning outcome by carefully watching over the motivational features of the electronic game designed specifically for learning purposes. Presently, classroom observation has shown that considerable interest focuses on the electronic games. The learning features are so attractive because of clear enthusiasm most children and adults plays using the program. Students are seen the gaming environment as an opportunity to break the 'tell test' paradigm that is very common in learning modules. It is suggested that playing games could certainly increase student learning eagerness using visual learning material. This could increase time on task, and ultimately lead student to improve their performance as well as their commitment. This form learning has long been desired by the educators to encourage students to focus on their study in school and at home. The presence of computer games in the Almoneer teaches children rudimentary skills such as spelling and the rules of games such that enables them to compete based on specific instruction and exposes them to do multiplication and addition. Instructional design based on the multiple learning concept is essentials to boost the learning capability of students and to drive their motivation to achieve a quality education. There are numerous indication showing that the prudent implementation of multimedia instructional technology designed for learning in the present study is in possession of great potential to broadly enhance

more elusive of the educational process such motivation to learn and continue learning throughout lifetime. Obviously, application of games in the Almoneer holds attractive interest to the present day children who desires to engage in computer to learn. This is a clear indication that program associated with a computer is promising educational tool for future generation. Whether the interest to use the computer for learning because of the competitive challenges in playing games or not, the abundance graphical presentation available to multimedia users opens up the opportunity to conveniently interact with others in web-based games. Moreover, the current developed learning methodology emerges as an excellent learning platform partly because of the flexibility of the learning environment incorporating learning features and entertainment. Therefore, it can be surmised that the program will considerably extend to other important learning application in the near future. Exploiting the motivational aspect of multimedia games for learning should be considered based on sound understanding the features of the learning systems provides. The present study has successfully developed the method of learning and teaching Qur'an in schools. In an attempt to investigate the appropriateness of Almoneer program specifically designed to enhance the effectiveness of learning capability via multimedia system, it has been found based on the result of this study that the learning system potentially improves the acquisition skills and knowledge needed to strengthen and motivates students.

6.5 Research Question 4

The multimedia instructional design perform better than traditional method of learning the Recitation with Tajweed among students.

Since a need existed to enhance the learning capability of the students studying Qur'an using the correct terms and being guided by the correct principles, Malaysia students have shown that the rich multimedia learning features used in conjunction with other attractive features have potentially tackled a range of learning difficulties faced by students in the recent years. Use of Almoneer comprising of different learning method and features proved to be at its best advantage as it was structured to blend with a learning environment to provide a comprehensive solution for tutors and students. The students acknowledged that developed of Almoneer instructional learning system outperformed conventional learning system and offer great motivational and comprehensive skill development opportunities that has aided in transforming students learning capability. This has been demonstrated in a classroom learning environment, teachers and students have shown great interest to boost the Qur'anic knowledge and learning capability using the Almoneer program, with the incorporation of Almoneer instructional learning system in Malaysia schools it obvious that a strong collaborative team will be needed in the near future to develop common and high-quality learning materials to support religious practice based on the Tajweed principles. This requires a clear vision of people with different knowledge, skills and roles, delivers specific learning, especially those relating to Quran teaching and recitation. With this development, collaborative approach and team development need to be organized to enable people to accept various practices based on Tajweed rules. Therefore, new learning resources should be developed to reduce the dangers of Qur'an teacher's team

not agreeing to use the right approach in the classroom teaching. The earlier implementation of the Almoneer in schools will not only support students' academic performance, but the development of their capability in learning Qur'an correctly, thereby overcoming the wrong method in teaching the Qur'anic recitation. The fourth research question of the present study compares and contrasted the effectiveness of a learner's performance, based on the Almoneer program using grade, motivation and comprehension skills, with respect to the traditional learning method that confines to face-to-face classroom learning. By grade, years 5 students were more and have proven to have acquired sufficient knowledge to practice and hear recitation of the Qur'an compare to the year 4 students. However, the differences are negligible, but ensure difference in learning effectiveness in distinguishing the grade performance was required. Considering the impact of motivation to the learning performance of the students, almost all the students indicated that they were motivated to use the program to enhance their learning capability. This shows that numerous learning features incorporated into the program were used to accommodate their temperament to learning environment. The flexibility of the system offered dynamically provide verse learning options needed to overcome language barriers and their inability to understand Tajweed principles as has been noted by numerous scholars. The use of pictures and animations in multimedia learning depicts interesting learning features in the context of teaching non-native speakers language to elementary school students. The learning performance of multimedia instructional system fulfills intentional learning of the Qur'an and recitation based on Tajweed, which has been possible with the traditional method of learning. The development and implementation of learning using technology based learning positively enhances learning activities of the student undertakes with the intention of gaining new knowledge and recitation skills.

