CHAPTER V

RESULTS AND FINDINGS

5.1 Introduction

This chapter provides the results of the study and data analysis procedures of the comparison between Almoneer and the products in schools & Malaysian Markets, Experts' general checklist evaluation, pre-test, post-test for (control and treatment groups) and quantitative data using a survey questionnaire finally, a qualitative in-depth interview conducted among Qur'an teachers obtained from the SK. The research instrument contained the research items that used to collect both the quantitative data and the qualitative data that used to generalize the findings on the performance of the newly developed Almoneer instructional system reported in this research.

The development of an empirically based multimedia instructional design approach Almoneer and the analysis based on the concept of this program. Thorough evaluation of the appropriateness of the developed the program by adopting a mixed research method stands out as an effective strategy to enhance students learning capability by applying the right knowledge and teaching skills at the primary schools stage as to enable students to establish a foundation in Qur'an recitation. In providing definite solution to difficulties teaching Qur'anic recitation with Tajweed, statistical analysis using SPSS software provided in subsequent section provided a detailed descriptive statistics of the respondent's demographics and focuses on explaining the respondent's characteristics

based on their respective experience with the newly developed multimedia instructional tool which out performs tradition system of learning.

5.2 Almoneer Vs Products in Schools and Malaysian Markets

The following Figure compares the results of investigation obtained from the literature review about the quality and usefulness of the products available in the Schools, Malaysian markets and the responses expressed by the experts about Almoneer as a viable and workable instructional design to recite a Holy Qur'an with Tajweed.

FIGURE 37: Comparison of Existing Market products with Almoneer

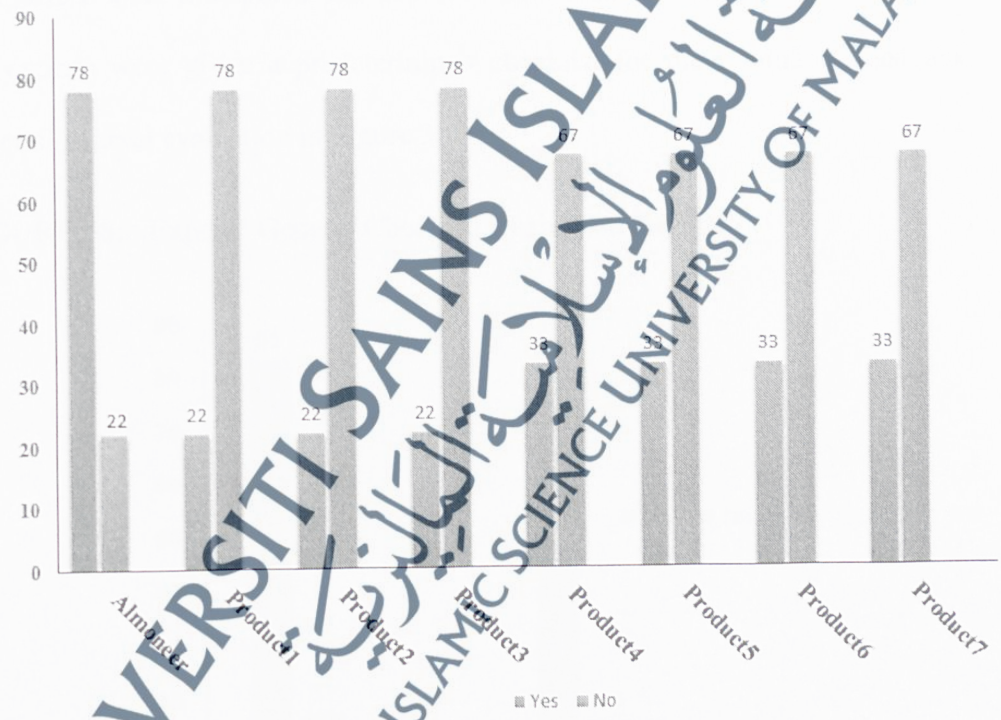


Figure 37 indicates that the majority of the subject matter Experts have approved Almoneer with 78% positive responses of (Yes). Also indicates that only (22%) of the respondents indicated, that Almoneer require improvement (No). For the Arabic and English products in (Schools & Malaysian markets), the 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.*

5.3 Experts' Evaluation

In this research Almoneer presented to the Two experts in computer science background for their critical evaluation of the contents such as information presentation, sounds, graphics, repetitions, puzzle functional, assessments, methodology and usefulness of this courseware to Malaysian primary school of SK Taman Kosas, Selangor, Malaysia. To protect the identity of the experts the researcher categorized them as expert 1 and expert 2. At the end of the PowerPoint presentation, the experts were given a predetermined checklist for their valuable feedback. See experts' general evaluation in Figure 38.

FIGURE 38: Experts' General Checklist Evaluation Results

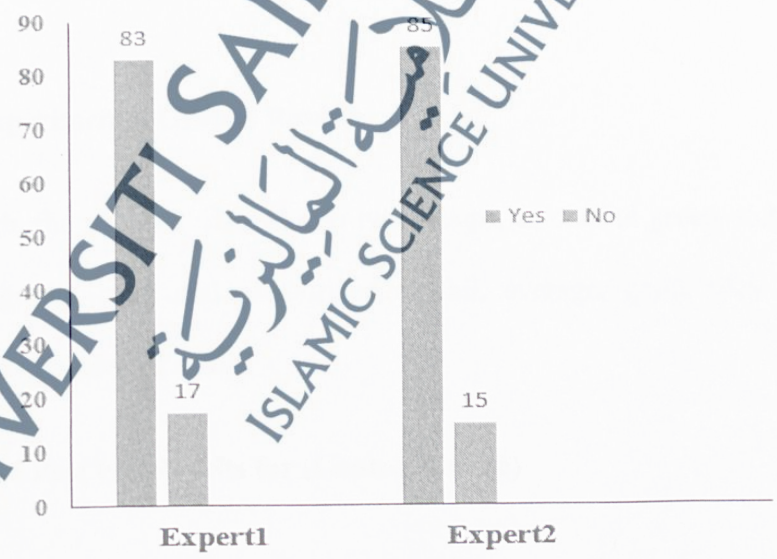


Figure 38 indicates the results of evaluation by the two experts' carried out on Almoneer courseware based on the predetermined general checklists. *See experts' general evaluation in Appendix L.*

TABLE 16: General Checklist Evaluation by Expert 1 and Expert 2

General Checklist	Yes		No	
	Frequency	%	Frequency	%
Expert 1	27.5	83.%	6	17%
Expert 2	28	85.8%	5	14.2%

In Figure 38 and Table 16, the experts were categorized as expert 1 and expert 2. The result from expert 1 suggests that out of 33 general criteria for critical evaluation, Almoneer scored 27.5 grade (83%) Yes marks with only 6 (17%) negative marks of require improvements, although require improvements is not totally a negative mark. Evaluation from expert 2, indicates that out of 33 general criteria for evaluation, Almoneer has managed to score 28 grade (85.7%) points of Yes with only 5 (14.2%) negative marks of require improvements. The astonishing results from these subject matter experts suggest that Almoneer has successfully been marked as a viable and workable A self-centric learning to recite a Holy Quran with Tajweed in Malaysian environment.

5.4 The Experimental Groups Results

In this research, the students divided into two groups, as control group and treatment group. Each group tested and categorized as fail, average, good, very good and excellent for the purpose of analysis.

5.4.1 Pre and Post test Results for (Control Group)

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 for better comprehension. See pre and post-tests performance in Table 17.

TABLE 17: Pre and Post Test Performance (Control group)

Categories	Pre-Test		Post-Test	
	N	%	N	%
Fail	21	50	19	48.71
Average	15	35.7	16	41
Good	2	4.76	2	5.1
Very Good	4	9.5	2	5.1
Excellent	0	0	0	0
Absent	0	0	3	-

Pre-test results from Table 17 indicated 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. Post-test evaluation that some students scored less and more compared to their pre-test results.

5.4.2 Students' Learning Performance

The educational performance of the students in this courseware learning Tajweed is assessed from the results of pre-test and post-test are presented in the Table 17.

