MOBILE LEARNING IN THE STUDY OF HADITH:
A STUDY ON STUDENTS' UNDERSTANDING ON THE ARRANGEMENT OF SANAD WITH SPECIFIC SYMBOL

Nur Saadah Hamisan@Khair [1]
Phayilah Yama [2]
Noor Azli Mohamed Masrop [3]
Mohd Norzi Nasir [4]
Abdul Hadi Awang [5]
Abdul Azis Awang Kechik [6]

[1] Universiti Sains Islam Malaysia, USIM, Malaysia (E-mail: saadahkhair@usim.edu.my)
[2] Kolej Universiti Islam Antarabangsa Selangor, KUIS, Malaysia (E-mail: phayilah@kuis.edu.my)
[3] Kolej Universiti Islam Antarabangsa Selangor, KUIS, Malaysia (E-mail: noorazli@kuis.edu.my)
[4] Kolej Universiti Islam Antarabangsa Selangor, KUIS, Malaysia (E-mail: mohdnorzi@kuis.edu.my)
[5] Kolej Universiti Islam Antarabangsa Selangor, KUIS, Malaysia (E-mail: abdulhadi@kuis.edu.my)
[6] Kolej Universiti Islam Antarabangsa Selangor, KUIS, Malaysia (E-mail: abdulazis@kuis.edu.my)

_____

Abstract: Mobile learning has been used as an alternative in creating a creative, interesting, and effective learning environment; which has been widely used especially in this 21st century. The utilization of mobile learning should not be limited to science and technology related subjects only, but it is necessary for subjects related to Islamic studies. This study emphasizes the importance of mobile learning in the study of Hadith, as it is one of the Islamic legal sources. The subject on Hadith study has been taught traditionally for a thousand years, and the changes needed is only on the method of learning and teaching the Hadith which should not affect its content. Therefore, this study aims to observe the efficiency of mobile learning by developing a mobile application that focuses on the arrangment of sanad (chain of narrators). The hadiths selected are limited to the usage of symbols used by Imam Muslim, which is 'ha' (□) which can be found in Sahih Muslim. This symbol was chosen because it has its own uniqueness and is more easily understood through syajarat al-asanid. This study is quantitatively in nature, and the sample chosen is students from Kolej Universiti Islam Antarabangsa Selangor (KUIS). A mobile application was developed to assist students in understanding the arrangement of sanad and visualising syajarat al-asanid in an accurate diagram. This study evaluates students' responds towards the mobile application, and the findings show that learning using mobile application produced positive responses and generated better performance among the students. Therefore, a mobile application which was developed in this study was made at the early module for other innovations in the field of Hadith which concerns specifically on sanad.

_____

Introduction

The study of Hadith has become the second most important field after the study of the Qur'an, as both are the most important legal sources in Islam. Following the modern technology era, the study of Hadith has been inter-related with multimedia, in helping to execute the claim of Muslim's daily life, and at the same time contributing expertise to international level. Therefore, the integration between the study of Hadith and multimedia should be moving forward and directionally focused. The direction must be evaluated from time to time, and able to produce suitable products for national and international utilization.

Hence, the development of information technology has influenced current life trend; especially in education sector, where technology application in teaching and learning process has become a new paradigm in teachers' pedagogy techniques. Several previous researches have proven that technology utilization could revolutionize teachers' teaching techniques and students' learning methods, by handling education according to the current era. This facility could also give opportunity to students to effectively and meaningfully explore, empower, and expand multiple skills in knowledge, and could relate knowledge to reality. This could produce competitively knowledgeable and wise generation, to realize the country's vision 2020, and creating a more advanced civilization.

Tun Dr. Mahathir Mohamad affirmed that Malaysia needs to develop its economy without neglecting politics, social, spiritual, psychological, and cultural aspects. In order to achieve this goal, Malaysia needs to achieve nine main challenges of Vision 2020. One of the goals of information technology in Malaysia is to become a developing country in year 2020. The sixth challenge out of nine strategies of Vision 2020 is that Malaysia must create "...society that is scientific and progressive, an innovative society that not only uses technology, but even contributes to the future world of science and technology..." (Mohamad, 1998).

Mobile learning, also known as M-Learning, is an approach in teaching and learning process, which is known as learning via computer (Quinn, 2000). It functions as students' remote reference for lecture notes (Clarke, 2001) by using tablets, mobile phones, or smartphones, which were embedded with important applications for teaching and learning process. This method was used as an alternative in creating a creative, interesting and effective learning environment.

M-Learning is a part of E-Learning and distance learning (Georgiev et al., 2004) by using wireless equipment to enable learning at anytime and anywhere (Siraj & Kumaran, 2002). As one of the ICT learning concepts, Steve Higgins (2003) found that M-Learning produces effective and positive impacts. Students feel much more comfortable and fun in using mobile application, hence motivating them in completing the tasks given to them. Findings also showed that ICT tool application could improve creative skills and students' understanding. Amongst the remote tool that support M-Learning are cellular phones, PDAs (Personal Digital Assistants), laptops, smart phones, and 3G phones (Mahizer Hamzah, 2006).

Therefore, teaching and learning with the assistance of mobile application is one of the approaches in teaching and learning process (Baharuddin et al., 2002). It is found to have a lot of benefits in various aspects. Among the advantages of M-Learning is to help eradicate illiteracy amongst urban and rural community. Its mobile and educational characteristic is not

limited to place and time, and it gives opportunity to all groups of people to further their studies and education. It is also suitable to be used as a learning approach for those who work while studying. Hence, M-Learning can encourage part-time and lifelong learning opportunities (Siraj, 2004).