The distinguishing between the learning methodological performances based on the present result identifies the exhibited characteristics and functionality that supports learners. These characteristics such as visual images, feedback information and access to online information are vital attributes of multimedia instructional learning system that is consistent across geographically disparate location and remain the same irrespective of whether or not the learning program reside in a digital library. The purpose of comparing multimedia learning system with the traditional learning system is to bring to light learning features and functionalities that motivate students to consistently learn the Qur'an and recitation based on Tajweed. A clear understanding of the differences existing in the performance of the learning system available for primary school students in Malaysia is important because it is helpful to a decision making body. However, multimedia learning system is not exhaustive to include learning features that facilitate high degrees of reuse of the embedded features that translate visual images to learning tools. Traditionally, learning objects practically prevents the reuse of an entire digital textbook because there are created in such a format that prevents other media to reuse them outside the textbook context. (Kulik, 2003) compared training with traditional method with multimedia instructional system and found that technology outperforms traditional method in many ways. In most cases practice environment is too dangerous and compacted for learning, especially where a large population is involved. Using multimedia instructional system provides the opportunity to decongest overcrowded learning environment and allow the individual to exhibit learning at their temperament. Multimedia system of learning can be used as long as internet in available and makes multimedia system always available for use even with mobile devices. Traditionally, learning, system is very deficient in providing teaching and learning services outside the classroom environment,

necessitating for an improved learning methodology to improve Quran teaching and recitation in schools in Malaysia. In addition, the embedded instructional features of a multimedia learning system provide flexibility that enables users to interact with other features and uses images and pictures to compare real life situation. This enhances the instructional experience of students and represents a significant cost savings learning approach compared with a traditional learning system that requires writing instructional system that cannot easily be modified and are confined to the face-to-face classroom environment. Besides, multimedia instructional technology provides the opportunities to distribute learning materials that allow other class members who are physically dispersed to learn together over the internet using computer networks.

6.6 Classroom Observation

The purpuse of this observation was to find out how the students perceive learning in Almoneer classroom compared to the traditional classroom. Observation revealed that the majority of the students in Almoneer entered the classroom with a happy mood and the students was busy learning. *See Figure 19*.

The learners were impatiently excited to reach their computer stations. Their facial expression indicated that they really wanted to learn. Observation also indicated that learners were satisfied with the instruction (Almoneer) and they seemed confident in learning the Arabic Alphabets and Qur'anic Recitation with Tajweed. Observation clearly indicated that learners in new program classroom appeared motivated, hardworking, investigative and with a firm understanding of the major concepts in the instruction. The observation from the traditional classroom showed that children were not happy entering the class as well as coming out of the class and waiting for the teacher to guide them. The learners were not excited when they opened their books.

They looked tired and bored to see the same learning patterns all over again. This was evident from their facial expression and body language. Observation signified that learners were not satisfied with the learning activities in the class and they went home with the unsolved problems in their mind. Observation showed that in one particular incident one student was talking to another saying that *"oh how can I read this and remember that"*. This showed that students were bored in the traditional classroom. In another heartbreaking incident, the class was extremely noisy and the teacher was unable to control the class. Teacher's facial expression showed that there was immense tension in the class between the students and the teacher. The observation indicated that students did not pay attention to the teacher instead kept playing with their pencil and boxes. In the end of the class, there was no knowledge transfer process. While it is astonishing to note that such immense tension never occurred in Almoneer class because students were busy learning and they continued to learn the Arabic Alphabets and recitation a Holy Quran. It is sad to note that in the traditional class learners seemed disinterested and unfocused during the entire class. In one incident, one student read one Alphabets wrongly that not related to the vowels and the whole class laughed including her teacher. The observation of this particular student revealed that he never asked any questions again and he remained quite since ever. It is sad, but this is the reality in the tradition classroom. Observation showed that when the teacher was teaching, the students were playing on their own and then suddenly one student asked a question which the teacher has just answered that question. It seems that there is no concentration in the traditional classroom. Moreover, learners looked disconnected with each other as well as with the teacher. The observation from Almoneer classroom indicated that there was a direct relationship between the students and the teacher. In Almoneer, students are grouped