FIGURE 39: Pre-Post-Test composition of the respondents (Control group)

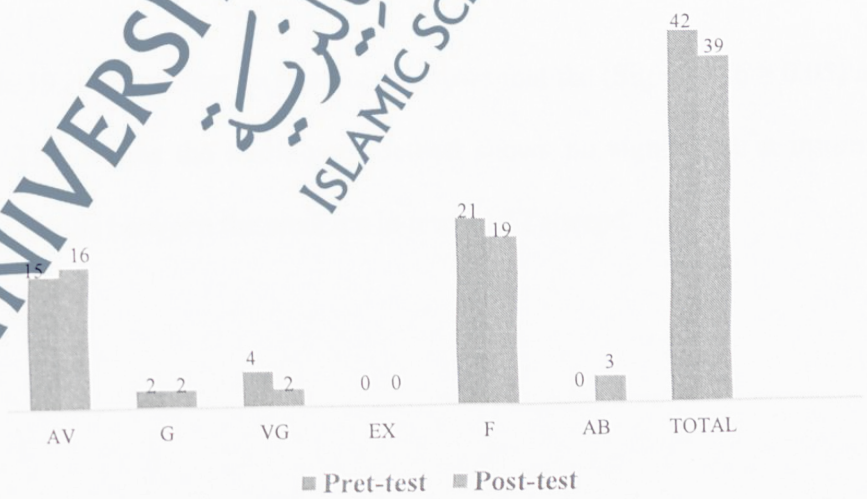


TABLE 18: Statistical Data from Pre-Post test Results (Control Group)

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	pre-test	48.2051	39	11.26751	1.80425
	post-test	49.4872	39	11.04982	1.76939

In the Table 18 shows the pre-test has the mean score (48.2051) and standard deviation (11.26751). This result explains that the students did not have enough knowledge to answer the questions before they taught with the new knowledge. The students were prepared to sit for the post-test after they learned the lessons through the traditional method. The post-test results presented in Table 18. It shows that the mean score is (49.4872) and the standard deviation (11.04982), which is no different grade and shows that the students' overall performance was not satisfying level.

Table 19: Statistical Data from Results Paired Samples Test (Control Group)

Paired Samples Test									
		Paired Differences					T	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval				
					Lower	Upper			
Pair 1	Pre-test Post-test	-1.28205	4.54769	.72821	-2.75624	.19214	-1.761	38	.086

The Table 19 confirms that no significant shows that the (Sig =0.086 > 0.05) and t-test (-1.761). That means the traditional method shows no significant in improving the knowledge skills between the students in terms of Tajweed.

5.4.3 Pre and Post-test Results for (Treatment Group)

Based on the results obtained from the pre-test and post-tests, the students were divided into Five categories namely fail, average, good, very good and excellent students for better comprehension. See pre and post-tests performance in Table 20.

TABLE 20: Statistical Data from Pre-test and Post-test Results (Treatment Group)

Categories	Pre-Test		Post-Test	
	N	%	N	%
Average	37	26.61	0	0
Good	0	0	5	3.67
Very good	1	0.719	55	40.44
Excellent	1	0.719	76	55.88
Fail	100	71.94	0	0
Absent	0	0	3	-

Pre-test results from Table 20 indicate that 100 out 139 students (71.94%) remained in the failed category. (1 out of 139) students (0.719%) positioned in the excellent and very good categories. (0) remained in good category. Finally, (37 out 139) students (26.61%) in the average category. Post-test evaluation that students scored more than pre-test compared to their results. Indicated that (0) out 136 students remained in the failed category. (76) out (136) students (55.88%) in the excellent category. 55 students out 136 (40.44%) in the very good category. (5 out 136) students (3.67%) in the good category. Finally, (0) out (136) students were noted in the average category.

FIGURE 40: Pre and Post Test composition of the respondents (Treatment Group)

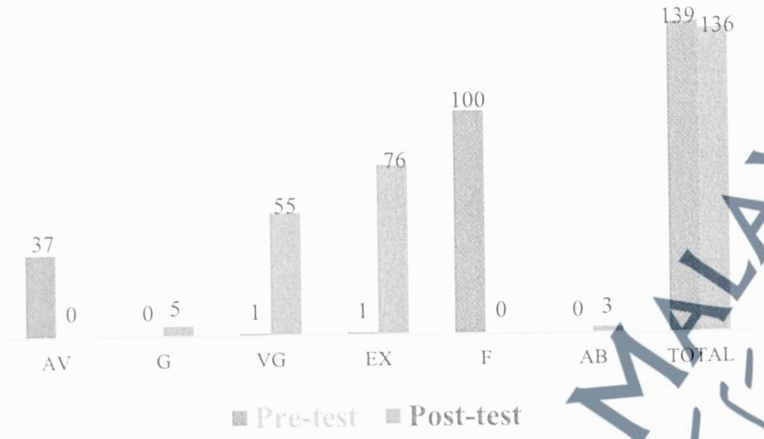


Table 21: Statistical Data from Pre and Post test Results (Treatment Group)

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-test	39.2647	136	12.71525	1.09032
	Post-test	84.7426	136	7.48628	.64194

Table 21 shows the pre-test has the mean score (39.2647) and standard deviation (12.71525). This result explains that the students do not have the enough knowledge to answer the questions before they taught with the new knowledge.

The students arranged to sit for the post-test after they learned the lessons through the Almoneer courseware. The post-test results presented in Table 21. It shows that the Mean score is (84.7426) and the standard deviation (7.48628), which is an above-average grade and shows that the students' overall performance was at the satisfying level.

TABLE 22: Statistical Data from Results Paired Samples Test (Treatment Group)

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pre-test Post-test	-45.477	13.836	1.1864	-47.8243	-43.131	-38.33	135	.000

As the Table 22 shows, that mean for Treatment Group before using Almoneer courseware is lower than mean after using the Almoneer courseware. The T-Test using Paired Samples Test is significant (< 0.05), as shows in Table 22. T-Test value (-38.332). That means the students using Almoneer improved their skills and performance of understanding the Tajweed in this courseware.

5.5 Demographic Items of Respondents

The analysis of demographic items were based of descriptive statistics and were used to describe the characteristics of the respondents. In providing definitive explanation based on the respondents view and knowledge in clarifying the appropriateness of the newly developed Almoneer instructional learning system, the descriptive statistics where used to partly address the research objectives and answer the research questions. Detailed features of the respondents were explained statistically in the subsequent section. The analysis provided a clear description of the respondents and can be used to draw conclusion on the quality of information provided and where appropriate it can be used to improve learning practices.

5.5.1 Respondent Composition by Age

The result presented in this section explains respondent's age in years. The bar chart shows that students between the ages of (10 to 15) years constitutes (72) respondent

which is (51.8%) Table 23 below of the total sample population, while students between the ages of (5 to 10) years were 67 in number and forms (48.2%) of the respondents.

In assigning measures of bootstrapping, the result showed that there are the difference between the average estimates obtained from bootstrap samples and the estimate obtained from the original sample is (.1) for respondents between the ages of (5 to 10) and (-.1) for respondent between the ages of (10) and (15) years old respectively while the standard error is (4.1). At (95%) confidence interval, the lowest and highest value were (40.3%) and (59.7%) respectively.

TABLE 23: Description of Respondents Age

		Frequency	Percent	Valid Percent	Bootstrap for Percent[a]			
					Bias	Std. Error	95% Confidence Interval	
							Lower	Upper
Valid	5-10	67	48.2	48.2	.1	4.1	40.3	56.1
	10-15	72	51.8	51.8	-.1	4.1	43.9	59.7
	Total	139	100.0	100.0	.0	.0	100.0	100.0

5.5.2 Respondent Composition by Gender

The result showing the respondent composition by gender presented in Table 24 and respectively. The male comprises of (75) respondents constituting (54%), while female comprises of (64) respondent constituting (46%). Bootstrapping result shows that difference between the average estimates from the bootstrap samples is (.2) and (-.2) respectively while the standard error is (4.6). At (95%) confidence interval, the lowest and highest value were (36.7%) and (63.3%) respectively.

TABLE 24: Descriptive Statistics of the Respondents by Gender

		Frequency	Percent	Valid Percent	Bootstrap for Percent[a]			
					Bias	Std. Error	95% Confidence Interval	
							Lower	Upper
Valid	Male	75	54.0	54.0	-.2	4.6	44.6	63.3
	Female	64	46.0	46.0	.2	4.6	36.7	55.4
	Total	139	100.0	100.0	.0	.0	100.0	100.0

5.5.3 Level of Study

Level of study of the respondents provides an insight that explains their respective knowledge about the study context. Descriptive analysis result on the level of study among the students depicted that year (4) comprises (68) respondent constituting (48.9%) while year (5) comprises of (71) respondents constituting (51.1%) as shown in Table 25 below. The bootstrapping bias value of the samples is (.2) and (-.2) respectively while the standard error is (4.2). At (95%) confidence interval, the lowest and highest value were (41.0%) and (59.0%) respectively. The knowledge on the level of study.

TABLE 25: Level of Study among the Students

		Frequency	Percent	Valid Percent	Bootstrap for Percenta			
					Bias	Std. Error	95% Confidence Interval	
							Lower	Upper
Valid	year 4	68	48.9	48.9	.2	4.2	41.0	56.8
	year 5	71	51.1	51.1	-.2	4.2	43.2	59.0
	Total	139	100.0	100.0	.0	.0	100.0	100.0

5.6 Demographic Items of Multimedia Learning System

The Multimedia system of learning provides a fascinating learning approach that motivates students to use various learning option to improve their knowledge. In this section, knowledge about computer knowledge of the students were explored to

understand the easy with which they use the multimedia system for recitation purposes and to increase their Qur'an based on Tajweed.

