

Enhancing Tahfiz al-Quran Learning Through Modern Technological Tools

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Abstract:- Supporting technology is essential to assist students to do self-study as well as improve the quality of teaching method among tahfiz teachers. The development of technology in the form of digitalization such as educational application can be accessed easily anytime and anywhere by the students. However, tahfiz teachers are still using traditional methods in their teaching process resulting in boredom and lack of student concentration in class. This also affects the students' achievement level of al-Quran memorization. In this study, the researcher aims to develop a holistic and comprehensive mobile application named "HiQMA" that is designed exclusively for tahfiz students and teachers to assist students in learning tahfiz al-Quran. This study is a development study within ADDIE model that provides a structured framework for designing and developing effective instructional materials or learning interventions that have four phases including evaluation phase. The evaluation phase includes user feedback and learning outcomes that involves 40 respondents on the subject of tahfiz al-Quran from Faculty of Quranic and Sunnah Studies in Universiti Sains Islam Malaysia. The feedback shows that the process of HiQMA application which contains four features i.e. Quran recitation, video call, video recording, and class record are able to assist students in learning tahfiz al-Quran.

Keywords: Technology, tahfiz al-Quran, mobile application, Information and Communications Technology (ICT).

1. Introduction

In the contemporary era, Memorizing the Qur'an is a methodology that has been used by Islamic scholars in preserving the Qur'an from efforts to distort its content [1];[2]. Al-Nawawi asserted that the commandment of memorizing the Qur'an is *Fardhu Kifayah* because the practice has perfected the needs of the community and dropped the obligation of memorizing the entire Islamic community [2]. The most important aspect in memorizing the Qur'an is the ability to memorize and the fluency in reading [31]. Thus, in order to achieve the goal, it requires a strong will, high persistence, extra time, good environment, and expert teachers. Nowadays, in the context of *tahfiz* education in Malaysia, the *tahfiz* institutions trend that provides a dual system that integrates the academic and learning *tahfiz* al-Quran is increasingly looking at the high number of admissions to *tahfiz* institutions [1];[31]. The high demand for studies in the field of *tahfiz* al-Quran has attracted the attention of the government in ensuring that the development of the *tahfiz* curriculum in this country is in line with the current needs of education [4]. This situation also provides opportunities for the establishment of private and public *tahfiz* institutions [5];[6] with various types of syllabus and governance guide [7].

The government through the Ministry of Education (KPM), the council, the state Islamic religious department and Majlis Amanah Rakyat (MARA) took the initiative to develop a number of *tahfiz* schools for example, MARA established Maktab Rendah Sains MARA (MRSM) Ulul Albab, Terengganu Islamic Foundation established Sekolah Menengah IMTIAZ, Selangor Islamic Religious Department (JAIS) established Maahad Integrasi Tahfiz Sains (MITS), Islamic Council of The Federal Territory (MAIWP) established Sekolah Menengah Integrasi Sains Tahfiz (SMISTA) and KPM established Sekolah Menengah Kebangsaan Agama (SMKA) and Sekolah Berasrama Penuh (SBP) which implement TMUA curriculum [3];[8]; [12].

1.1 Technology in Learning Tahfiz Al-Quran

The excellence of learning *tahfiz* al-Quran requires effective learning methods and processes [9] such as through technological approaches [10]. The development of technology in the field of Education is seen to be able to improve the quality of teaching and learning process [35]. COVID-19 pandemic that happened before caused all learning to be carried out online [11];[32] at every level of study even though it was quite difficult at the beginning, now the teacher's skills in computing and technology are getting better [13]. Teachers and students need to accept the modern technology as an alternative method [10] by using Information and Communications Technology (ICT) in teaching and learning at *tahfiz* schools [14] because the development of hardware and software in the form of digitalization help to increase the quality of teaching and learning process [15].