to learn collectively. Students were completely in control and the job of the teacher was to be a facilitator only. In Almoneer, class there was no room for embarrassment because the concept in Almoneer class is that students learn together and help each other. They all focus in one common problem in order to find a collective answer. Observation also discovered that the phase of learning in Almoneer classroom was much faster compared to the traditional learning classroom. The teacher in Almoneer classroom did not have to explain the lesson to the learners as it was self-explanatory supported by sound, animation, repetition, activities and graphics. This was however, not the case in the traditional classroom as the teacher had trouble explaining the lesson many times. It also seemed that traditional learners had trouble understanding the meaning of the text, as it was not supported by any sound, narration or animations. *Reported by video.* The observation clearly indicated that students in the traditional class were more aggressive and disruptive compared to Almoneer classrooms students. In Almoneer classroom students read "Arabic alphabets with right pronunciation and recitation together with beautiful sound in the classroom *(Reported by video)* with each other and seemed to be more involved and engaged in constructive discussion rather than playing with their pencil box as students did in the traditional classroom.

6.7 Direct Observation

The main objective of the post-tests in both methodologies was to find out the effect of Almoneer and face to face learning on the students' final grade achievement in the final exam in the classroom. Students who are taught the recitation of a Holy Qur'an using Almoneer significantly outperformed the students who are taught the Recitation of a Holy Qur'an face to face method. Results indicated that students in Almoneer

class seemed very much engaged in answering the questions while students in the traditional class did not seemed to be interested at all. It is important to note that Students in Almoneer classroom were more focused on their answers compared to students in the traditional class. Results from the post test revealed that students in Almoneer classroom significantly improved their comprehension skills, performance and remained motivated and satisfied in the class while the traditional group improved their comprehension skills and performance but not significantly and seemed dissatisfied. It is important to record that students who are in Almoneer class significantly improved their final grade while students in the traditional group improved but not significantly. Some students in traditional group scored less in their post-test compared to the pre-test. Results showed that traditional group did not significantly improve their skills and performance, it is worth mentioning that students in Almoneer classroom improved more than the traditional group. It is also important to note that students in Almoneer classroom seemed to be more expressive in their answers compared to the students in the traditional class. Moreover, traditional class students seemed confused and lost in answering the questions in pre-test and post-test while learners' in Almoneer classroom seemed confident and vigilant in their answer in post-test . The productive classroom the job of the teacher and the role of the learners are clear. Teacher as a facilitator has to engage the students into a meaningful dialogue and guide them if needed to learn effectively, learners must be allowed to make their own investigation as a self-centric based on their past experiences. In Almoneer, students are given the opportunity to make their own investigations based on their existing knowledge. In order to construct a feasible and a workable instructional design to teach the Arabic Language effectively, instructors should

follow the following guidelines Mayer (2001) in designing their content delivery in the classroom.

i. Multimedia Principle: Students can gain better from words outlined by pictures as opposed to negligible words alone. In Almoneer courseware are explained by sound, animations and pictures for better vision compared to the traditional method of mere memorization of facts.

ii. Contiguity Principle: Students has better learning if the words and pictures are exhibited simultaneously instead of to be displayed exclusively. This applied in Almoneer where words of Arabic Alphabets, Lam Shamsiyah and Qamariyah, Tajweed rules illustrated pictures are concurrently appear on the screen helping students to use fully their short and long term memory. Conversely, in the traditional textbooks many redundant pictures and graphics are occupied precious memory of the students preventing them from concentrating in the actual learning .

iii. Modality Principle: Students can learn better if supplementary words appear with narration instead of appearing as text on the screen. In Almoneer, all the Arabic Alphabets and Qur'anic words are narrated with clear sounds for effective understanding compared to the traditional method where there is no narration for better learning.

iv. Redundancy Principle: Students can learn better if words are shown as a narration rather than narration screen and text.

v. Interactivity Principle: Student can learn better if they are given the ability for personal engagement. In Almoneer students are in control and they are engaged in meaningful learning by self-centric. On the other hand, traditional

students are controlled by the teacher and they are not engaged in a meaningful learning.

vi. Signaling Principles: Students can learn better if information narrated is divided into small segments to make it easy to comprehend. In Almoneer the courseware was started from easy lessons.

vii. Personalization Principle: Students can learn better if presented information is in the form of a conversation.