5.6.1 Computer Knowledge

Knowledge of computers is essential in the schools were a most learning module are integrated into the students curriculum to enhance their learning. In an attempt to understand the computer knowledge of the students, result shown in Table 26 depicted that greater number of the students have computer knowledge and have a computers at home. Out of 139 students that provided data reported in this thesis, a total (113) comprising (81.3%) of the study population have computer at their home while 26 constituting (18.7%) of the study population do not have computer at their home. The bootstrapping bias value of the samples is (.1) and (-.1) respectively while the standard error is (3.3). At (95%) confidence interval, the lowest and highest value were (12.2%) and (87.8%) respectively. The knowledge of the Quran can be enhanced by providing computer to the students especially the small proportion that are lacking home computer to enhance their knowledge about hoe to recite and read Quran using multimedia system based on computer program.

TABLE 26: Possession of Computer at Home

		Frequency	Percent	Valid Percent	Bootstrap for Percent[a]			
					Bias	Std. Error	95% Confidence Interval	
							Lower	Upper
Valid	Yes	113	81.3	81.3	.1	3.3	74.8	87.8
	No	26	18.7	18.7	-.1	3.3	12.2	25.2
	Total	139	100.0	100.0	.0	.0	100.0	100.0

5.6.2 Strength and Weaknesses of Multimedia Learning System

This analysis provided in this section addresses the first research question of this study. The strength and weakness of the respondents learning system where explored by trying to know how often they use their computer in their respective class each day.

The results provided in Table 27 shows that 81 (58.3%) students use their computers for less than 1 hour each day. A 41 (29.5%) of the students use their computers between 1 to 2 hours a day. A 14 (10.1%) of the students use their computers between 2 to 3 hours each day in the school. A 2 (1.4%) of the students indicated that they use their computers between (3 to 4) hours while only 1 (0.7%) student uses his computer more than 4 hours each day in the school for learning purposes.

The bootstrapping bias value of the samples were found (-.1, .2, .0, .0, .0 and .0) respectively while the standard error were (4.2, 3.9, 2.6, 1.0, .7 and .0) respectively corresponding to (95%) confidence interval at lowest and highest value of (0.0%) and (66.2%). The knowledge of the Qur'an can be improved among the student by encouraging them to use their computer more often for learning the Qur'an. This will help in alleviating weakness with their daily learning based on Tajweed, which is difficult to do with conventional learning approach.

TABLE 27: Frequency of Using Computers Daily in the Classroom Environment

		Frequency	Percent	Valid Percent	Bootstrap for Percent[a]			
					Bias	Std. Error	95% Confidence Interval	
							Lower	Upper
Valid	Less than 1 hr	81	58.3	58.3	-.1	4.2	49.6	66.2
	1 to 2 hrs	41	29.5	29.5	.2	3.9	22.3	38.1
	2 to 3 hrs	14	10.1	10.1	.0	2.6	5.0	15.8
	3 to 4 hrs	2	1.4	1.4	.0	1.0	.0	3.6
	More than 4 hrs	1	.7	.7	.0	.7	.0	2.2
	Total	139	100.0	100.0	.0	.0	100.0	100.0

5.6.3 Environmental Barriers

The environmental barriers towards reciting Qur'an affects the learning process of the students using the multimedia learning system. Result obtained based on the barriers posed by the study environment shown in Table 28 depicted that Arabic language posed significant barrier to 21 (15.1%), 9 (6.5%) students indicated that recitation is a barrier to their learning Qur'an while as large as 109 (78.4%) student reported that Tajweed principles are the major problem to reciting Qur'an. The bootstrapping conducted to check the accuracy of the result showed that bias value of the samples were (-.2, .2) and (0.0) and the standard error values were (3.1), (2.1), and (3.5). At (95%) confidence interval, the lowest and highest value were (2.9%) and (84.9%) respectively. An important approach improved Qur'an recitation based on Tajweed remains to improve learning and recitation process based on the standardized Tajweed principles and teaching the students vowels of Arabic language. This will be an important step to increase their learning capability especially in recitation, which is among the weaknesses of learning Qur'an among the students in Malaysia.

TABLE 28: Major Barriers to Quran Recitation among the Students in Malaysia

					Bootstrap for Percent[a]			
		Frequency	Percent	Valid Percent	Bias	Std. Error	95% Confidence Interval	
							Lower	Upper
Valid	Arabic Language	21	15.1	15.1	.0	3.1	8.6	20.9
	Recitation	9	6.5	6.5	.0	2.1	2.9	10.8
	Tajweed	109	78.4	78.4	.0	3.5	71.2	84.9
	Total	139	100.0	100.0	.0	.0	100.0	100.0

5.6.4 Easiness to Use

In attempt to explore the ease with which the students uses the developed multimedia learning system to improve their Qur'an recitation, the response to the compatibility of the program based on *'easy to use'* presented in Table 29 shows that 86 (61.9%) reported that the program is very easy to use for learning Quran and recitation, 51 (36.7%) reported that the program is easy to use while only 2 students constituting (1.4%) of the respondents reported that the program is difficult. The bootstrapping conducted to check the accuracy of the result depicted that bias value of the samples is (0.0) and standard error were (3.9), (3.8) and (1.0). At (95%) confidence interval, the lowest and highest value were (0.0%) and (69.1%) respectively. The result that the newly developed model is appropriate approach to enhance learning practice among the students. This method can be replicated for other class activities. Based on the analysis, a clear indicative of the weakness of learning Qur'an are the difficulty in learning the Arabic language, the difficulty in recitation based on the proper ascent and difficulty in understanding the rules of Tajweed. This has addressed the first research question of this study.

TABLE 29: Easy to Use Multimedia Learning System for Learning Qur'an

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent[a]			
						Bias	Std. Error	95% Confidence Interval	
								Lower	Upper
Valid	Very easy	86	61.9	61.9	61.9	-.2	3.9	54.0	69.1
	Easy	51	36.7	36.7	98.6	.2	3.8	29.5	44.6
	Difficult	2	1.4	1.4	100.0	.0	1.0	.0	3.6
	Total	139	100.0	100.0		.0	.0	100.0	100.0

5.6.5 Students' Opinions about the Program

To understand whether the students really like the program or not, they were ask to support their view by responding to *"Do you like the program"*. Results presented in Table 30 shows that 138 (99.3%) of the respondent actually like the program while only 1 (0.7%) student objected that he did not like the program. The bootstrapping analysis to check the accuracy of the result showed that bias value is (0.0) and standard error was (0.7). At (95%) confidence interval, the lowest and highest value were (0.0%) and (100%) respectively. It therefore implies that the multimedia learning system developed in this study will boost the learning capability of Malaysia students when reciting Qur'an thus; providing sound knowledge of Qur'an based on Tajweed rules. This analysis contributed in answering the second research question of this study that focuses on developing a multimedia learning system for teaching and reciting Qur'an.

TABLE 30: Acceptance of the Almoneer Model for Qur'an Recitation

		Frequency	Percent	Valid Percent	Bootstrap for Percent[a]			
					Bias	Std. Error	95% Confidence Interval	
							Lower	Upper
Valid	Yes	138	99.3	99.3	.0	.7	97.8	100.0
	No	1	.7	.7	.0	.7	.0	2.2
	Total	139	100.0	100.0	-40.0	49.0	.0	100.0

5.6.6 Performance of Multimedia Instructional System

The primary aim of developing Almoneer model in this research is to improve Qur'an practices and to address series of weaknesses faced by students over the years. This section confines to providing a clear description on how the multimedia instructional program contributes to enhancing students' performance and addressed the third

research question of this study. Based on the result reported in Table 31. That 133 constituting (95.7%) of the student were motivated to learn Quran based on the program while only 6 student comprising (4.3%) of the total population were not motivated to use the program.

The bootstrapping analysis depicted that the accuracy of the result and showed that bias value of the samples were (.1) and (-.1) while the standard error were (1.8). At (95%) confidence interval, the lowest and highest value were (1.4%) and (98.6%) respectively. This result is encouraging and implies that the model of this research will immensely contribute towards improving Qur'an practices especially among students. The analysis satisfactorily answer the third research questions of this study by supporting that the students likes the multimedia learning system and are motivated to use it to develop comprehensive skills over the traditional learning system.

TABLE 31: Motivation to use Almoneer Multimedia Learning System

		Frequency	Percent	Valid Percent	Bootstrap for Percent[a]			
					Bias	Std. Error	95% Confidence Interval	
							Lower	Upper
Valid	Yes	133	95.7	95.7	.1	1.8	92.1	98.6
	No	6	4.3	4.3	-.1	1.8	1.4	7.9
	Total	139	100.0	100.0	-.3	5.5	100.0	100.0

5.6.7 Special Skills for Learning by Computer

Learning requires special skill especially when it comes to multimedia system involving software and computer knowledge. In an attempt to understand whether the students have skills or not for learning the Quran, result presented in Table 32 shows that 131 comprising (94.2%) of the total respondents in this study reported that they are in possession of skills to learn Qur'an using computer while 8 (5.8%) of the

students have no computer skill. This result implies that greater number of students are provided with the opportunity to enhance their learning capability by computers mediated learning platform of Almoneer program.