ICT will assists teachers more creative and innovative in using various interesting digitalization in the process of learning *tahfiz* al-Quran [11];[13];[16] thus, students are able to improve their level of memorization because their active involvement is no longer just as an observer [13];[16];[17]. Students at the higher-level education usually are required to do self-study either to get prepared for the class by pre-studying or after class by re-reviewing thus, assistance from reliable learning resources other than using textbooks that less interactive and less flexible are needed [18].

1.2 Mobile Application in Learning Tahfiz Al-Quran

Therefore, the using of mobile application which is more interactive and more flexible [14] are able to help on specific focus to be studied [18];[19] and have positive potential in improving academic performance among students [9];[20];[21]. This indicate that mobile application offers more comprehensive and engaging [9] method to support teaching and learning process that brings good result [19].

The use of smartphones that easy to be carried anywhere with the convenience of internet access are able to assist students to acquire information and knowledge easily using the mobile application related to techniques of memorizing the Quran [22]; [23];[33]. In addition, the limitation number of *tahfiz* teachers compared to the large number of students are able to overcome through the use of mobile application [24].

However, the rapid use of technology in *tahfiz* learning also needs guidance from the teachers to produce a perfect learning process [10]. *Tahfiz* teachers are required to be responsible for guiding the generation of Al-Quran in using educational application as an accurate and correct reference according to Islamic compliance. As of 1st March 2020, there are more than 249 mobile applications [25] related to *tahfiz* al-Quran have been developed [22] with various features provided [25]. Top four of mobile applications related to *tahfiz* Quran are as below [25]:

Table 1: Mobile applications related to *tahfiz* Quran

Memorize Quran	Memorize Quran by Bigitec Developer is top application on Google Play Store related to <i>tahfiz</i> al-Quran. This user-friendly application allows users to select verses for reading, listening or memorizing. This application also available in 21 languages.
Memorize Quran	Memorize Quran by Ottoman Software is second top application on Google Play Store related to <i>tahfiz</i> Quran. This application is larger compared to other applications because downloaded audio of each <i>surah</i> is provided.
Quran Memorization Test	Quran Memorization Test by Darse Mansoor Org is mobile application for testing the Quran memorization skills. This wonderful application allows user to record the audio and improve their al-Quran memorization.
Read, Learn, Memorize Quran	Read, Learn, Memorize Quran is mobile application for recitation and <i>hifz</i> al-Quran. This application has more complaints compared to earlier discuss mobile applications

2. Problem Statement

Schools that provide a dual system that integrates the academic and learning *tahfiz* al-Quran [1];[31] show that the achievement of Al-Qur'an memorization is not as excellence as academic achievement because there are still many students who were not able to achieve the target in completing the memorization of 30 *juzuk* Al-Qur'an [8];[26];[27];[28].

There is a relationship between student excellence in academics with teaching and learning methods used in *tahfiz* studies [10] as the problem factor that is often debated is the need for improvement from the aspect of teaching methods [16];[33]. Thus, *tahfiz* teachers need to be skilful and creative in their Quran teaching methods [33];[25] to assist students such as through technological approaches [16];[17].

The use of interactive educational applications in the process of memorizing and reciting the Quran can be done easier and faster compared to traditional methods [13];[22];[29] as well as encourage students to keep memorize the Quran accordingly [10];[30];[34].

However, *tahfiz* teachers are still using the traditional methods in their teaching process [15];[22];[26] such as listening to the student's memorization by reciting the Qur'an in the class [13];[14] or manually writing the Al-Quran memorizing verses using paper or books [14], resulting in boredom and lack of student concentration in class [13];[16]. The readiness among *tahfiz* teachers are high [16] but the level usage of technology is still relatively moderate despite the high perception and ability to use technology in teaching method [13];[15];[21].

3. Objective

Supporting technology is essential to assist students to do self-study as well as improve the quality of teaching method among *tahfiz* teachers. The development of technology in the form of digitalization such as educational application can be accessed easily anytime and anywhere by the students.

In this study, the researcher aims to develop a holistic and comprehensive mobile application named "HiQMA" that is designed exclusively for *tahfiz* students and teachers as well as identify the ability of this application to assist students in learning *tahfiz* al-Quran.