6.8 Indepth Interview with the Qur'anic Teachers

The interview section reported in this study provided detailed information on the appropriateness of Almoneer instructional learning system designed for teaching and learning Qur'anic recitation based on Tajweed rules. The essence of organizing an interview with the Qur'an teachers patterning to the effectiveness of the newly developed variables model is to ensure that it provides a satisfactory learning platform to equip students with the necessary knowledge to improve their religious practices. Classroom observation and practical assessment of the Almoneer instructional learning system aid in providing descriptive information on the functioning of the Almoneer. The observations from classroom teaching using the instructional learning system provided a key source of data that helps to explain student participation as well as the circumstances surrounding their involvement in engaging with the multimedia learning system. In-depth interviews conducted with the Qur'anic teachers shed light basically on their thoughts and experiences during various learning sessions using the Almoneer instructional learning system. The research findings from the interview session highlighted the impact of extending the Almoneer learning system improved Recitation of a Holy Qur'an based on Tajweed. The teachers indicated that the

program is very good for teaching the recitation of Qur'an based on Tajweed and noted that Almneer hoped to publish in many schools in Malaysia *See AppendixM.* Without the Almoneer instructional learning system knowledge and teaching of the Qur'an will remain difficult for students to cope with especially in using Tajweed rules and Arabic Alphabets with four vowels. This is because, the traditional system of learning tends based on the assumption that the students have the knowledge of what they should know should be able to do. Interviews showed that the traditional system can only afford to impart very little or no knowledge to the students. Research has found that under challenging situations, teachers tend to create extra classes outside classrooms teaching to provide additional lessons that aimed at enhancing the knowledge of the students (Hockings et al., 2009). Based on the in-depth interview results, it was found that the Almoneer instructional learning requires no additional learning class to thoroughly equip the students with sufficient knowledge of the Qur'an because the system enables the students to update their knowledge through consistent practicing of the Qur'an. Evidences generated in this research highlighted that classroom practices are confined to the content of the textbook and provides no motivation to the students while the multimedia learning system broadly relates to audio and video presentations in explaining certain terms to the students. The findings and implications based on the in-depth interview depicted that the students strongly recognize their academic and social identities that specifically address their individual learning interests. Teachers therefore are required to develop pedagogical practices that take into account the diversities of interest and needs of students. The dominant issue remains to develop a simplified understanding of the limit of development of engaging students under a certain teaching environment. This makes it necessary for teachers to reconceptualize their notion about student diversity by considering

redesigning the curricula to allow more involvement of students. Findings showed that the development of a learning system requires a conducive learning atmosphere that allows the teachers to interact and debate their views about students and challenges that inhibits the learning environment. The relevant principles that can be incorporated into the multimedia system for learning and teaching are available in a study by (Lewiss et al., 2014). The study asserted that the creation of a collaborative learning spaces based on certain rules should encourage the students to show their ability to learn and speak openly. This was a criteria considered in developing the Almoneer instructional learning system presented in this research. By ensuring that students learn and practice, what they have been taught enables them to fluently recite the Qur'an words confidently. This requires the integration of flexible activities to enable students draw on their personal interests based on their knowledge and experiences. The findings of this research suggests that student cantered learning practices should extend academic engagements to a broader range of students.

6.9 Post Evaluation of the Almoneer over Traditional Learning Method

The evaluation processes of the Almoneer learning program is confined to ensuring that the standard and services of the newly developed instructional system complies with the learning temperament of the students and allows them to learn independently at home. Post evaluation of the Almoneer program done by the researcher with Arabic and Qur'anic teachers takes into account classroom discussion and interviews as well as one-on-one interaction in an attempt to understand the suitability of the learning system to meet the intended need. *AppendixM.*

A study by Boud and Falchikov (2006) asserted that greater involvement of students in providing suggestions to enhance the designing of multimedia instructional learning