The bootstrapping analysis conducted to check the accuracy of the result showed that bias value of the samples were (.1) and (-.1) and standard error was (1.9). At (95%) confidence interval, the lowest and highest value were (2.2%) and (97.8%) respectively. The analysis answered the third research question by supporting that students acquire skills that enhances their capability in learning and reciting Qur'an. By using Almoneer in the school of Malaysia, it will be a fast positive transformation in the way Qur'an is taught and practiced.

TABLE 32: Possession of Special Skills for Learning through Computer

		Frequency	Percent	Valid Percent	Bootstrap for Percent[a]			
					Bias	Std. Error	95% Confidence Interval	
							Lower	Upper
Valid	Yes	131	94.2	94.2	.1	1.9	89.9	97.8
	No	8	5.8	5.8	-.1	1.9	2.2	10.1
	Total	139	100.0	100.0	-.1	3.2	100.0	100.0

5.7 Questionnaire Survey

The questionnaire survey are analyzed in sections in the following paragraphs of this study.

5.7.1 Application and Visual Quality of Multimedia Instructional System

Multimedia instructional learning system can be broadly used for a variety of program in different formats. The flexibility of the system has facilitated learning using visual presentation with other features that appears to be attractive to learners. The Qur'anic

teachers can use multimedia instructional learning system for presentation purposes and to make lessons more interesting by using attractive features such as animations to demonstrate key points. The analysis presented in the earlier section showed that multimedia developed in this study is appropriate for presentation and makes it easier for pupils to read the text and learn on their own with little or no assistance from the teachers. Programs, which show pictures and text, helps Malaysia students to learn. The essence of the providing different learning platform using multimedia in the present study is to make learning more attractive. In this section, inferential statistics such as T-test, F-statistics and descriptive statistics such as frequency, mean, standard deviation where conducted to make inference about the population of the study based on the fact that the probability that the results of the analysis depicts a true representative of the study population. The tests of significance shows that the probability of the results of the analysis occurred by chance when there is no relationship between variables. In the other hand, descriptive statistics were used to describe the features of the data that were analyzed.

5.7.1.1 Playback the Recitation

Descriptive statistics describing whether the samples were able to play back recitation using the Almoneer instructional model of this study presented in Table 33. From the analysis, result shows that the performance of 69 corresponding to (49.6%) of the entire population were very good, 66 (47.5%) were reported good while the performance of only 4 students constituting (2.9%) of the total of 139 was moderate and no students reported in (bad and very bad) Playback the Recitation. This result showed that recitation skills of samples as earlier pointed out in the previous literature

were very good response necessitated for the integration of the present model to enhance their learning capability.

The bootstrapping analysis conducted to check the accuracy of the result showed that bias value of the samples were (.1) for very good, (0.0) for good and (-.1) for moderate corresponding to standard error of 4.3, 4.3, and 1.4 respectively. At (95%) confidence interval, the lowest and highest value were (0.7%) and (58.3%) respectively.

TABLE 33: Descriptive Statistics the Ability of the Students to Play Back Recitation

		Frequency	Percent	Bootstrap for Percent			
				Bias	Std. Error	95% Confidence Interval	
						Lower	Upper
Valid	Very good	69	49.6	.1	4.2	41.7	58.3
	Good	66	47.5	.0	4.3	38.8	56.1
	Moderate	4	2.9	-.1	1.4	.7	5.8
	Total	139	100.0	.0	.0	100.0	100.0

The analysis of T-test depicting the ability of the students to repeat recitation using the multimedia instructional learning system developed in the present study is presented in Table 34. Based on a total sample number of 139, the mean value is (1.5324) while the standard deviation value of (.55563) depicts that the measure of dispersion in the measured sample was small at standard error value of (0.4713). The bootstrapping showed that bias value of the samples were (0.004) and (-.0027) corresponding to standard error of (0.0483) and (0.0257) respectively. At (95%) confidence interval, the lowest and highest value were (0.5018%) and (1.6331%) respectively.

TABLE 34: T-test Analysis on the Ability to Play Back Recitation

		Statistic	Bootstrap[a]			
			Bias	Std. Error	95% Confidence Interval	
					Lower	Upper
Are you able to playback the recitation?	N	139				
	Mean	4.4676	.0004	.0483	1.4388	1.6331
	Std. Deviation	.55563	-.0027	.0257	.5018	.60400
	Std. Error Mean	.04713				

The t-test statistical analysis of variance showed that the t-distribution and degrees of freedom (df) and the p value (probability) based on the 2-tailed significance level were used to determine the means population different responses to a set of items as shown in Table 35. The t value depicts continuous probability distributions, estimated the mean value of the population and describes distribution of samples drawn from the full population of the present study. The t-distribution plays an important role in assessing the statistical significance of the difference between the sample means as well as the confidence intervals for the difference of the population. The T-test result of the ability of the students to play back recitation using the multimedia instructional system showed that t value is (41.751) at degree of difference of 138 and mean difference of (1.53237) at (95%) confidence interval of difference between a lower (1.4392%) and higher (1.6256%) level. The result was significant at (.000) 2-tailed level.

TABLE 35: T-test Analysis of Variance

	Test Value					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Are you able to playback the recitation	41.751	138	.000	1.53237	1.4392	1.6256

5.7.1.2 Quality of the Pictures

The descriptive statistics presented in Table 36 explains the quality of the visual picture based on the perspective of the samples. From the result shown in that 80 respondents comprising of (57.6%), confirmed that the pictures of multimedia learning system are very good and portray the original attributes. In addition, 55 respondents consisting of (39.6%) reported that the pictorial images of multimedia learning system are good and 3 of (2.2%) reported that are moderate and 1 (.7%) student reported bad. The bootstrapping analysis result showed that bias value of the samples ranged from (0.0) to (-.1) corresponding to standard error ranging from (0.7) to (4.2) respectively. At (95%) confidence interval, the lowest and highest value were found to range between (0.0%) to (65.5%) respectively. The result indicated that the implementation of multimedia learning system stand to bridge the gap on the weaknesses confronting recitation and learning of Qur'an based on Tajweed principles.

TABLE 36: Statistics of the Quality of Picture of Multimedia System

		Frequency	Percent	Bootstrap for Percent			
				Bias	Std. Error	95% Confidence Interval	
						Lower	Upper
Valid	Very good	80	57.6	.0	4.2	48.9	65.5
	Good	55	39.6	.0	4.2	31.7	47.5
	Moderate	3	2.2	-.1	1.2	.0	5.0
	Bad	1	.7	.0	.7	.0	2.2
	Total	139	100.0	.0	.0	100.0	100.0

The T-test statistical analysis of quality of picture of multimedia instructional learning system has a mean value of (1.4604) corresponding to bias value of (0.0024), standard error of (0.0486) at confidence interval of (1.3671) and (1.5540) respectively. The standard deviation value of (0.58068), bias value of (-.00277), standard error of

(0.4375) at (95%) confidence interval ranging from (0.50532%) and (0.67315%). The analysis of the T-test is as shown in Table 37.

TABLE 37: T-test Analysis of Picture Quality of Multimedia System of Instruction

		Statistic	Bootstrap[a]			
			Bias	Std. Error	95% Confidence Interval	
					Lower	Upper
The quality of the pictures are clear	N	139				
	Mean	1.4604	.0024	.0486	1.3671	1.5540
	Std. Deviation	.58068	-.002	.0437	.50532	.67315
	Std. Error Mean	.04925				

The result of T-test analysis of variance presented in Table 38. That t value found to be (29.652), at degree difference of 138 with mean difference of (1.46043), based on (95%) confidence interval. The analysis is significant at (0.000) at 2-tailed level. This should that the value obtained from the present analysis confirmed that the quality of pictures used for instructional and teaching of Qur'an recitation are good based on the newly developed model.

TABLE 38: T-test Analysis of Variance

	Test Value					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval	
					Lower	Upper
The quality of the pictures are clear	29.652	138	.000	1.46043	1.3630	1.5578

5.7.1.3 Time of Lesson

Statistical analysis provided in this section describes the perspective of student's time of instructional lesson. The 50 of samples reported very good constituting (36.0%) responded that the time of lesson was appropriate with a bias value (.3) and standard error of 4.0 at (95%) of confidence interval. Out of the 139 respondent that

participated in this study 80 of samples reported good constituting (57.6%) has bias value of (-.2) and standard error of (4.1) at (95%) confidence of interval. 8 students of samples reported Moderate constituting (5.8%) with bias value of -.1 and standard error of 2.0 at (95%) confidence interval. From the results, it was found that only 1of samples reported Bad constituting (0.7%) respondent reported that the time of lesson was not appropriate with a bias value of (.0) and standard error of 0.0 at (95%) confidence interval. The result supported that the time of lesion for multimedia instruction base on the present model was suitable for the students. The result of the descriptive statistics is provided in Table 39.