The existence of mobile application and technology is one of the alternatives and transformation that could diversify strategies in making the teaching and learning process something interesting and fun. The multimedia is capable of accurately and precisely delivering information, able to attract attention and create enjoyable learning environment (Zamri & Mohamed Amin, 2008). Therefore, educational methods using mobile application should be highlighted in educating students not only in schools, but also students in public as well as private institutes of higher education. Students need to be exposed to the method that make them in line with current technology development, and not left behind in utilizing the facilities that could help them in understanding the lessons learnt in class. Even though the mobile application has become a phenomenon in the country, but the applications based on religious knowledge should be numerously increased to attract the teenagers' interest in learning and exploring knowledge wherever they are. Hence, this study aims to emphasize the importance of mobile learning in the study of Hadith which has been taught traditionally for thousand years, and the changes needed is only on the method of learning and teaching the Hadith which should not affected its content. This study also specifically focuses to observe the efficiency of mobile learning by developing a mobile application that focuses on the arrangment of sanad (chain of narrators).

Literature Review
Many studies have been conducted to analyse the technology effectiveness in the study of the Hadith amongst university students. Technology has been used very widely in today's learning methods; among them include websites and mobile applications. Syed Hassan, Zakaria et al. (2015) in his study titled 'Modern Technology Application in Empowering Sunnah Education in the Globalization Era' (*Aplikasi Teknologi Moden Dalam Memantapkan Pendidikan Sunnah Di Era Globalisasi)* had discussed on several technologies which have been accepted and used in teaching and learning the study of Hadith. Technology has proven to give positive effects in facilitating effective and dynamic education, but simultaneously there are some challenges and weaknesses that need to be wisely handled; for example, dissemination of fake Hadith among society. Ismail & Khair (2012) has elaborated on the same matter in 'E-Learning of Hadith Studies: Issues and Challenges' (*E-Pembelajaran Pengajian Hadis: Isu dan Cabaran),* stating that studying Hadith by using technology and modern application is easier and efficient, but it needs to face much more challenges than learning it in the traditional way.

Internet has become one of the most important technologies to surf websites which contains section on learning the Hadith. In a study titled '*User Awareness on the Authenticity of Hadith in The Internet: A Case Study',* Mohd Zaidi & Chowdury (2017) studied on the level of students' awareness towards status of the Hadith that went viral on the internet. The study focused on final year students of Universiti Sains Islam Malaysia and it found that their internet usage frequency in finding Hadith was high, and most of them did not refer to the original sources. This study also emphasized that it is a students' responsibility to ensure the validity of a Hadith, and verify the contents of the Hadith, either by referring to the original source or to an expert in the field of Hadith. Abdul Karim & Hazmi (2005) had also evaluated the quality of information delivered through the internet which focused on the Hadith as one of the Islamic sources. The title of their study was '*Assessing Islamic Information Quality on the Internet: A Case of Information about Hadith',* and it aimed to study on the level of internet usage among

academicians and students of International Islamic University Malaysia, and websites used as their Hadith referral. Using interviews as the main method, this study found that most of the respondents were aware on the importance of gaining precise information; especially related to the Hadith, and internet was just used as an additional source and not as the main source.

There were also other researches which highlighted several websites that contained several references of the Hadith. Amongst them was the article written by Najiyah, Susanti, Riana, & Wahyudi (2017) titled '*Hadith degree classification for Sahih Hadith identification web based'*. This research aimed to study the status of the Hadith from certain websites and categorize those Hadiths into different categories: authentic (*sahih*), weak (*da'if*) or fabricated (*mawdu'*). One of the famous websites is Islamweb, which was studied by Shahril Nizam Zulkipli, Muhammad Faidz Mohd Fadzil & Ishak Suliaman (2011). The research titled 'Learning of Authorized Hadiths Access on the Internet: Study on Islamweb Website' (*Pembelajaran Capaian Teks Hadith Berautoriti di Internet: Kajian Terhadap Laman Sesawang Islamweb)* chose Islamweb because they found out that the website offers the access of *Takhrij Hadith* and helps researchers to make preliminary evaluation by using *Takhrij Hadith*. *Islamweb* has also collected almost 1400 scriptures including 543 unpublished manuscripts from various fields including Hadith. This research found that *Islamweb* has been a huge assistance in facilitating the application of *Takhrij Hadith*, but it does not mean that the original source of scriptures should be abandoned. Fair technology utilization is the best effort in delivering and disseminating Hadith effectively and quickly.

Despite *Islamweb*, *Al-Durar Al-Saniyyah* and *Mawqi' al-Islam* are among other websites which have access to numerous collections of Hadith. Among the other researches include '*Takhrij al-Hadith via Websites: A Study of al-Durar al-Saniyyah, Mawqi' al-Islam and Islamweb'* by Zulkipli, Yaacob, Anas, Mohd Noor, Zainal Abidin, Wan Jamil et al., (2017) and 'Website Al-Durar Al-Saniyyah: Application and Effectiveness in Teaching and Learning of Hadith Study Among Lecturers and Students of Faculty of Quran and Sunnah Studies, USIM' (*Laman Web Al-Durar Al-Saniyyah: Aplikasi Dan Keberkesanan Dalam Pengajaran dan Pembelajaran Kajian Hadis Dalam Kalangan Pensyarah dan Pelajar Fakulti Pengajian Quran dan Sunah, USIM)* by Syed Hassan, Mohamed Nor, Jaafar, & Mohd Amin (2015).