system is very necessary to enable the designer to include attractive features that attracts students to learn. Other previous studies especially those of (Hanson and Grimmer (2007); Hounsell et al. (2005); O'Donovan et al. (2008); Sambell et al. (2010)) supported the idea of using a formative learning approach based on the multimedia instructional system depicts an alternative method that enhances and promotes long term learning. However, there is an increasing need to develop a satisfactory heterogeneously structured learning method to guide a large number of students. The multimedia instructional system is particularly enriched with adequate learning content with a flexible learning platform that makes learning more interactive. Boud & Falchikov (2006) found that traditional learning systems restrict and undermine student-learning capacity making it difficult to justify their performance in meeting with learning needs. Post evaluation of the Almoneer instructional learning system seeks to ensure that learning based on a multimedia system supports a self-centric learning and accepted standard with features capable of broadening the scope of the learning content. This is considered an important aspect because it justifies that the learning system designed for the present study meets the original intended criteria. Hounsell's (2007) suggested that performance evaluation of a learning system serves as a guide to safety and reliability of a certain technology. This also ensures that the learning system complies with a certain standard that does not violet academic learning such as the inclusion of social sites that are open unedited content. However, the underpinning assumption of post evaluation is to ensure that multiple features supporting learning at predetermined conditions are consistent in delivering leaning content. Hounsell utilizes a mix performance evaluation strategy for a large and diverse learning environment and the need for a thorough evaluation of the learning system has also been noted by other previous studies (Patton, 2005). It

becomes very clear that post evaluation of a multimedia learning system potentially encourages students to choose from learning option and assess their performance (Sambell et al., 2006). In contrast, the evaluation of a traditional learning system incorporates a lesser range of learning content and capabilities; however, learning generally involves multiple intelligences that comprises different approaches. A multimedia learning system is incorporated with visual features that can be used for mental manipulation. Hounsell suggested that a thorough evaluation of a multimedia learning system takes into account the incorporation of different learning profiles that are subject to a learning content. This specifies that the multimedia system maintain a balance learning structure that are committed to transform the learning platform. In an attempt to evaluate a multimedia learning system, Katherine et al. (2010) in his work developed diverse evaluation techniques and describes them as formative and summative self-evaluation. The techniques provided opportunities that enabled students using multimedia learning to cope with their learning environment. The need to establish a suitable evaluation strategy for a learning system and in the determining assessment methods that are appropriate in determining learning students' performance. The need to choose various forms of evaluation for a learning system enables the users to confidently demonstrate learning effectiveness of the learning system with little or no support. This is considered a key issue in modeling the learning capability of students in meeting the intended learning needs. Sambell et al. (2006) found that a multimedia instructional learning system provides additional learning features that enhance and encourage students to practice on their own. This study supported the present finding that the Almoneer instructional learning system in all respects outperforms traditional learning systems that are face-to-face. This section hence draws attention to the effectiveness of multimedia learning and should be used

in Malaysian schools not only for religious practices but for other subjects owing to its uniqueness in providing a structured learning platform that enhances the performance of students and encourages them to learn independently even at their respective homes.

6.10 Impact of the Multimedia Instructional Learning System

Contemporary multimedia learning platforms have significantly contributed to the creation of a conducive learning environment. The learning features in a multimedia system supports their use for impacting students with the knowledge of the Qur'an based on the Tajweed which is the correct way to pronounce the Qur'an. Using images and video to add more meaning to the system especially and showing the position of the tongue and how each word of the Qur'an should be carefully pronounced during recitation. Therefore multimedia in the real world guides students to learn appropriately and to follow a set standard that is computerized to repeatedly demonstrate the learning posture. Besides, the motivational features are of great importance in encouraging students to consistently use the Almoneer system, even at their respective homes results shown that 70% of students reported the program motivated me and 99% liked the program. The development of the Almoneer instructional learning has to be vital instrument to immensely contribute to the enhancement of Qur'an teaching in Malaysian schools based on the findings of the present study. Technological development has enhanced teaching techniques and allows students to actively construct meaning from visual presentation. Therefore, the focus of the learning process using multimedia primarily is confined to basic concepts of the fundamental principles. This is a necessity because a clear understanding of the purpose of learning is inherently interdisciplinary therefore a valuable way of

assessment is to provide students with adequate information on the context of their learning (Blanton, 1999). This makes it essential to develop a multimedia learning environment using instructional techniques that are associated with the learning capability of the learners. Based on this fact, multimedia learning environments are developed to immerse students learning experiences within their effort in order to avoid fear in confronting a more challenging learning environment. This concept enables the learner to consolidate and internalize information (Blanton, 1999). The Almoneer instructional system is constructed with these concepts with features to explore real meaning and the need for participating in the learning process. The learning platform afforded by multimedia enables learners to exercise control over the learning environment and freedom to adapt to a customized way of learning that is compatible with their learning temperament. The uniqueness of the multimedia system is visible in many directions. The easy accessibility of learning materials, easy control of learning to suit specific conditions, capability to incorporate different learning programs and the demonstration using visual images to explain certain characters of the Qur'an especially during recitation. The conclusion that can be drawn from the development of the Almoneer instructional learning system in the present study is that its features are flexible and support learning and recitation of the more Qur'an than traditional learning systems.