4. Method

This study is a development study within ADDIE model that provides a structured framework for designing and developing effective instructional materials or learning interventions, including mobile application. The ADDIE model consists of five phases as Table 2 below.

When applied to the creation of a mobile application for *tahfiz* al-Quran, the model can provide a structured approach to ensure that the application meets the educational objectives and the needs of the users.

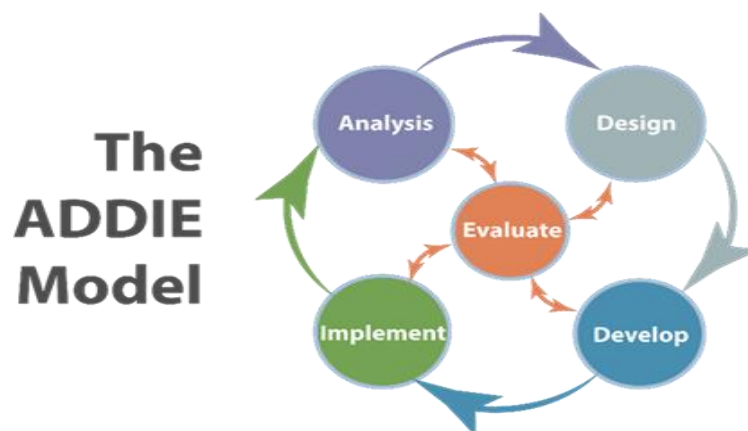


Fig. 1. ADDIE Model

Table 2. ADDIE Model

Analysis phase	1. Identify the target audience -understanding the demographic -assess skill level 2. Define learning objectives -specific memorization and recitation goals 3. Assessing technical requirements -technical specifications -functional features
Design phase	1. User Interface (UI) and User Experience (UE) designs - intuitive navigation -engaging elements -accessibility 2. Content structure -logical organization -search and filter functions 3. Teaching strategies -memorization activities -recitation techniques-progress tracking
Development phase	1. Building applications-programming languages-tools and frameworks-quality assurance 2. Integrating multimedia elements-audio readings-visual aids
Implementation phase	1. Testing the application-usability testing-bug fixing 2. Training and support-user documentation-in-app tutorials-customer support
Evaluation phase	1. Assess user feedback-collect feedback-analyze feedback 2. Measure learning outcomes-qualitative evaluation-qualitative analysis

The evaluation phase includes user feedback and learning outcomes that involves 40 respondents on the subject of *tahfiz* al-Quran from Faculty of Quranic and Sunnah Studies in Universiti Sains Islam Malaysia. There are two sections developed with a total of eight structured closed questions. Section A in the form of multiple choice needs to be answered by the respondents regarding their opinion about learning *tahfiz* al-Quran online. While Section B in Likert scale form as Table 3 below was constructed based on features provided in HiQMA Application to identify students and teachers' perceptions in using HiQMA Application.

In this study, descriptive statistics which include the total score, frequency, percentage, mean, and Standard Deviation

will be analyzed through computer software of Statistical Package for Social Sciences (SPSS) version 25. The mean score as Table 4 below have been divided into three levels to generate the following indicators [13].

