

## Usability of I-TALK PISMEN for Student with Visually Impairment's Skill

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### Abstract

Purpose - This research is conducted to identify the media-assisted learning aids used by students with visual impairment (SwVI) in learning Quran and the usability of i-TALK PISMEN application among them. There are variety of teaching and learning aids (TLAs) available in the market, but they are limited in developing and researching for SwVI requirements especially for Islamic Education subjects. This is because the lack of studies conducted on Islamic Teaching and Learning (TLA) and also shown effect towards SwVI in expansively learning the Quran. Therefore, this research focuses on identifying i-TALK PISMEN application and analysing the usability of i-TALK PISMEN Form 1 in aspect of students' skill mastery. In order to complete this research, qualitative approaches used namely, interview and observation methods at Setapak Special Education Secondary School. There were eight students selected as research participants consisting of three male students and five female students. The data were analyzed using theme analysis, coding and network analysis. The usability of i-TALK PISMEN in term of student's skills are identified through three themes which are Quran lesson learning skill, computer skill and self-learning skill. The researcher found that the use of i-TALK PISMEN in Quran's TnL offers SwVI skills in terms of memorising the lessons learned; higher appreciation of the meaning of Quran verses; and usability to assist them to become proficient in Islamic Education especially in Quran studies. The other hand, the researcher views that the usability of i-TALK PISMEN can also be categorised as a tool that provides a new experience as well as enhancing SwVI's skills in a new way of learning. In addition, i-TALK PISMEN also offers SwVI the convenience to study independently at home or school. The findings of this research are also expected to be useful for the reference of teachers, potential teachers, and educators in the effort to provide the best in their teaching and learning (TnL) process

**Keywords:** Media Assisted Quranic Learning, i-TALK PISMEN, Students with Visual Impairment, Quran for Special Need

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### 1. INTRODUCTION

The Fourth Industrial Revolution (IR 4.0) has started since 2016 and has been involving automation technology; giving new challenges to all sectors in the country and forcing them to work hard to change with the digital transformation, to maintain competent with the development of the modern world landscape (Sharita et al., 2018). Klaus Schwab (2016) has written in his book; 'The Fourth Industrial Revolution', that Industrial Revolution 4.0 (IR 4.0) will change the way we live and work. As we all know, Malaysia has made multiple process changes in education, industrialization, medical, and many more. Based on the changes in the current education trend, there has been numerous efforts being applied to improve the Malaysian education sector (Vaithilingam et al., 2019). Justifyingly saying, even the Special Education was not excluded from the influence of information and communication technology (ICT).

Information and communication technology (ICT) has really helped in the process of Teaching and Learning (TnL), and assisted in the education sector by helping students to learn the lessons effectively; despite the extra time involved for them to master the skills of using the ICT. Therefore, multiple efforts had been taken by various sectors to assist in preparing the teaching and learning aid (TLA) tools, not only for the typical students, but also for the disabled students. This matter was raised when the National Education Policy (Special Education) was created. The policy

aimed to ensure the potential disabled students are given the chance to be inclusively placed in the mainstream classes; parallel to the principles of Education for All (Ministry Of Education Malaysia, 2012).

Therefore, the Malaysian government has opened education opportunities to disabled students through the Disabled Policy Strategy, which is the Accessibility and Education policy via Disabled Policy of Malaysian Society Development Department JKMM (2010). On the other hand, according to Siti Hajar et al. (2012), inconsideration of disabled citizens has happened in the aspects of social, economical, facilities, and education. As an example, the subject Islamic Education has been made compulsory for all Muslim students under the Malaysian national education system. This means that the subject Islamic Education is not only added in the Primary School New Curriculum for primary school (KSSR) or Secondary School New Curriculum (KSSM) as a subject that the students should pass or to add the quantities of 'A', but it's a subject that all Muslim students must take, including the visually impaired students. Islamic Education in KSSM is the continuity from the KSSR Islamic Education.

Islamic Education has been one of the important components in the National Education System and became the core subject in the national curriculum. Philosophy of Islamic Education has stated that:

Islamic Education is a continuous effort to deliver knowledge, skills and Islamic appreciation; based on Quran and As-Sunnah, to form behavior, skill, respective attitude, noble personality, and vision as Allah's humble servant who has the responsibility to help self, society, environment and country towards eternal goodness and prosperity; both in life and afterlife.