Most websites that contained Hadith studies used Arabic language as the main language, but Mohd Yusuf Ismail, Mohd Zaini Zakaria, & A. Irwan Santeri Kawaid (2011) tried to highlight several websites that contains the study of Hadith which used Malay language as the main language. The study titled 'Hadith Website in Malay Language: A Descriptive Study' (*Laman Web Hadith Dalam Bahasa Melayu: Satu Kajian Diskriptif)* limited to three websites in Malay language, namely: *Laman Himpunan Hadis* (http://hadis.cikedis.com/), *Laman Koleksi Hadis Nabi)* (http://koleksihadisnabi.blogspot.com/p/sahih-bukhari.html), and *Laman Sesawang Hadis, Pejabat Perdana Menteri Malaysia* (http://www3.pmo.gov.my/WebNotesApp/hadism.nsf/webhadismalay). This research found that all three websites need to be improved especially in the aspects of information posted or uploaded onto the website, since it does not cover all fields of Hadith studies. There have been other suggestions mentioned in the research, such as efforts to increase the numbers of quality Malay language in websites that contain references of the Hadith; which are equivalent to other language websites, so Malaysians could approach the Hadith using their own mother tongue. This was even highlighted by Mohd Khafidz (2008) in 'Malay Language Hadith Material on the Internet: Future Development and Vision' (*Material Hadith Berbahasa Melayu di Internet: Perkembangan dan Visi Masa Depan),* that usage of Malay language in these related websites

has more or less helped in the effective and efficient of learning the Hadith, especially among Malays.

Nevertheless, the consumption of the internet should not be excessive among the learners of Hadith, as being highlighted by Abdullah & Khair (2013) in their research titled '*The Implication of Excessive Internet Usage on the Study of Hadith'.* This research discussed several negative implications of excessive internet usage in the Hadith studies, especially among students. Among the implications are the high dependability towards the internet and Hadith referral, which could lead to addiction, and could be assumed as a negligence to scholars' efforts in compiling and recording the literature of Hadith; if internet was used excessively. This study even suggested several guidelines to use internet in Hadith referral, such as moderately using whatever medium; referring original sources; improve knowledge in technology; and simultaneously improve skills in both the Hadith and technology.

In line with the development era, mobile application has become one of the modern choices in learning the Hadith. E-learning, which was once used not long ago, has now been developed and being known as M-Learning. Jamilluddin, Abd Rahman, & Razali (2017) found out that even though M-Learning has been practiced for quite a long time in developed countries, it was still being moderately used in Malaysia. Syed Yahya Kamal & Zaidatun Tasir (2007) also found out that this matter was caused by factors: lack of acceptance in Malaysian education institutions, tools were not affordable by students, and other limiting reasons from using mobile applications in teaching and learning. However, M-Learning utilization would become one of the most important aspects in empowering education in this country.

There have been several previous researches which discussed M-Learning and Hadith Studies. Among them was a research conducted by Saputra, Supriyono, & Darsono (2014) titled 'Designing Hadith Learning Application for Android Based Mobile Devices' (*Rancang Bangun Aplikasi Pembelajaran Hadis Untuk Perangkat Mobile Berbasis Android).* This study aimed to plan and develop mobile phone application as learning medium, in learning the meaning of the Hadith, accompanied with selected Hadiths and intensive exercise. The developed Hadith learning application would be used as learning medium, in learning general knowledge of Hadith, so that it can be easily understood by various generations. This study used prototyping approach, and the finding showed that the developed application received positive responses, was easily operated, and contained contents which were suitable with requirements of learning the Hadith. Hammady, Abdel-Hamid, Shahin, & Morsy (2015) also have developed a mobile application named ElMohafez, which contains the Qur'an and Hadith referral sources. In their study titled '*ElMohafez: An innovative multi-platform Qur'an/Hadith Application',* it aimed to introduce ElMohafez as a mobile application to help in the Qur'an and Hadith recital. This study was written more detailed on the Qur'an compared to the Hadith, but among the benefits of the ElMohafez application is: it could be freely downloaded from iOS, Android and Windows, and it even comes with the English translation.

Zulkipli et al. (2017), on the other hand, did not aim to produce a new mobile application, but his study analysed several existing mobile applications in aspects of verification and authentication of the Hadith. The study entitled '*Takhrij al-Hadith via Mobile Apps: Study of 9 Imam Encyclopedia, Kutub Tis'ah and Mawsu'ah al -Hadith al- Nabawi al-Syarif'* had chosen only three mobile applications which were considered as pioneers in Hadith referral mobile applications. Firstly, *9 Imam Encyclopedia* was created by Lidwa Pusaka (Lembaga Ilmu dan Dakwah serta Publikasi Sarana Keagamaan) or Institute of Knowledge, Preaching and Religious Publication, which was developed by alumni from Middle East, Institute of