6.11 Comparison between Almoneer and Market's Products

The compares results of investigation obtained from the literature review about the quality and usefulness of the Arabic and English products available in (Malaysian markets and schools) the responses expressed by the experts about Almoneer as a viable and workable instructional design to learn recitation with Tajweed and Arabic

alphabets with four vowels. The majority of the subject matter Experts have approved Almoneer with 78% positive responses of (Yes). Also indicates that only (22%) of the respondents indicated, that Almoneer require improvement (No). For the Arabic and English products in (Schools & Malaysian markets), the results from the literature review show that products (1, 2 and 3) gained (22%) yes score, products (4, 5, 6 and 7) earned (33%) yes score products in Table 15.

6.12 Effects of the Instructional Methods on Students According to the Categories

Based on the results obtained from the pre-test and post-test, the students were divided into five categories namely fail, average, good, very good and excellent students. The results reported that both of methodologies had significant in the categories and the results signify that based on the scores percentage between the two groups (Multimedia and Traditional) reported that a significant differences between the categories. These results reported that a control group in the pre-test results from Table 17 that 21 out 42 students (50%) remained in the failed category. It is important to note that of 42 students only 4 students (9.5%) in the very good category and 2 (4.76%) remained in good category. Finally, 15 out 42 students (35.7%) remained in average. While in the post-test the Fail students were noted at (48.71%) 19 out of 42. It is important to note that 16 of 42 students or (41%) remained in average category. In addition, (5.1%) 2 of 42 students remained in good category. In addition, (5.1%) 2 of 42 student's remained in verygood category. Finally, 0 students remained in Excellent category and 3 students were absent. These achievements indicate that the control method helped students to improve their final grades and to upgrade their

categories from failed to average, average to good, finally no upgrade from very good and excellent categories position.

In multimedia other group, the students' achievements was great in the post-test compared to the pre-test results from Table 20, It is interesting to note that in the pre-test 100 out of 139 students or (71.94%) remained in the failed category while decreased in the post-test were reported that no student failed category. Results indicate that 37 out of 139 students or (26.1%) in the pre-test remained in the average group while in the post-test no students of average students while in the good students were reported that 1 out of 139 students or (0.719%). It is interesting to note that in the pre-test the number of very good students were reported at 1 out of 139 students or (0.719%) while in the post-test the number increased to 55 out of 139 students or (40.44%) respectively. Finally, in the excellent category at pre-test were reported 1 out of 139 students or (0.719%) while in the post-test were reported 76 out of 139 or (55.88%) students.

This discovery indicates that students reciting a Holy Qur'an using (Almoneer) courseware significantly outperformed the students taught using traditional method (Textbook). The results indicate that Almoneer had a reality effect on the five categories of the students in term of their scores percentage in the post-test compared to the traditional method of learning in the classroom. It is interesting to note that in this experimentation the failed students of the multimedia group benefited more compared to the other group of average, good. Very good and excellent students. This is because in constructivist learning there is a concept called cooperative learning. In cooperative learning, students share their knowledge with each other without discrimination of class standing. In Almoneer classroom, students help low ability

students to achieve in the classroom without humiliation. In Almoneer classroom there is a zone of proximal development in order for the teacher to help less fortunate students to excel in her/his studies. It can be concluded that Almoneer courseware helped failed students to significantly increase their final grade compared to that of the traditional group students. In the traditional group although results show significant improvement in the post-test, it is interesting to observe that (48.71%) of the students remained in the failed category. Moreover, it is to record that some students scored less compared to their pre-test results. It is also vital to note that the achievement among the five categories were not consistent in the post-test or pre-test. That is because in the control classroom students are not exposed to any kind of technological intervention to motivate them. In fact, the traditional method classroom students learn facts and they are forced to memorize the lesson in order to pass the exam.

6.13 Summary

This chapter has discussed the results of the research in relation to the research questions, main findings and their significance and applications to the body of existing knowledge. This chapter also discusses the interpretation of the findings in light of the theories and instructional design modalities. Discussion based on the results and analysis reported in this study has shown that the Almoneer satisfactorily fulfills its intended purpose of providing a new platform for learning and reciting Qur'an based on Tajweed principles.