Table 3: Likert scale score for Section B questions

Strongly disagree	1
Disagree	2
Neutral	3
Agree	4
Strongly agree	5

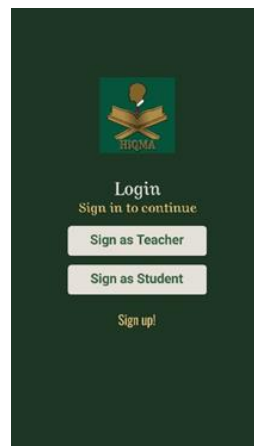
Table 4: Mean score

1.00 to 2.39	Low
2.40 to 3.79	Intermediate
3.80 to 5.00	High

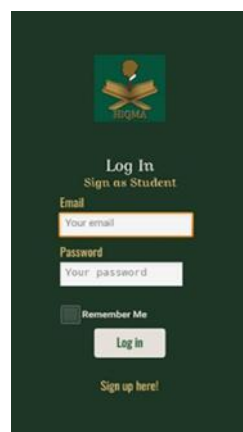
5. Result and Discussion

HiQMA Application provides an innovative method to improve Quranic memory and promote easy online communication exclusively for *tahfiz* students and teachers. The mobile application will use the accessibility and convenience of smartphones to build a virtual *tahfiz* Quran learning environment, enabling students to participate in their memorizing journey whenever and wherever they choose while still under the supervision and mentoring of knowledgeable professors.

5.1 The Progress of HiQMA Application



(a)



(b)



(c)

Fig. 2: Login session

Fig. 2 (a) shows that the users may choose to login as teacher account or student account at this page. There is also a sign-up button to register for the new user. Once users choose the login as whom either as teacher or student, this page would appear as the users choose as whom they will login as shown in Fig. 2 (b) and (c).

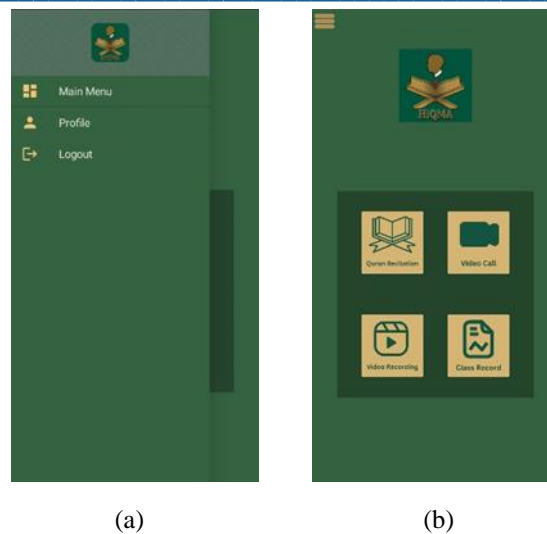


Fig. 3. Main menu and sidebar menu

Fig. 3 (a) is the main menu which has four buttons to go to the next section which are Quran recitation, video call, video recording, and class record. There has also provided a sidebar button to go to the sidebar menu. Sidebar menu has three buttons which allows you to go to the main menu, profile and logout as shown in Fig. 3 (b)



Fig. 4. Quran recitation section

This Quran recitation section as Fig. 4 can allow students to record their progress in memorizing specific parts or sections of the Quran. This can include tracking the completion of individual Juz (sections), Surahs (chapters), or Ayahs (verses).

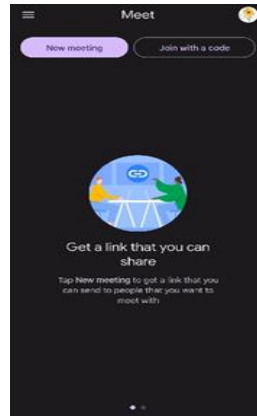


Fig. 5. Video call section

The video call section would link to Google Meet application. A dedicated virtual meeting room can be set up where participants can join at the scheduled time. This room may include features for video conferencing, audio communication, and screen sharing to facilitate collaborative learning.

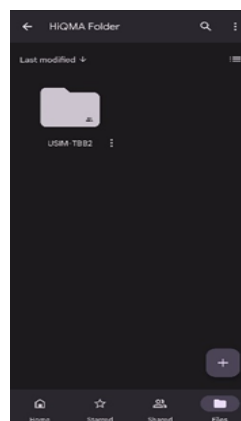
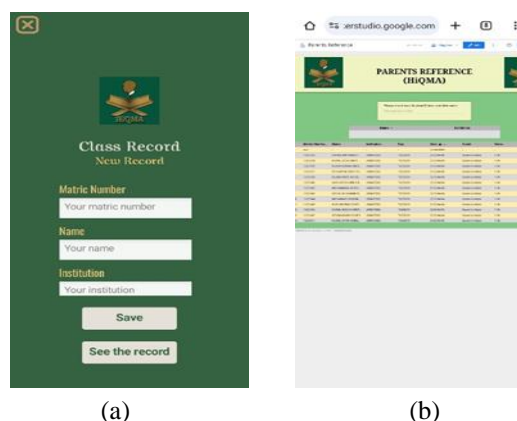


Fig. 6. Video recording section

After the user clicks the video recording button, the page as shown in Fig. 6 will appear. There is folder where users are able to put all of their memorization video recordings.