Islamic and Arabic Knowledge (Lembaga Ilmu Pengetahuan Islam dan Arab, LIPIA) Jakarta, and several other colleges. This application was one of their additional products other than their website and software, which were also related to Hadith. It contained 63,000 Hadiths from 9 collections of Hadith known as *Kutub al-Tis'ah*: *Sahih Bukhari, Sahih Muslim, Sunan Abu Daud, Sunan Tirmidzi, Sunan Nasa'i, Sunan Ibnu Majah, Musnad Ahmad, Muwatta' Malik,* and *Sunan al-Darimi*. Secondly, *Kutub Tis'ah* which was developed by Digitama Indonesia, also contained Hadiths from *Sahih al-Bukhari* (7,008 Hadiths), *Sahih Muslim* (5,362 Hadiths), *Sunan al-Tirmidzi* (3,891 Hadiths), *Sunan Abu Dawud* (4,590 Hadiths), *Sunan al-Nasa'i* (5,362 Hadiths), *Sunan Ibn Majah* (4,332 Hadiths), *Sunan al-Darimi* (3,367 Hadiths), *Musnad Ahmad* (26,362 Hadiths), and *Muwata' Malik* (1,594 Hadiths). Thirdly, *Mawsu'ah al-Hadith al-Nabawi al-Syarif* was developed by al-Nazmu al-Ma'lumatiyyah al- Hadithah (Modern Information System - MIS) by collecting 45,000 Hadiths from *Muwatta' Malik, Kutub al-Sittah, Sunan Imam Ahmad, Sunan al-Darimi* and *Riyad al-Salihin*. Evaluation was done by considering several aspects such as source of the Hadith, *sanad* (chain of narrators), *matn* (content), biography of the Hadith narrator, law of the Hadith, and others. Overall, this study found out that all three mobile applications have their own advantage, and they have created a space for public to efficiently and flexibly access the collections of Hadith.

Muhammad Afif Effindi & Nur Alifah (2015) in their paper entitled 'Arbain Nawawi Digitalization on Android' (*Digitalisasi Arbain Nawawi Pada Android)* aims to develop a mobile application containing 42 Hadiths from book entitled *al-Arba'in* which was written by Imam al-Nawawi. The purpose of this study was to digitalize the collections of Hadith; by preparing Arabic texts, Indonesian language translation, and audio tools; in applications which could be easily and freely downloaded from Android. Online and offline tests were conducted on the application to observe the effectiveness and users' responds. However, there were suggestions to improve the application, such as improving the system's design and reliability of its content from time to time.

In sum, technology utilization in the teaching and learning the study of Hadith had been accepting with positive responses, despite the mobile application being just a part of the tool being used. It is undeniable, that there were several things which had to be faced, in using mobile application in the study of Hadith and its learning process, which comprised all aspects; especially the performance of students.

Research Scopes
This research is limited to several important scopes. First, it focuses only on one collection of Hadith which is known as *Sahih Muslim*. There are nine Hadiths only that were selected from Chapter of Faith (*Kitab Iman*) – the first chapter of *Sahih Muslim*. This particular collection was chosen due to its important ranking as one of the main Hadith literatures among *Ahl al-Sunnah wal Jama'ah* (Followers of Sunnah), one of the gathered (jami') books, second in the ranking of authentic collections of Hadith, and one of the *Kutub Sittah*. Its full title is *al-Jāmi 'al-Saḥīḥ al-Musnad al-Mukhtasar min al-Sunan bi Naql al-'Adl' an Rasūlillāh Salla Allah 'Alayh wa Sallam* (Abd Fattah, 1992). It contains 7190 Hadiths (with repetition), 4000 Hadiths without repetition, and contains 43 chapters. It was said that 2000 Hadiths in *Sahih Muslim* was similar to the Hadiths in *Sahih Bukhari*. *Sahih Muslim* was written by Abū al-Ḥusayn 'Asākir ad-Dīn Muslim ibn al-Ḥajjāj ibn Muslim ibn Ward ibn Kawshādh al-Qushayrī an-Naysābūrī, commonly known as Imam Muslim. It was said that he took almost 15 years to collect Hadiths and completed his narration in this book (Tawalibah, 1998).

Second, this study is limited to the usage of symbols used by Imam Muslim, which is 'ha' (ح) that is placed in Hadith *sanad* (chain of narrators), which can be found in *Sahih Muslim*. This symbol was chosen because it has its own uniqueness and is more easily understood through *syajarat al-asanid*. Imam Muslim was famous for using various symbols as his unique writing method. Each symbol has its own meaning and function and needs to be comprehended to understand the *sanad* (chain of narrators) contained in a specific Hadith.

Third, this study was conducted among students at Kolej Universiti Islam Antarabangsa Selangor (KUIS) or Selangor International Islamic University College. The respondents who were selected in this study are those among the students who registered the subject of 'Takhrij Hadith', from semester four and five of their studies, from the field of al-Qur'an and Sunnah with Communication Studies. They were chosen in order to get their feedback on the symbols used in the chain of Hadith narrator (*sanad*) particularly in *Sahih Muslim*, and these Hadiths have several paths (*turuq*) of Hadith narration. The students always face a problem when they were asked to produce the accurate diagram of *sanad,* so the use of mobile application might be the best tool to solve this problem by evaluating their understanding on *syajarat al-asanid*.

Research Methodology
Methodology is the main key to perform academic research and the strength of a research is on the research methodology framework. In this research, ADDIE is mainly used to obtain required data, analyse data and make evaluations on the obtained data. ADDIE directed system design model method, which was introduced by Gagne (2005). It is the acronym for five processes, namely analysis, design, development, implementation, and evaluation. The flow process starts from analysis phase until evaluation phase, and the evaluation activity can be conducted at any phase that needs checking. Referring to Gagne et al. (2005), the whole model process does not necessarily follow a linear sequence.

The fundamental things in the development of the mobile application are analysing the content, selecting suitable methods, applying chosen medium and materials, performing specific evaluation, and improving the final change. In addition to that, it is also fundamental to develop this application by emphasising the collection of information related to the narrators of the Hadith, chain of the Hadith, and the texts of the Hadith for each nine selected Hadiths from Sahih Muslim. Therefore, the information collected, and data obtained for both mobile application and the Hadith should be verified as valid or correct.