TABLE 39: Descriptive Statistics on Time of Lessons

		Frequency	Percent	Bootstrap for Percent[a]			
				Bias	Std. Error	95% Confidence Interval	
						Lower	Upper
Valid	Very good	50	36.0	.3	4.0	28.8	44.6
	Good	80	57.6	-.2	4.1	48.9	64.7
	Moderate	8	5.8	-.1	2.0	2.2	10.1
	Bad	1	.7	.0	.7	.0	2.9
	Total	139	100.0	.0	.0	100.0	100.0

The T-test statistical analysis that explains time of lesion for multimedia instructional system is as shown in Table 40. The mean value of the statistical analysis, the standard deviation and standard error corresponded to (1.7626), (.97492) and (.08269) respectively. The bootstrapping analysis showed that bias value of the mean and standard deviation were (0.016) and (.05476) corresponding to standard error of (0.0820%) and (0.31051%) respectively. At (95%) confidence interval, the lowest and highest value were (0.52813%) and (1.9495%) respectively. The analysis provided in this section depicted that multimedia learning system is timely and partly supported the second research question of this study.

TABLE 40: T-test Statistical Analysis of Time of Lesson

		Statistic	Bootstrap[a]			
			Bias	Std. Error	95% Confidence Interval	
					Lower	Upper
Time of lesson	N	139				
	Mean	1.7626	.0016	.0820	1.6189	1.9495
	Std. Deviation	.97492	-.0547	.31051	.52813	1.49052
	Std. Error Mean	.08269				

T-test analysis of variance conducted on the time of lesson were reported in Table 41 below. The result showed that t value is (21.315) with df of 138 and mean difference of (1.76259) at (95%) confidence interval of difference. The result is significant at (0.000) level at 2-tailed. This implies that the time of lesson for multimedia instructional learning is suitable for the student to effectively learn and recite the Quran based on Tajweed rules.

Table 41: T-test Analysis of Variance

	Test Value					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval	
					Lower	Upper
Time of lesson	21.315	138	.000	1.76259	1.5991	1.9261

5.7.1.4 Understanding of Tajweed

The statistical analysis on whether students understand Tajweed were presented in Table 42 below. The result showed that greater proportion of the sample 73 comprising (52.5%) reported they are understood the Tajweed very good using the multimedia leaning system, as 63 (45.3%) students were reported that Tajweed are good. And 2 of the respondents (1.4%) were reported are moderately. In addition, 1 (0.7%) were reported don't understand the Tajweed during this courseware and no

students reported in (verybad) during this courseware. It then implied that the greater percentage that confirmed that the multimedia system enables the student to overcome their respective weaknesses in learning Tajweed principles and doing recitation with the right ascent.

TABLE 42: Descriptive Statistics on Whether the Students Understand Tajweed

		Frequency	Percent	Bootstrap for Percent[a]			
				Bias	Std. Error	95% Confidence Interval	
						Lower	Upper
Valid	Very Good	73	52.5	.2	4.3	43.9	61.2
	Good	63	45.3	-.2	4.2	36.7	53.2
	Moderate	2	1.4	.0	1.0	.0	3.6
	Bad	1	.7	.0	.7	.0	2.2
	Total	139	100.0	.0	.0	100.0	100.0

The statistical analysis based on T-test depicted that the mean value is (1.5036) with bias value of (-.0031) with standard error of (0.477) at confidence level of (95%). The standard deviation value of the sample is (.56944) with bias value of (-.00520), standard error of (0.03964). At (95%). The confidence interval range between (0.49962%) to (1.5971%). The statistical result depicted most student clearly understand Tajweed using the newly developed multimedia model of instructional learning. The result is as shown in Table 43.

TABLE 43: T-test Statistical Analysis on how Students Understand Tajweed

		Statistic	Bootstrap[a]			
			Bias	Std. Error	95% Confidence Interval	
					Lower	Upper
Do you understand the Tajweed in this course?	N	139				
	Mean	1.5036	-.0031	.0477	1.4101	1.5971
	Std. Deviation	.56944	-.0052	.03964	.49962	.65127
	Std. Error Mean	.04830				

T-test analysis of variance shown in Table 44 provided statistical inferences of the analyzed sample. The t value was found (31.131) at degree of freedom of 138 and

mean difference of (1.50360) at (95%) interval. The result was significant at (0.000) level at 2-tailed. It then implies that the multimedia system developed in the present study satisfactorily answer the third research question of this study.

TABLE 44: T-test Statistical Analysis of Variance

	Test Value					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval	
					Lower	Upper
Do you understand the Tajweed in this course?	31.131	138	.000	1.50360	1.4081	1.5991

5.7.1.5 Resolution of the Screen

The descriptive statistics showed the resolution of multimedia screen in provided in Table 45 below. The 90 (94.7%), were reported that the resolution of the screen are very clear while 44 (31.7%), reported that the screen resolution are clear and 5 students concluded that the resolution of the multimedia system are moderately clear and no students reported in (bad and verybad) resolution of the screen. The greater response recorded implies that multimedia learning system has a clear resolution suitable for learning Quran and recitation. The bootstrap analysis showed that bias error range between (0.0) to (.2) while standard error is in the range of (0.7) and (72.7).

TABLE 45: Descriptive Statistics of Multimedia System Resolution

		Frequency	Percent	Bootstrap for Percent[a]			
				Bias	Std. Error	95% Confidence Interval	
						Lower	Upper
Valid	Very clear	90	64.7	.2	4.0	56.8	72.7
	Clear	44	31.7	-.2	3.9	23.7	39.6
	Moderate	5	3.6	.0	1.6	.7	7.2
	Total	139	100.0	.0	.0	100.0	100.0

The statistical descriptive analysis based on T test shown in Table 46 provided the mean and standard deviation value of the resolution of multimedia screen resolution. The mean value was found to be (1.3885) at bias value of (.0015), standard error of (0.0476) at (95%) confidence interval. The standard deviation value is (.55835) having a bias error of (-.00200) at (95%) confidence interval the lower and upper value is within the range of (.48738) and (1.4892) within the range of difference.

TABLE 46: T-test Statistical Analysis

		Statistic	Bootstrap[a]			
			Bias	Std. Error	95% Confidence Interval	
					Lower	Upper
Resolution of the screens	N	139				
	Mean	1.3885	.0015	.0476	1.3022	1.4892
	Std. Deviation	.55835	-.00200	.03422	.48738	.62335
	Std. Error Mean	.04736				

The result of T-test statistical analysis of variance is provided in Table 47 below. The t value was found to be (29.319) at df of 138 and mean difference value of (1.38849) respectively. The lower confidence level (1.2948%) and upper confidence interval (1.4821%). The result showed that the analysis was significant at (0.000) significant level. It can therefore be said that the resolution of multimedia instruction is appropriate to enhance Quran teaching and recitation in various schools in Malaysia.

TABLE 47: T-test Statistical Analysis of Variance

	Test Value					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval	
					Lower	Upper
Resolution of the screens	29.319	138	.000	1.38849	1.2948	1.4821

5.7.2 Method of Instruction and Learning Style

The approach employed for learning plays important role in determining the effectiveness of student in learning and recitation of Qur'an content based on Tajweed rules. The result in Table 48 showed that 75 (54%) respondent reported that the method of explaining lessons based on multimedia instructional system is very good.

5.7.2.1 Method of Lesson Explanation

Bias value and standard error value range between (0.0) and (.3); (0.0) and 4.2 at (95%) confidence interval. 59 (42.4%) of the respondents reported that method of explanation using multimedia system is good. 5 constituting (3.6%) of the students reported that the method of explaining lesion is moderately accepted and no students reported in (bad and very bad). The result shows that by applying the newly developed model, method of explaining lessons on Qur'an will improved student learning pattern and capability to overcome various challenges that has weakened the teaching of Qur'an in school as well as recitation among students. The result is presented in Table 48.

TABLE 48: Descriptive Statistics of the Method of Explaining Lesson

		Frequency	Percent	Bootstrap for Percent[a]			
				Bias	Std. Error	95% Confidence Interval	
						Lower	Upper
Valid	Very good	75	54.0	-.2	4.2	46.0	61.9
	Good	59	42.4	.3	4.2	34.5	51.1
	Moderate	5	3.6	.0	1.5	.7	6.5
	Total	139	100.0	.0	.0	100.0	100.0

The analysis of method of explanation for lesson in Qur'an teaching classes showed that the mean value is (1.4964) and the standard deviation (.56944). Bootstrap analysis explains that the analysis were free from error at (95%) confident interval with values

of bias and standard error less than (1). The standard deviation value depicted that insignificant changed observed on the samples. The result presented in Table 49.