(a)

(b)

Fig. 7. Class record section

Lastly, the feature in Fig. 7 includes tools for tracking and monitoring student's memorization progress, allowing parents to stay informed about their child's achievements and challenges. This could include progress of the memorization process, the date and the surah, and the mark of al-Quran memorization based on the recitation.

5.2 The Findings and Data Analysis

The following figures below show the findings of questions in Section A which are regarding respondents' opinions about learning *tahfiz* al-Quran through online.

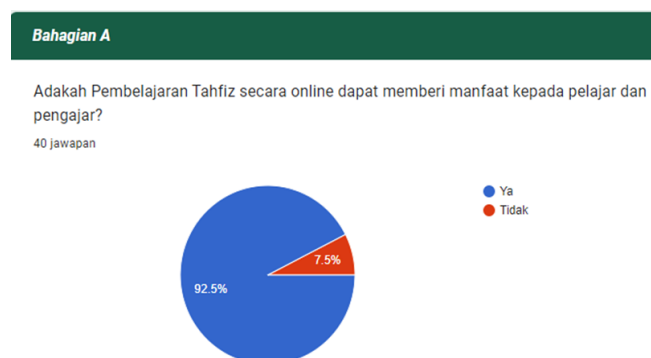


Fig. 8

The question of Fig. 8 above is about the respondents' agreement regarding the benefits of learning *tahfiz* al-Quran online for students and teachers. The findings show that 92.5% from the total of 40 respondents are agree about that while 7.5% disagree. The problem factor that is often debated is the need for improvement from the aspect of teaching methods [16];[33]. Traditional methods used in learning *tahfiz* al-Quran resulting in boredom and lack of student concentration in class [4];[14].

Therefore, the use of technology will help teachers more creative and innovative in using various interesting applications [2];[4];[14]. The use of interesting teaching methods indirectly helps students to always communicate with their teachers for asking guide [2] and improve their level of memorization because their active involvement is no longer just as an observer [4];[14];[15]. In addition, this digital revolution is also beneficial for both Arabic and non-Arabic experts [13];[30].



Fig. 9

The question of Fig. 9 is about the respondents' agreement regarding the ability of learning *tahfiz* al-Quran online in helping students in the memorization process. The findings show that 92.5% from the total of 40 respondents are agree about that while 7.5% disagree.

The development of an effective Quran memorization application or system would help the student to keep memorizing al-Quran [13] [30] as well as encourage students to memorize the Quran better than before they used

the application [13]. Besides, the improvement of students to the level of higher education requires students to do self-study either to get prepared for the class by pre-studying or after class by re-reviewing [6]. Therefore, the using of educational application can help students to self-memorizing al-Quran in more comprehensive ways [6];[7].

Berdasarkan penggunaan pembelajaran Tahfiz secara online, adakah ia menjimatkan masa?
40 jawapan



Fig. 10

The question of Fig. 10 is about the respondents' agreement regarding the ability to save time by using the online learning of *tahfiz* al-Quran. The findings show that 97.5% from the total of 40 respondents are agree about that while only 2.5% disagree.

The flexible use of smartphones that easy to be carried anywhere and anytime [14] with the convenience of internet access helps every user to acquire information and knowledge easier and faster [17];[18];[34]. Moreover, mobile applications in smartphones can help students to listen and memorize the Quran according to their own schedule [13];[34]. They also have an opportunity to check their al-Quran memorization with certified teachers and can reduce the dependency of meeting sessions between teachers and students [34].