Mobile application for arranging *syajarat al-asanid* was developed by using software "Adobe Animate CC"; as the main platform in the development process. Other than this software, Photoshop was also used for painting purposes, image editing process, colour selection, and painting tools; such as colour replacement tool and magic wand. Method selection must be suitable with the information and users' content to attract users' interest when using the developed mobile application.

This application could be downloaded from Google PlayStore, where this application aims to Android users only, and it requires supporting application such as "Adobe Air" application; which must also be downloaded from Google PlayStore. This application prepared new and easy ways for users to access the flow of *sanad* of a certain Hadith in attractive and precise mapping concepts.

Evaluation process is the final process in developing the mobile application before performing any improvement prior to experts' reviews. Evaluation method was conducted to examine

software effectiveness aspects, which were developed to improve test performance. Experts were given priority and opportunity to access the completed mobile application, and their honest and thoughtful opinions as well as reviews and suggestions are really needed in before evaluation process took place. Five reviewers from various institutions: two reviewers from Universiti Sains Islam Malaysia (USIM), and three reviewers from Selangor International Islamic University College or Kolej Universiti Islam Antarabangsa Selangor (KUIS), were selected to be responsible of appraising two separate sections: The Hadith and IT.

After being evaluated by selected examiners, the application can be used as a learning process material and can be applied by the lecturers in the class. Instruments used in this research included the Hadith pre-test and questionnaires. The pre-test is distributed before introducing students to the mobile apps, while the questionnaires are distributed after they have used the mobile apps. The questionnaires which were circulated used scale of 5 which were: Strongly Disagree (SD); Disagree (D); Not Sure (NS); Agree (A); and Strongly Agree (SA). Data obtained from the questionnaires would be analysed using SPSS program version 20. Instrument data obtained from respondents' answers were analysed via descriptive statistic using frequency (F), percentage (%) and mean score; to attain level of understanding among the students.

Research Findings and Discussion

Based on the mobile application that has been developed, this study has succeeded in forming the *sanad* diagram or also known as *syajarat al-asanid* into an attractive visual form, and at the same time, it received positive responses from the students. The developed mobile application can only be downloaded using Android application. This app can be easily accessed by pressing the "in" button on the next application interface page to the main page where the user has the option to access two main topics i.e. introduction and the selection of hadiths (as shown in Figure 1). There are 9 Hadiths from Chapter Faith of *Sahih Muslim* and these Hadiths were selected because they have the symbol of character 'ha' (ح); which meant *al-tahwil*, as a symbol that shows *sanad* transfer existed in a Hadith.

Figure 1: Main Page of Mobile Apps

Each page of the hadith contains the title of the Hadith, complete *sanad* (chain of narrators), and *matn* (text/content) of the Hadith. The text of the Hadith was written in Arabic language, and the Malay language translation was also made available. There are different colours and

numbers which showed the narrators of the Hadith according to sequence, and forming a diagram known as *syajarat al-asanid*. This diagram formed was the main finding to understand the hierarchy of a narration of a Hadith. Figure 2 shows one of the examples displayed for each Hadith contained in the mobile application. This mobile apps also provide a button to listen to the audio reading of hadiths for hadiths that have been selected by the user. It can help users to pronounce each name the narrator correctly and to avoid the confusion of narrators' names. In addition, this page is designed to encourage users to know whether the content of each hadith is not just the name and order of the narrator.

Figure 2: Example of *Syajarat Al-Asanid* For the First Hadith

In order to evaluate students' understanding of *syajarat al-asanid* from *Sahih Muslim* by using this mobile apps, this research was conducted upon undergraduates of Kolej Universiti Islam Antarabangsa Selangor (KUIS), who were in their fourth or fifth semester. All of them are students of al-Qur'an and Sunnah with Communication studies. A total of 82 students were involved as respondents in this research. In efforts of analysing their demographic, descriptive analysis was conducted; including frequency and percentage. Among the 82 respondents who answered the questionnaire and selected as research sample, 67 percent were female students and 33 percent were male students. It indicates that number of female students were higher than male students (Table 1).

Table 1: Respondents' Gender

Students	Number of Students	Percentage
Male	27	33%
Female	55	67%

Meanwhile, respondents involved in this research were from multiple age level. Respondents have been classified into only two age categories; 19 years to 25 years, and 26 years to 30 years old. Majority of the respondents were from the first age category, comprising 96 percent. Where else respondents from the second age category comprised of only 4 percent (Table 2). This finding shows that undergraduates entering university were between 19 years old and 25 years old, in line with the students' qualification requirement which is after completing secondary school studies.

Table 2: Respondents' Age

Age	Number of Students	Percentage
19 - 25 years old	79	96%
26 - 30 years old	3	4%

Questionnaires that were distributed among the students comprised of two sections. The first section was to evaluate students' comprehension towards the formation of *syajarat al-asanid*. Research findings show that each item in this first section was at a high level (refer Table 3). The highest mean was for item *"saya perlukan alat teknologi untuk membentuk syajarat al-asanid"* or "I need a technology tool to form *syajarat al-asanid*" (at mean=4.01) which represented a very high interpretation. Total frequency and percentage showed that 32 students (39.0%) strongly agreed and 27 students (32.9%) agreed.

Next, was followed by the item statement *"saya perlukan teknologi yang canggih untuk membentuk syajarat al-asanid"* or "I need advanced technology to form *syajarat al-asanid*" (at mean=3.93), comprising of 30 people who agreed (36.6%), 26 people disagreed (31.7%), and 17 people were not sure (20.7%). Then, followed by item *"saya tahu simbol 'ha' adalah salah satu rumuz dalam Sahih Muslim"* or "I know the symbol 'ha' is one of the rumuz (symbols) in *Sahih Muslim*" with 36 students (43.9%) agreed to the statement. Generally, all undergraduates agreed that they needed a learning aid tool in the form of technology to help them understand the knowledge and method of *syajarat al-asanid* easily and quickly. Overall, the graph averagely showed that 60% agreed, followed by 20% who were not sure of the statement, on undergraduates' comprehension of *syajarat al-asanid* formation. Majority of the undergraduates were so interested in learning the *syajarat al-asanid* methods using mobile application compared to the manual formation method.