TABLE 49: Descriptive Statistical based on T-test Analysis

		Statistic	Bootstrap[a]			
			Bias	Std. Error	95% Confidence Interval	
					Lower	Upper
Method of explanation for lessons.	N	139				
	Mean	1.4964	.0030	.0465	1.4101	1.5899
	Std. Deviation	.56944	-.0022	.02734	.51452	.62325
	Std. Error Mean	.04830				

The analysis provided in Table 50 below confines to T-test analysis of variance. Result shows that the value of the method of explanation for lesion based on multimedia instructional system is (30.982) at degree of freedom of 138. The mean difference of the analysis found to be (1.4009) at (95%) confidence interval of the difference. The result is significant at (0.00) level at 2-tailed. The result shows that the model of the present study will be helpful in improving learning and recitation of Quran among students.

TABLE 50: T-test Statistical Analysis of Variance

	Test Value					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval	
					Lower	Upper
Method of explanation for lessons	30.982	138	.000	1.49640	1.4009	1.5919

5.7.2.2 Time to Run the Program

The analysis shown in Table 51 explained the time taken to run the multimedia instructional system. Different response reported were tabulated to describe student's perspective in describing the software compatibility with their learning pattern. 83 students out of 139 of the total population constituting (59.7%) reported that the time

to run the multimedia system is very fast. 50 (36.0%) of the students reported that the multimedia system of learning is fast while 3 (2.2%) students reported that it is moderate and slow and no students reported in(veryslow). The analysis was based on (95%) confidence interval having differing bias value and standard error value. Result shown depicted that greater proportion of the students conceived that the multimedia instructional learning system is very fast and is compatible with Qur'an teaching and recitation.

TABLE 51: Descriptive Statistics on the Time to Run Multimedia Program

		Frequency	Percent	Bootstrap for Percent[a]			
				Bias	Std. Error	95% Confidence Interval	
						Lower	Upper
Valid	Very fast	83	59.7	.0	4.1	51.8	67.6
	Fast	50	36	.0	4.1	28.1	44.6
	Moderate	3	2.2	.0	1.2	.0	5.0
	Slow	3	2.2	.0	1.2	.0	5.0
	Total	139	100.0	.0	.0	100.0	100.0

The analysis presented in Table 52 depicted a descriptive statistics of the time taken to run a multimedia instructional learning system. The mean value obtained from the analysis is (1.6547) while the standard deviation is (2.03844) at (95%) confidence interval of the difference, bias values and standard error of the analysis where relatively low depicting that the analysis were free from error.

TABLE 52: T-test Statistical Analysis on Time to Run Multimedia Program

		Statistic	Bootstrap[a]			
			Bias	Std. Error	95% Confidence Interval	
					Lower	Upper
Time to run the program.	N	139				
	Mean	1.6547	-.0073	.1697	1.3815	2.0286
	Std. Deviation	2.03844	-.2153	.80023	.53179	3.29799
	Std. Error Mean	.17290				

The analysis presented in Table 53 confines to statistically analysis of variance based on T-test is used to determine the t distribution, degree of freedom as well as the significance relationship of the measured items. T distribution was found to be (9.570) at degree of freedom value of 138. The mean difference of the distribution is (1.65468) at (95%) confidence interval of the difference. The significance value was obtained at (0.00) level at 2- tailed.

TABLE 53: T test Statistical Analysis of Variance

	Test Value					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval	
					Lower	Upper
Time to run the program	9.570	138	.000	1.65468	1.3128	1.9965

5.7.3 Multimedia Learning Features

The analysis provided in this section focuses on the multimedia learning features of the newly developed model. Multimedia learning features attract students to use the software and provides flexibility in learning pattern among students.

5.7.3.1 Puzzles Help Students to Remember the Courses

Out of 139 students that participated in this study were 95 (68.3%) reported that exercise puzzle helped them to remember courses while 42 constituting (30.2%) reported that puzzle is helpful in remembering the courses. And 2 (1.4%) of the samples indicated that puzzle moderate to remembering any course during when using multimedia learning system and no report recorded in (bad and very bad). The Bias value and standard error were based on bootstrap percent and differs with respect to responses reported. The analysis was conducted at (95%) confidence interval of the difference and largely depicted that most students remembers their courses using

puzzle features of the multimedia learning system. The analysis is shown in Table 54 below.

TABLE 54: Descriptive Statistics of Multimedia Learning Features

		Frequency	Percent	Bootstrap for Percent[a]			
				Bias	Std. Error	95% Confidence Interval	
						Lower	Upper
Valid	Very good	95	68.3	.1	3.9	61.2	75.5
	Good	42	30.2	-.1	3.9	23.0	37.4
	Moderate	2	1.4	.0	1.0	.0	3.6
	Total	139	100.0	.0	.0	100.0	100.0

T test statistical analysis provided in Table 55 reported the mean and standard deviation value of the students response to the helpful role of puzzle in remembering the course offered via multimedia system. The mean value is (1.3309) and standard deviation value of (.50200) were reported at (95%) confidence interval of difference. Bias and standard error value have small value depicting high accuracy of the result reported in this study.

TABLE 55: T-test Statistical Analysis of Multimedia Features

		Statistic	Bootstrap[a]			
			Bias	Std. Error	95% Confidence Interval	
					Lower	Upper
Exercise puzzle helps me to remember courses	N	139				
	Mean	1.3309	.0014	.0430	1.2518	1.4173
	Std. Deviation	.50200	-.00026	.02941	.44732	.56289
	Std. Error Mean	.04258				

Statistical analysis reported in the section shows that the t distribution is (21.258) at degree of freedom of 138 and mea difference of (1.33094) based on (95%) confidence interval. The result was significance at (0.000) level at 2-tailed. This shows that puzzle immensely enables the student to remember their course content based on multimedia instructional learning.

TABLE 56: T-test Statistical Analysis of Variance

	Test Value					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval	
					Lower	Upper
Exercise puzzle helps me to remember courses	31.258	138	.000	1.33094	1.2467	1.4151

5.7.3.2 Overall Functionality of the Program

In order to provide detailed description of the students overall view on the functionality of the new multimedia learning system for Qur`anic teaching the students have been asked to rate the program from (1 to 10). The results showed that 4 students (2.9%) rated the multimedia learning system (1-3), 17 students (12.2%) rated multimedia learning system (4-6) , 51 students (36.7%) were rated multimedia learning system (6-8), finally 67 students (48.2%) rated multimedia learning system (8-10). The measurement was based on (95%) confidence interval with vary values of bias and standard error. The results depicted that most students rated the Almoneer high in describing the performance of its program used for Qur`an teaching and recitation among the students, while some students rated Almoneer a medium and weak. The various students, response on rating the program are not surprising and it could be related to their different learning ability and background in terms for using multimedia in learning. The result is as shown in Table 57.

TABLE 57: Descriptive Statistics on the Rating of Multimedia System

		Frequency	Percent	Bootstrap for Percent[a]			
				Bias	Std. Error	95% Confidence Interval	
						Lower	Upper
Valid	1-3	4	2.9	.0	1.4	.7	5.8
	4-6	17	12.2	.0	2.8	7.2	18.7
	6-8	51	36.7	-.1	4.2	28.8	44.6
	8-10	67	48.2	.1	4.4	38.9	56.1
	Total	139	100.0	.0	.0	100.0	100.0

Analysis reported in Table 58 below depicted statistical analysis based on T-test. The mean value obtained from the analysis is (3.3022) while the standard deviation value is (.79541) with standard error mean value of (.06747) at (95%) confidence interval of difference. The bias value and standard error value were negligible depicting that the analysis was free from error.

TABLE 58: Statistical T-test Statistical Analysis

		Statistic	Bootstrap[a]			
			Bias	Std. Error	95% Confidence Interval	
					Lower	Upper
from 1 to 10 how much your vote for the program	N	139				
	Mean	3.3022	-.0015	.0658	3.1727	3.4245
	St.D	.79541	-.00282	.05085	.68758	.89455
	Std. Error Mean	.06747				

The analysis of variance based on t-test conducted to determine rating of the newly developed multimedia learning system by students. Result shown in Table 59 below depicted that t distribution is (48.946) at degree of freedom value of 138 with mean difference of (3.30216). The analysis was conducted at (95%) confidence interval of difference and was significance at (.000) level at 2-tailed. The result shows that the multimedia system of learning accepted among students in Malaysia especially for Qur'an and recitation based on Tajweed rules.

TABLE 59: T- test Statistical Analysis of Variance

	Test Value					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval	
					Lower	Upper
from 1 to 10 how much your vote for the program	48.946	138	.000	3.30216	3.1688	3.4356

5.7.4 Statistical Testing of the Research Hypothesis

The hypothesis testing presented in this section were used to answer the research questions and to determine the probability that the proposed statement guiding the research is true.

5.7.4.1 Hypothesis 1

H1 The Multimedia instructional system strengthens Qur'an teaching in Malaysian classroom.

In addressing the first hypothetical statement of strength multimedia is impacting in teaching Qur'anic Recitation with Tajweed were the results of statistical analysis presented in Table 60 that (T= 202.69, P-value= 0.000) and recitation with Tajweed were reported that (T=230.24, P-value = 0.000). Therefore, the strengths of multimedia influence in teaching Qur'anic recitation with Tajweed. *H1 is accepted.*

TABLE 60: One-Sample Test of H1

	t	df	Sig. (2-tailed)	Mean Difference
Multimedia	202.69	138	.000	4.23
Tajweed and Recitation	230.24	138	.000	4.63

5.7.4.2 Hypothesis 2

H2 Evaluate the criteria of self-centric learning in Recitation Qur'an with Tajweed.