(National Education policy, 2012)

Hence, the mastery in Islamic Education of the visually impaired students are as important as the typical students. This is to build up their personality and spiritual intelligence; towards dedication and resignation to Allah as faithful servants. Thus, the importance of visually impaired in mastering the knowledge in religion is not to be disregarded. It is very important for them to perform prayers and live a religious life.

## **2. PROBLEM STATEMENT**

Studies related to Quran TLA for disabled students have rarely been conducted (Siti Patonah Mohammad et al., 2012). This has led to continuous doubt of visually impaired students' ability and capability in reading and learning Quran (Nurul Atikah, 2016). Apart from that, lack of studies conducted on Islamic TLAs had also shown impact towards MBK MaL in expansively learning the Quran. There has been numerous studies related to students' weaknesses in empowering Qur'ān, which have been discussed by experts and academicians from various levels; in seminars, conferences, and other formal and informal discussions. As an example, Effectiveness of TLA in the J-QAF Arabic Language Learning (Norshida Hashim, 2012), Perception of Students on Animation Usage in Arabic Language Learning (Norhayati Che Hat et al., 2013) and Effects of Using Visual TLA in Teaching Year 3 Science Subject (Wei Wang C. L., 2012). Hence, it is evident that there is still lack of research conducted on multimedia software for Islamic Education subject for MBK MaL. This supports the study by Siti Fatimah & Halim (2010), of which research on information and communication technology (ICT) based Islamic Education TLAs are still at a low mean (average) level. Therefore, it is a strong reason for researchers to do associated research to fulfil the MBK MaL's requirement.

Researchers from Faculty of Quran and Sunnah Studies (FPQS), Universiti Sains Islam Malaysia (USIM), has developed Secondary School Islamic Education Interactive Software Audio Book (i-TALK PISMEN) for Visually Impaired Special Need Students (MBK MaL) as an additional

TLA. However, the study of the software's usability is yet to be conducted. Consequently, researches are interested to study on the usability of i-TALK PISMEN software to identify its usability amongst MBK MaL. This study focuses on the Quran learning topics using i-TALK PISMEN software. Thus, chances of improving Quran learning amongst MBK MaL could be increased. Therefore, this research will study and analyse on the usability of i-TALK PISMEN software in students' skills mastery level and Quran learning. Hence, it is hoped that this study would fulfil the current requirement in strengthening education institutions for these visually impaired students.

### **3. OBJECTIVES**

Specifically, this research aims to achieve research objectives as follows:

- i. To explore i-TALK PISMEN application?
- ii. Analyse the usability of i-TALK PISMEN in the aspect of students' skill mastery.

### **4. METHODOLOGY**

This research uses a qualitative approach to identify the i-TALK PISMEN and also to analyzes the usability of i-TALK PISMEN in learning the Quran and the mastery of the students' skills. In accordance with the research, the combination of data collection is done by interviews and supported by observations to strengthen the research.

The research applied qualitative approach using semi-structured interviews by employs two instruments to achieve the research objectives, which are interview protocols and observations checklist. Hence, the three main reasons the interview method was chosen by the researcher as the main method in this research were: 1) the data obtained through this method is easier to be transfered from SwVI; 2) the results of this research could be clearly explained by the researcher on the condition that the correct interview protocol technique was used. This is because qualitative designs were in the form of word and not numbers (Robson, 2011); and 3) relationships between researcher and research participants are more open through this method because the minimal number of interviewees interviewed. In addition, qualitative design can help the research be carried out thoroughly and in depth as this design mostly generates detailed, open and profound information (Patton, 2002). Besides, the selection of this method also looks at the disabilities experienced by the research participants. The students involved in this interview session have had the same experience in undergoing TnL session using i-TALK PISMEN. This research also involve make observations of TnL by hire the observer. Observation data collection gives researcher the opportunity to get direct information about the program or something that they want to learn naturally (Merriam, 2001).