On the other hand, the item which was at the lowest mean level was item *"saya pernah buat syajarat al-asanid tanpa bantuan teknologi"* or "I have done *syajarat al-asanid* without help of technology" (at mean=3.32), where 29 students agreed (35.4%), 22 students were not sure (26.8%), and 15 students disagreed (18.3%). This portrays that many students agreed to that statement. Hence, in this statement it clearly stated that undergraduates before this never bothered about using mobile application in *Takhrij Hadith* (verification and authentication) studies.

Table 3: Evaluation Data Analysis of Students' Comprehension towards *Syajarat Al-Asanid* Formation

Item	Statements (in Malay)	Min
1.	Saya amat memahami ilmu Takhrij Hadis dengan baik	3.51
2.	Saya tahu cara menyusun sanad mengikut turutan.	3.61
3.	Saya tahu cara rumuz yang ditentukan sanad imam Muslim dalam kitabnya.	3.46
4.	Saya tahu simbol "ح" adalah salah satu rumus dalam Sahih Muslim.	3.90
5.	Saya tahu faedah rumus yang digunakan dalam Sahih Muslim.	3.54
6.	Saya mendapati membuat syajarat al-asanid adalah suatu perkara yang sukar.	3.71
7.	Saya pernah buat syajarat al-asanid tanpa bantuan teknologi.	3.32
8.	Saya perlukan alat teknologi untuk membentuk syajarat al-asanid.	4.01
9.	Saya lebih suka membuat syajarat al-asanid secara manual.	3.66

10.	Saya perlukan teknologi yang canggih untuk membentuk syajarat al-asanid.	3.93
	Total Min	3.66

The second section of the questionnaire aimed to assess the effectiveness of mobile application in the formation of *syajarat al-asanid*. This research found that each item in this section was at a high level (refer Table 4). The item with the highest mean was *"saya dapati warna yang digunakan dalam aplikasi ini menarik"* or "I found out that the colour used in this application is interesting" (at mean=3.95). Based on the frequency and percentage, a total of 50 students (61.0%) agreed and only 15 students (18.3%) were not sure with the statement. Thus, based on this statement, it shows that many students satisfied with the visual background and colours displayed on the mobile application screen.

Meanwhile, item with second highest mean was "I found out that the mobile application is interesting to be used" or *"saya mendapati aplikasi mobil ini menarik untuk digunakan"* (at mean=3.88). Based on the frequency and percentage, it shows that majority of respondents which was 49 people (59.8%) agreed to the statement, 17 people (20.7%) were not sure, and 3 people (3.7%) disagreed. It also indicates that students were starting to get interested with mobile apps and they would want to use it to understand the lesson better in class. In the meantime, the item with the lowest mean was "I think that this mobile application does not help me in understanding *syajarat al-asanid*" or *"saya dapati aplikasi mobil ini tidak membantu saya dalam memahami syajarat al-asanid"* (at mean=3.13). Based on this statement, frequency and percentage of students who disagreed were 14 people (17.1%). Meanwhile, those who answered not sure are 34 people (41.5%) and only 6 people (7.3%) totally agreed to the statement. Thus, there were many respondents who disagreed to the statement saying that the mobile application produces no help at all in their learning process. This finding is really important to prove that both students and lecturer may apply mobile learning by using specific mobile application so that both can get benefits from the technology.

Overall, the effectiveness of the mobile application; in determining the *syajarat al-asanid* is at an overall high mean interpretation (at mean=3.64), enables a smooth teaching and learning process to take place in class.

Table 4: Effectiveness Evaluation Data Analysis of Mobile Application in *Syajarat Al-Asanid* Formation

Item	Statements (in Malay)	Min
1.	Saya boleh membuka aplikasi mobil dengan mudah setelah memuat turun dari Google PlayStore.	3.44
2.	Saya tahu cara menyusun kedudukan syajarat al-asanid dengan menggunakan aplikasi mobil.	3.66
3.	Saya dapat memahami syajarat al-asanid dengan lebih baik dengan aplikasi mobil.	3.72
4.	Saya dapati aplikasi mobil ini tidak membantu saya dalam memahami syajarat al-asanid.	3.13
5.	Saya lebih suka membuat syajarat al-asanid menggunakan aplikasi mobil berbanding secara manual.	3.43
6.	Saya dapat membantu pelajar yang lain setelah saya tahu cara menggunakan aplikasi mobil syajarat al-asanid.	3.66
7.	Saya dapat memahami rumuz "ح" dengan lebih baik dengan menggunakan aplikasi ini.	3.87