Adakah penggunaan pembelajaran Tahfiz diatas talian dapat mengurangkan rasa gemuruh pelajar ketika tasmī?
40 jawapan

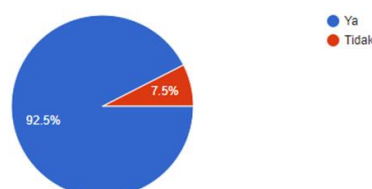


Fig.11

The question of Fig. 11 is about the respondents' agreement regarding the ability of learning *tahfiz* al-Quran online in reducing students' nervousness during *tasmī*'. The findings show that 92.5% from the total of 40 respondents are agree about that while 7.5% disagree.

Tasmī' is a method of students recitation of new memorizing verses of the Qur'an in front of the teacher so that the teacher can detect and correct mistakes [20]. There are three main phases in the al-Quran memorization process which are preparation process for new memorization, the process of memorizing, and the revision of old memorization [13];[20]. The overall findings of Section A questions indicate that learning *tahfiz* Quran online is well accepted among students and teachers.

Next, the following figures below show the findings of questions in Section B which are regarding of students and teachers' perceptions in using features provided in HiQMA Application. There are four sections developed which are Quran recitation, video call, video recording, and class record.

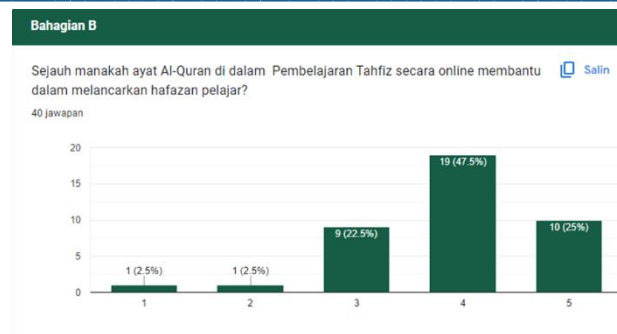


Fig. 12

The question of Fig. 12 is about the ability of Quran recitation section in facilitate the students' memorization. The highest percentage revealed in the provided feature of the Quran recitation show that respondents are agree (47.5%) with the ability of the feature. Only 1 respondent each are agreed to disagree (2.5%) and strongly disagree (2.5%). This feature allows users in tracking the completion of individual *Juz* (sections), *Surah* (chapters), or *Ayah* (verses) as well as record their progress in memorizing specific parts or sections of the Quran.

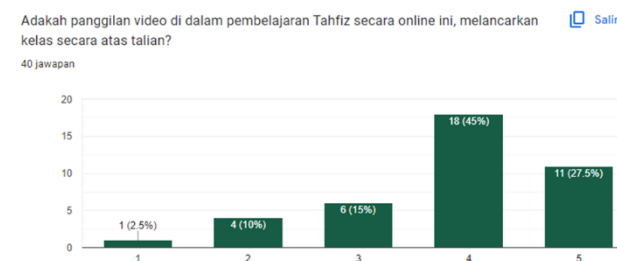


Fig. 13

The question of Fig. 13 is about the ability of video call section in facilitate the students' memorization. Video call feature also show that most of the respondents are agree (45%) with the provided feature ability. Only 4 respondents are agreed to disagree (10%) and 1 respondent is strongly disagree (2.5%). This feature allows users in making video conferencing, audio communication, and screen sharing to facilitate collaborative learning. This section would link to Google Meet application and users can set up a dedicated virtual meeting room that can be scheduled.