The statistical analysis conducted to address the second hypothesis of this study is presented in Table 61 below. The results obtained depicted that the hypothetical statement of criteria for Recitation used was accepted at (Mean=4.66; T-test

=230.740; sig=.000). H2-0 is accepted. This is followed by Tajweed, which had a significant and positive effect on respondents towards Almoneer at (Mean= 4.61; T-test=199.412; sig=.000). H2-1 is accepted. Furthermore, Alphabets with 4 vowels had a significant relationship on Almoneer at (Mean= 4.49; T-test=133.778; sig=.000). H2-2 is accepted. The analysis shows that the hypothesis is valid and accepted.

TABLE 61: Evaluate the Criteria of Self-Centric

Hypotheses	Categry	Mean	t-test	Sig. (2-tailed)
H2-0	Recitation	4.66187	230.740	.000
H2-1	Tajweed	4.61031	199.412	.000
H2-2	Alphabets	4.49820	133.778	.000

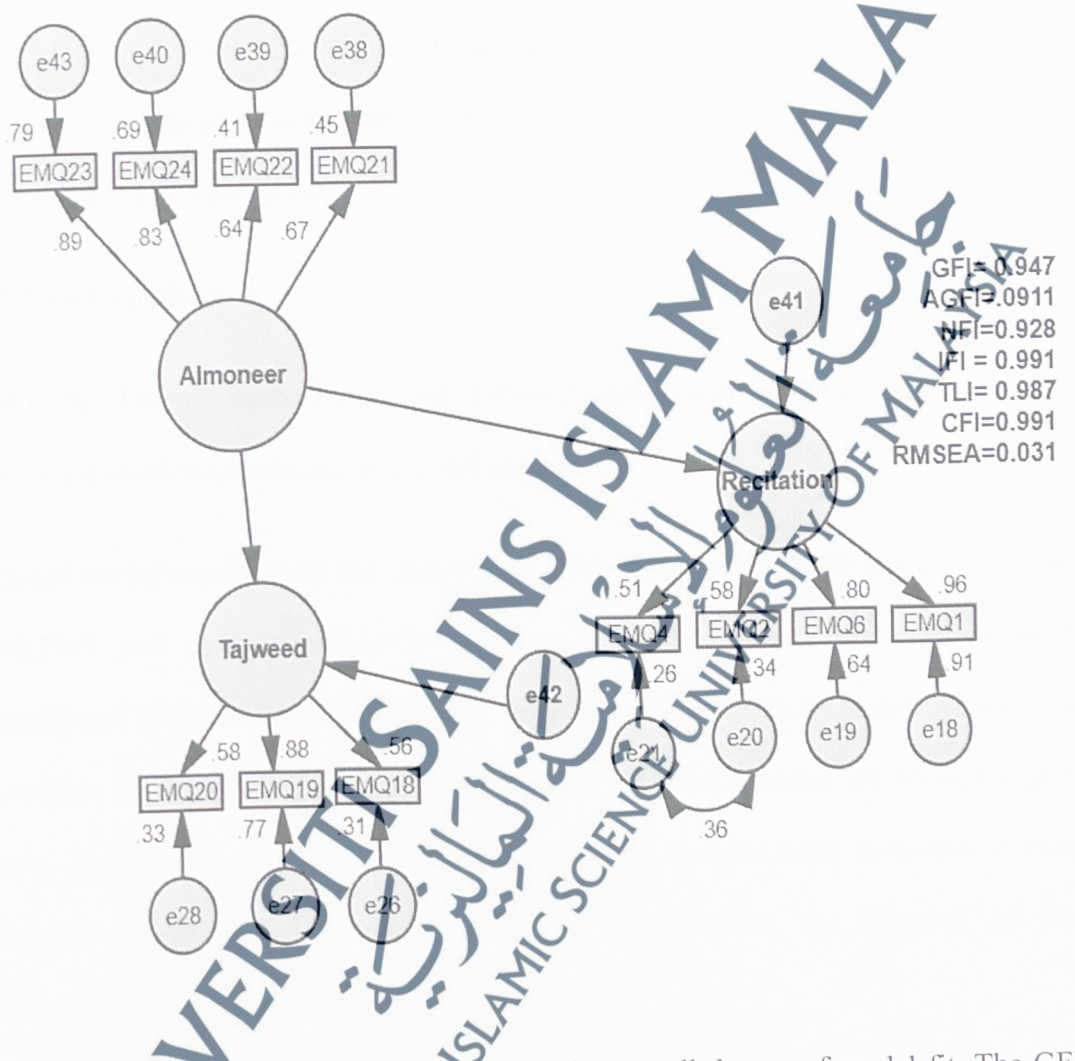
5.7.4.3 Hypothesis 3

H3 Developing a self-centric learning prototype to learn Recitation Qur'an based on Tajweed.

In order to test and evaluate Almoneer model, which stands in third objective, a Path Analysis was performed using Maximum Likelihood (ML) method by SPSS AMOS version 21. That to fit a structural equation model to the values of a sample, dataset used was extracted from analysis results after performed Confirmatory Factor Analysis CFA. The Figure 41 showed the results of Structural Equation Modeling Analysis. The factor of all measures on their latent construct was estimated above 0.60 (all t-values 2.00). This is the minimum amount accepted for convergent validity (Bagozzi & Youjae, 1988; Gummerus et al., 2004). There are different criteria to determine the overall fit of the models. Chi-square divided by the number of degrees of freedom is one of the criteria used as the goodness of fit indicator (Hayduk, 1987; Joreskog & Sorbom, 1989). A value of the ratio of a chi-square to the number of degrees of freedom ($\chi 2$/DF) which is less than five can be considered acceptable

(Bollen & Robert, 1993; Hair et al., 1998; Shin & Donghee, 2010). Using this test criteria, the value is 1.136 for this model indicates a good fit.

FIGURE 41: Results of Structural Equation Modeling



The Goodness-of-Fit Index (GFI) indicates the overall degree of model fit. The GFI should be greater than .90 Bagozzi and Youjae (1988) and the Comparative Fit Index (CFI) preferably greater than .90 (Etezadi-Amoli & Farhoomand, 1996; Saha et al., 2010). In this case, GFI is 0.947 and CFI is 0.991 and indicating that the model fits the sample data reasonably well. The Normed Fit Index (NFI) measures the fit of the proposed model against the null model (Bentler & Bonett, 1980). The NFI for this

study is 0.928, exceeding the acceptable value of 0.9 Fornell and Larcker (1981) once again indicating that the model fits the sample data well. Moreover, the Root Mean Square Error of Approximation is another index of overall fit (Browne and Cudeck 1993). That recommended threshold for RMSEA is below 0.05 (Bentler & Peter, 1990; Doll & Torkzadeh, 1994; Gefen et al., 2000). In this case, the RMSEA is 0.031, which confirmed that the values of these indicators had the strength of the relationship between the variables in this model. After the results reported the Almoneer model is significantly and accepted.

5.7.4.4 Hypothesis 4

H4 The Almoneer method improved skills and performance of Quranic Recitation with Tajweed more than the traditional method.

Based on the results were the analyzed in Table 62 reported the Mean for (pre-tests 48.2051 and post-test 49.4872) that means no significant difference between traditional group in performance and improving the knowledge skills between the students in terms of Tajweed. The results were analyzed reported the Mean for (pre-tests 39.2647 and post-test 84.7426) that means the students using Almoneer method improved their skills and performance of understanding the Tajweed in this courseware. H4 is accepted.

TABLE 62: Test of Performance of Quranic Knowledge

Traditional Method				
		Mean	N	Sig.(2-tailed)
Pair 1	pre-test	48.2051	39	.086
	post-test	49.4872	39	

Almoneer Method

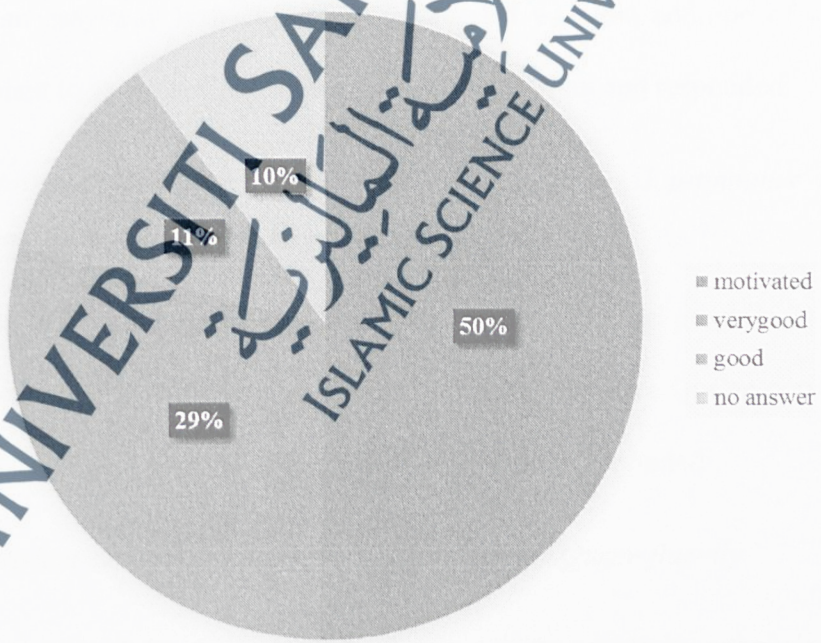
		Mean	N	Sig.(2-tailed)
Pair 1	pre-test	39.2647	136	.000
	post-test	84.7426	136	

5.7.5 Open-Ended Question of the Questionnaire

The students were their answered reported for open-ended question is shows in Figure 42.