8.	Saya lebih fokus untuk belajar syajarat al-asanid setelah kaedah aplikasi mobil ini diperkenalkan.	3.66
9.	Saya dapat mengetahui semua rumuz dalam syajarat al-asanid setelah tahu cara menggunakan aplikasi mobil.	3.65
10.	Saya lebih suka menggunakan aplikasi mobil untuk membuat syajarat al-asanid.	3.63
11.	Saya mendapati aplikasi mobil ini menarik untuk digunakan.	3.88
12.	Saya dapat melihat pembentukan syajarat al-asanid yang jelas dengan menggunakan aplikasi mobil.	3.73
13.	Saya mampu membuat syajarat al-asanid secara efektif dengan menggunakan aplikasi mobil.	3.71
14.	Saya mudah untuk menggunakan aplikasi ini.	3.74
15.	Saya dapati warna yang digunakan dalam aplikasi ini menarik.	3.95
16.	Saya tidak mempunyai sebarang masalah ketika menggunakan aplikasi ini.	4.46
17.	Saya boleh membaca tulisan dalam aplikasi ini dengan jelas.	3.62
18.	Saya boleh akses kepada semua hadis yang dipaparkan di dalam aplikasi ini.	3.67
19.	Saya dapati aplikasi mobil ini adalah interaktif (mesra pengguna).	3.74
20.	Saya dapati aplikasi ini lebih sukar memahami syajarat al-asanid berbanding secara manual.	3.43
Total Min		3.64

Based on the analysis of second section of questionnaire as shown above (Table 4), it shows that the respondents could not completely master the formation of *syajarat al-asanid* manually or using traditional method. However, upon the construction of this mobile application, students' frequency in doing exercise improved their comprehension and enabled students to form *syajarat al-asanid* much faster and more precisely. This difference allows the constructed mobile application to be rapidly developed. This mobile app is found very significant to help students increase students' understanding on the symbol used by Imam Muslim and simultaneously produced *syajarat al-asanid* accurately compared to the method used before.

However, this application is open to improvement depends on the users' reviews and examiners' feedbacks. The reviewers come from various institutions: two reviewers from Universiti Sains Islam Malaysia (USIM), and three reviewers from Selangor International Islamic University College or Kolej Universiti Islam Antarabangsa Selangor (KUIS). During the research conducted, among the comments received are related to the interface design, content development, and difficulty to install, which all would be taken into account by taking appropriate actions. It is to ensure this mobile application has useful content and able to improve students' understanding particularly on the arrangement of *sanad* in the selected Hadiths. After improvement based on comments and suggestions given by experts, then, the application can be used as a learning process material.

Conclusion
As a conclusion, this study was successfully developed a mobile application of *syajarat al-asanid* mapping and it has been used as one of the teaching and learning methods for KUIS students. The main purpose of this mobile application is due to the purpose of providing a solution by transforming *sanad* maps into visual forms, so that students can increase their understanding of this symbol of 'ha' that can be usually found in the *sanad* of Hadiths narrated by Imam Muslim. This symbol has created confusion among students, so according to research

conducted among those students, this mobile application produced positive effects compared to the traditional teaching method and they learned with better understanding which resulted in better grades.

Learning the Hadith either its *sanad* or *matn* by using mobile learning should be taken seriously by both lecturers and students as an alternative way. Although the study found that effectiveness of mobile learning is at a high level, the mobile application is only an additional method that needs to be supported by referring to the primary sources and the authentic Hadith collections is highly important, besides the guidance and teaching by lecturers who are among the Hadith experts. Both methods of mobile learning and traditional learning should be integrated to produce positive impacts, for holding one method only could be not the best option in this modern day.

Besides, innovation in the study of Hadith has become a necessity nowadays. It is vital to have a reference that can be referred and accessed anywhere and anytime, as well as its function that is moveable and can be easily carried everywhere, which all these functions can be found in m-learning tools such as smart phone, tablet and others. This study has proven that the mobile application developed in this study is among the innovations used to study the Hadith of the Prophet in more effective way with more positive impacts. It could also be made as the preliminary module to other innovations in the aspect of *sanad* (chain of Hadith narrators).

The importance of this research comprises aspects of diverse knowledge and preparing a solution to many problems faced in today's teaching and learning process. The efforts in developing the mobile application of *syajarat al-asanid* mapping could be regarded as among the earliest innovation that focusing on *sanad* (chain of narrators) arrangement alone, and this makes the application different compared to the other existing mobile applications. It should also be considered as one of the forms of technology that could uplift Hadith studies in terms of academic and professional appreciation and practice. Users of this application especially students, could interact with Hadiths by using latest interactive and effective technology, and simultaneously broaden its scope and benefits.

References

Abdul Karim, N. S., & Hazmi, N. R. (2005). Assessing Islamic Information Quality on the Internet: A Case of Information about Hadith. *Malaysian Journal of Library & Information Science*, *10*(2), 51–66.

Abdullah, I., & Khair, N. S. (2013). The Implication of Excessive Internet Usage on the Study of Hadith. *Journal of Islam in Asia*, *10*(2), 118–128.

Baharuddin Aris, Rio Sumarni Shariffudin, dan Manimegalai Subramaniam. (2002). *Reka Bentuk Perisian Multimedia*. Skudai: Universiti Teknologi Malaysia.

Clarke, D. P. (2001). *In order for technology to improve learning, it must fit into students' lives, not the other way around*. Accessed on Jun 30, 2004, from http://www.techtv.conv'callforhelp/howto/jump!0.24331.3347882.00.html

Effindi, M. A., & Alifah, N. (2015). Digitalisasi Arbain Nawawi Pada Android. *ENERGY: Jurnal Ilmiah Ilmu-Ilmu Teknik*, *5*(2), 1–5.

Gagne. M.G., Wager. W. W. & Keller. M. J. 2005. *Priciples of Instructional Design*. 5th Edition. Los Angeles: Thompson Wadsmorth.

Georgiev, T., Georgieva, E., Smrikarov, A. (2004). M-Learning – a New Stage of E-Learning. Rousse, Bulgaria: *International Conference on Computer Systems and Technologies – CompSysTech*.