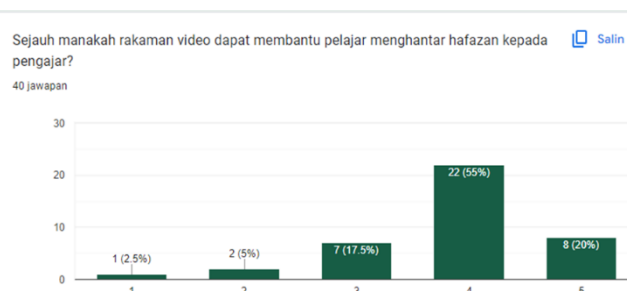


Fig. 14

The question of Fig. 14 is about the ability of video recording section in facilitate the students to send the verses of Quran memorization to teacher. The video recording feature show that many respondents are agree (55%) that this feature is easier for students to send their Quran memorization. Only 2 respondents agreed to disagree (5%) and 1 respondent is strongly disagree (2.5%). This feature allows users to record their al-Quran memorization. All of the memorization video recordings will be in folder where users will easily access.

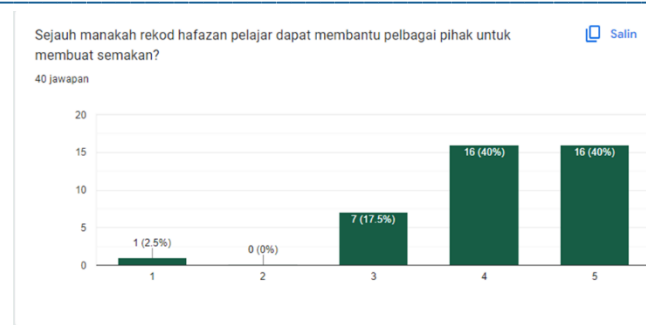


Fig. 15

The question of Fig. 15 is about the ability of the class record section to facilitate revise. The class record feature indicates that most of the respondents are agree (40%) and strongly agree (40%) with the same total. There is no one disagree (0%) and only 1 respondent is strongly disagree (2.5%). This feature allows users to track and monitor students' al-Quran memorization progress including the date, the surah, and the mark of al-Quran memorization based on the recitation. Parents also allowed to stay informed about their children's achievement.

Table. 5: Students and teachers' perceptions in using HiQMA Application

Items	Mean	Standard Deviation (SD)
Quran recitation	3.90	0.900
Video call	3.85	1.027
Video recording	3.85	0.893
Class record	4.15	0.893

Based on Table 5 displayed above, the findings show that the teachers and students perceived that the developed features in HiQMA Application are interesting and able to assist students in learning *tahfiz* al-Quran. The Quran recitation feature (mean=3.90, SD=0.900) indicate that it is at a high level. This proves that the developed feature is facilitate to record their progress in memorizing specific parts or sections of the Quran.

Next, the video call feature that allows users to make video conferencing, audio communication, and screen sharing could facilitate the students' memorization. This is proven when looking at the score (mean=3.85, SD=1.027). Apart from that, the findings also showed that the feature of video recording able to help the students to send the verses of their Quran memorization to teacher. The high score is shown (mean=3.85, SD=0.893). The last developed feature which is class record section indicates the highest among features provided (mean=4.15, SD=0.893). This indicate that this feature is highly needed to track and monitor students' progress in al-Quran memorization.

The effectiveness through the features of the application have been evaluated by several students and teachers. By looking at the findings received, the HiQMA Application that exclusively developed for *tahfiz* students and teachers is successfully provides an innovative method to assist students in learning *tahfiz* al-Quran.

6. Conclusion

The excellence of *tahfiz* education requires effective learning methods and processes such as through technological approaches. The use of smartphones that easy to be carried anywhere with the convenience of internet access are able to assist students to acquire information and knowledge easily using the mobile application. Various software and applications in smartphones have been developed are able to help students, especially students at the higher education level.

HiQMA Application that exclusively developed for *tahfiz* students and teachers has four features including Quran recitation, video call, video recording, and class record. The effectiveness of each feature is seen from the feedback and learning outcomes that involves 40 respondents on the subject of *tahfiz* al-Quran from Faculty of Quranic and Sunnah Studies in Universiti Sains Islam Malaysia. The findings show that educational application related to *tahfiz* Quran which is HiQMA Application is able to assist students in learning *tahfiz* Quran because of the flexibility to use it anywhere and anytime, as well as its innovative and interactive method compared to traditional method.

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