The 70 students (50%) of 139 students were answered that Almoneer program motivated me to recite a Holy Qur'an with Tajweed, and 40 students (29%) reported that Almoneer program are very good, then 15 students (11%) reported that Almoneer program good and finally, 14 students (10%) did not answer.

FIGURE 42: Open-ended question



5.8 Results of Qualitative In-Depth Interview with Quranic Teachers

The analysis provided in this section is confine to one-on-one interview with the Quranic teachers in the SK school. The interview supported the statistical analysis based on a numerical value obtain from the respondents. Eleven questions were used among two Quranic teachers were committed to provide maximum support throughout the research period.

5.8.1 Interview Question 1

Q1. Did the program help you to teach a Holy Quran? How?

This question focuses to understanding the appropriateness of the newly developed multimedia for Qur'an teaching in Malaysia schools. To address this question, two teachers perspective based on the program is reported.

First teacher confirmed that the program adequate meets the intended need by providing an easy-way learning approach coupled with the addition of games that entices student to spend sufficient time to learn the Qur'an and responded:

"Yes the program helped me to teach a Holy Quran as I pronounce the words correctly and the students learn as well to pronounce".

The second teachers have similar views and added that the program is a student 'friendly version' with all important features need to pronounce Qur'an correctly. This complies with the responses of the students. The teacher responded:

"Yes, the student can now learn and pronounce a Holy Quran fluently"

The result answered the third research question of this study by enhancing learning Tajweed by the students using the newly developed multimedia learning system.

5.8.2 Interview Question 2

Q2- What the changes that the program made in your classroom?

The research question partly answer the second research question of this study. The first teacher advertently answered,

"Yes, the program helped me to teach a Holy Qur'an as I pronounced the words correctly and students too by new vowel that call AA, AB, AS…". "The program helped the students to repeat Ayat more than one time".

The second teacher reported that the multimedia learning system is good for the student as well and responded;

"Students read Alphabets with vowels and Qur'an easily and correctly using the multimedia system by Almoneer".

The result supported the statistical analysis that clearly explain that the newly developed multimedia learning system improved students learning performance.

5.8.3 Interview Question 3

Q3- Explain how the program motivate your students to read a Holy Quran?

The in-depth interview complement the statistical results reported in the previous section and were very helpful in addressing the third research question. The first teacher responded that,

The students want to try the program as they listen to almost all the program which helped them to read Alphabets correctly by all the vowels and keep the Surat easily"

In the same hand, the second teacher provided a supportive view of his observation on how the newly developed multimedia system motivate students to learn Quran and recitation based on Tajweed rules.

"Multimedia instructional system motivated the students to read Quran because it has a lot of games".

5.8.4 Interview Question 4

Q4- Did you find any strength and weakness in the program?

Although there are, a lot of motivation provided by the newly developed multimedia learning system, the two teachers interviewed supported that the system was appropriate for teaching Qur'an and no weakness was notice in the program because easy to follow the method of lessons.

"The program motivate students to read a Holy Qur'an a lot" It's encouraging to students as well.

"No weakness, but it support students and teachers enjoys using it" reported by pictures and video.

Although the perspective of the two Qur'an teachers appears to be the same, they provided information that shows that the newly developed model is accepted by the students as learning tool.

5.8.5 Interview Question 5

Q5- How long have you been teaching a Holy Quran?

The first teacher has eight years' experience in teaching Qur'an while the second teacher has thirteen years teaching experience. Their level of experiences contributed

in providing appropriate information that supported the findings of this study. It then implies that the analysis of qualitative interview reported in this section confines to Qur'an teachers with maximum teaching experience of thirteen years of teaching experience.

5.8.6 Interview Question 6

Q6- Can you recite a Holy Qur'an with Tajweed?

The teachers reported that they could not recite the Qur'an very well. It then implies that the newly developed multimedia instructional learning system can be made available to all schools to improve the knowledge of Qur'an teachers based on Tajweed and the students can know what is the different between Tajweed rules and recitation rules. The suitability of the newly developed Almoneer instructional learning system appears to provide numerous opportunity to improve Qur'an teachers' knowledge about Quran and the performance of the students. This is because the mode of instruction has proven to be an ideal tool for teachers and acceptable learning platform for students.

5.8.7 Interview Question 7

Q7- How many hours you need to understand Tajweed?

The teachers reported that they could not recite the Holy Qur'an with Tajweed. Alternatively, present research finding shows that the Almoneer multimedia instructional learning system developed in the present study is suitable in guiding the teachers to understand Tajweed. The development of Almoneer will enable the teachers to recite and as a result, students learning process will also be enhanced as well as the content and quality of information delivered during learning.

5.8.8 Interview Question 8

Q8- What is the method that you use to teach Qur'an?

The Qur'an teachers uses traditional method to impact students on the knowledge on Qur'an. The multimedia learning system of the present study stand out as an alternative learning tool to enhance the learning capability of the students in Malaysia. It becomes obvious that the multimedia learning system outperforms a traditional learning system using its interactive features to motivate learners. It then implies that the Almoneer instructional learning system has immensely contributed towards improving the learning standard of Quran. This will advertently improve religious practices since the correct knowledge based on Tajweed will be impacted on students. Therefore, it can be concluded that the usefulness of the Almoneer has contributed positively to the body of knowledge.

5.8.9 Interview Question 9

Q9- Do you think that your method is enough to improve your student's level in Recitation with Tajweed?

The teachers responded that the traditional method used to teach students Qur'an is too deficient to improve their knowledge about the Qur'anic Tajweed rules. This advertently prevents students from improving in learning Qur'an. Alternatively, the implementation of Almoneer for Qur'an teaching in the present study provided a more convenient pathway to impact the students with sufficient knowledge of Qur'an and as well improves Qur'an teachers teaching presentation and learning content.

5.8.10 Interview Question 10

Q10- What stage of the learning process is most difficult for your students?

The teachers faces many difficulties in learning Arabic language with vowels and observing Tajweed rules. This has been noticed in the previous studies, however; the multimedia learning system developed in the present study will be very helpful in guiding the teacher on how to learn and recite the holy Qur'an appropriately. Since the Tajweed rules are written in Arabic language with vowels, teachers and students have demonstrated that they were not having enough knowledge about Arabic language and this contributed mostly on the difficulty of using the correct terms based on Tajweed to teach the students. Using the Almoneer instructional learning system of the present study, learning Arabic has shown to be easily because of the application of visual and audio presentation that reflects similarity in the real life pronunciation using the system. The Almoneer multimedia however; have shown to be most appropriate at present for impacting both teachers and students with Arabic Alphabets skills and to observe its features more specifically for Qur'an recitation.

5.8.11 Interview Question 11

Q11- How do you find the program?

The teachers reported that the program is very good for teaching students and hope to use in many schools in Malaysian *AppendixM*. It is important, therefore, to replicate the program to other schools to enable the students to learn Qur'an more effectively and to recite the words based on Tajweed rules. Drawing from various response regarding the performance of the Almoneer instructional learning system, it's obvious that the implementation of the multimedia system in schools will potentially enhance

the learning capability of students and religious practices in Malaysia. The program convincingly motivated the teachers and students to add extra effort in studying and reciting the Qur'an words. Besides the easy learning platform afforded by the Almoneer learning system, it application in schools in Malaysia stands to broaden learning content using the available resources in the internet to equip the students with the necessary knowledge needed to fluently recites the words of the Qur'an.

5.9 Summary

This chapter presented the statistical results conducted on the data obtained from procedures of the comparison between Almoneer and other products in schools and Malaysian Markets, experts' general checklist evaluation, pre-test, post-test for (control and treatment) groups , students based on their knowledge about the newly method of Almoneer system. Various analysis performed aimed at providing definitive answers to the research questions to and support extensive discussion reported in the subsequent chapter. Statistical analysis provided in this chapter uses clear illustration such as tables and figures to provide a conclusive summary of the data. The results supported that the Almoneer program in the present study is an ideal tool needed to enhance Qur'anic Recitation with Tajweed in schools in Malaysia.