Halim, A. A., Anas, N., Zulkipli, S. N., & Mohd, M. S. (2016). Prestasi Aplikasi Hadis Digital Berteraskan Technology Acceptance Model (TAM): Suatu Tinjauan Awal. *Jurnal Sultan Alauddin Sulaiman Shah*, *3*(2), 119–129.

Hammady, H., Abdel-Hamid, A., Shahin, M., & Morsy, H. (2015). ElMohafez : An innovative multi-platform Quran/Hadith Application. In *3rd International Conference on Islamic Applications in Computer Science and Technology*. Turkey. https://doi.org/10.13140/RG.2.1.1536.2802

Ismail, M. Y., & Khair, N. S. (2012). E-Pembelajaran Pengajian Hadis: Isu dan Cabaran. In *Sunnah, Inspirasi, Inovasi dan Transformasi* (pp. 25–36). Bangi: Darul Syakir Enterprise.

Ismail, M. Y., Zakaria, M. Z. & Doll Kawaid, A. I. (2011). Laman Web Hadith Dalam Bahasa Melayu: Satu Kajian Diskriptif. In *Sunnah Nabi: Realiti dan Cabaran Semasa* (pp. 253–264). Kuala Lumpur: Jabatan al-Quran dan al-Hadith, APIUM.

Jamilluddin, N. A., Abd Rahman, M. J., & Razali, N. A. (2017). Pengadaptasian "E-Learning" Kepada "M- Learning" Dalam Teknologi Pendidikan. In *Seminar Pendidikan Serantau Ke-8* (pp. 572–580). Bangi: Universiti Kebangsaan Malaysia.

Mahathir Mohamed. (1998). *Multimedia Super Corridor*. Subang Jaya: Pelanduk Publication (M) Sdn. Bhd.

Mahizer Hamzah. (2006). *M-Pembelajaran: Era Baru Dalam Pembelajaran*. Johor Bahru: Seminar Kebangsaan Pendidikan Teknik dan Vokasional.

Mohd Zaidi, N. N., & Chowdury, M. H. (2017). User Awareness on the Authenticity of Hadith in the Internet: A Case Study. In *2ND INHAD International Muzakarah & Mu'tamar on Hadith 2017* (pp. 1–7). Selangor, Malaysia: Hadith Research Institute (INHAD), KUIS.

Muhammad Afif Effindi, & Nur Alifah. (2015). Digitalisasi Arbain Nawawi Pada Android. *ENERGY: Jurnal Ilmiah Ilmu-Ilmu Teknik*, *5*(2), 1–5.

Najiyah, I., Susanti, S., Riana, D., & Wahyudi, M. (2017). Hadith degree classification for Sahih Hadith identification web based. In *2017 5th International Conference on Cyber and IT Service Management (CITSM)* (pp. 1–6). IEEE. https://doi.org/10.1109/CITSM.2017.8089304

Saputra, A. N., Supriyono, H., & Darsono, R. (2014). Rancang Bangun Aplikasi Pembelajaran Hadis Untuk Perangkat Mobile Berbasis Android. *Jurnal Informatika*, *8*(2).

Siraj, Saedah & Kumaran, Vijaya. (2006). *M-Learning Module Design for Futuristic Secondary School Curriculum Implementation in Malaysia*. Langkawi: Konvensyen Teknologi Pendidikan Ke-19.

Siraj, Saedah. (2004). M-Pembelajaran untuk Kurikulum Masa Depan (M-Learning for Future Curriculum). *Masalah Pendidikan (Issues in Education)*, 27, 115-29.

Steve Higgins. (2003). *Does ICT Improve Teaching and Learning in Schools*. Newcastle: British Educational Research Association.

Syed Hassan, S. N., Zakaria, N., Mohd Raus, N., Hanafi, L. H., & Syed Hassan, S. N. (2015). Aplikasi Teknologi Moden Dalam Memantapkan Pendidikan Sunnah Di Era Globalisasi. *Ma'alim Al-Qur'an Wa Al-Sunnah*, *10*(11), 1–12. Retrieved from http://ddms.usim.edu.my/handle/123456789/9968

Syed Yahya Kamal, S. A., & Zaidatun Tasir. (2007). *Pembelajaran Masa Depan – Mobile Learning (M-Learning) di Malaysia*, 122–129. https://doi.org/10.3389/fnint.2010.00012.3.

Tawalibah, Muhammad 'Abd Rahman. (1998). *Al-Imam Muslim, Manhajuhu fi Sahihihi*. Amman: Dar al-Bayariq.

Zamri Mahamod dan Mohamed Amin Embi. (2008). *Teknologi Maklumat dan Komunikasi dalam Pengajaran dan Pembelajaran Bahasa Melayu: Teori dan Praktis*. Shah Alam: Karisma Publications Sdn. Bhd

Zulkipli, S. N., Yaacob, Z., Anas, N., Mohd Noor, M. S., Zainal Abidin, M. Z. H., Wan Jamil, W. K. N., & Yakob. (2017). Takhrij al-Hadith Via Websites: A Study of al-Durar al-Saniyyah, Mawqi' al-Islam and Islamweb. *PONTE: International Journal of Sciences and Research*, 73(4), 83–100.

Zulkipli, S. N., Muhammad Faidz, M. F., & Ishak, S. (2011). *Pembelajaran Capaian Teks Hadith Berautoriti di Internet: Kajian Terhadap Laman Sesawang Islamweb*. In Seminar Antarabangsa Sunnah Nabawiah: Realiti dan Cabaran Semasa (pp. 233–251). Kuala Lumpur: Jabatan al-Quran dan al-Hadith, UM.