The selection of research participants is based on purposive sampling considering time constraints and permission to field access, for aspects that include fulfilment of research questions' requirements, collaboration preparation, interviews and detailed and in-depth required information supply (Merriam, 2009). Beside that, researcher also selected only one school, SMPKS; located in Kuala Lumpur. Researcher choose the school because SMPKS is a school that houses a large number of Form 1 SwVI and is also the only school that gathers disabled students. A total of 19 Form 1 SwVI consisting of 9 males and 10 females were available in SMPKS. In the context of this research, students were chosen by teachers who taught them based on the characteristics of: weak, moderate and outstanding, performance in the learning of Quran. In addition, they were also selected based on the vision disability categories such as blindness (B1), blur sighted (B2) and limited vision (B3). The data were analyzed using theme analysis, coding and network analysis.

## 5. RESULTS

This section will describe on the i-TALK PISMEN and the analysis of the usability of its in terms of student's skills.

I-Talk PISMEN is a software that incorporates and adapts the whole syllabus from National School Islamic Education Book. This textbook is the main reference book for the Islamic Education subject in primary schools throughout Malaysia. The content of the textbook is appropriately audiolized in the form of dialogue, singing, storytelling and others. It can be used by both students and teachers. It functions as software-based TLA for visually impaired students that can be accessed by all typical students.

a) It is based on the integration of transmitted and intellectual knowledge (Naqli and Aqli respectively). This means that the software development is the incorporation of transmitted knowledge; with contents based on revelation knowledge namely Quran, Narrations (hadith), Faith, Jurisprudence, History, and Morality, and intellectual knowledge; being developed using multimedia technology theories, which are relevant to the current globalization development era.

b) The software uses one of the 21st century learning method which is computerized technology. It is used not only by teachers during T&L, but also used independently by students without the teacher's presence. Visually impaired students who are exposed to computer usage use JAWS Screen Reader software as an aiding tool in handling computers.

c) I-TALK PISMEN is disabled-friendly. Only three buttons on the keyboard is needed to operate the software. The TAB button is to navigate the I-TALK PISKEB and the ENTER button is to make selection. Other than that, the SPACE button is to start or stop the audio.

d) Its interactive content presentation. It is interactive not only because it enables students to interact and give input to the software, but the interactive content presentation plays a major role in attracting visually impaired students to learn. This is because the Islamic Education audio book is presented in a very attractive way complete with storytelling, dialogue, background music, singing and others. It is actually suitable for children and helps them understand even more since children enjoy fun and cheerful presentation.

### Students with Visual Impairment Interview Participants

Eight individuals are involved in this study as the research participant, consisting of three males and five females. Based on the visual impairment, two study participants are in level B1, the mild vision loss and seven of B2, severely low vision. While from the aspect of Research Participant (RP's) knowledge in Islamic Education subject, two of them are very good, another three are good, two in moderate level while the other one is very weak. While the RP interested to use computer in learning consist of seven, while one RP is less interested. Next, five RPs are experienced in using TLA to learn Islamic Education while the other three are yet to experience it. For the result of Islamic Education lesson, four RPs attained high honours, three attained honours, while only one with pass. The profile summary for RP is displayed in detail in the following Table 1:

Table 1: Profile of Research Participant

Research Participant (RP)	Gender	Level of visual impairment	Knowledge in Islamic Education subject	Interest in using computer	Experience in using TLA	Level of Islamic Education subject result
RP1	M	B2	Good	Yes	Never	High honour
RP 2	F	B1	Very good	Yes	Yes	High honour
RP 3	M	B2	Good	Yes	Never	Honour
RP 4	F	B2	Very weak	Moderate	Never	Upper pass
RP 5	F	B2	Moderate	Yes	Yes	Honour

RP 6	F	B2	Good	Yes	Yes	Honour
RP 7	F	B2	Very good	Yes	Yes	High honour
RP 8	M	B2	Moderate	Yes	Yes	High honour

### Usability of i-TALK PISMEN in Terms of Student's Skills

The usability of i-TALK PISMEN in term of student's skills are identified through three themes which are Quran lesson learning skill, computer skill and self-learning skill.

#### I. Quran Lessons Learning Skills.

According to the research, the researcher found that the use of i-TALK PISMEN in Quran's TnL offers SwVI skills in terms of memorising the lessons learned. RP2 has said that: "*pelajar akan lebih mahir kerana boleh dengar berulang kali dan sebut atau hafal*". This is because of a feature that repeats Quran lessons in i-TALK PISMEN. Thus, SwVI are more proficient in Quranic learning especially for those who are interested in memorising Quran verses from the selected topics in Islamic Education textbook. This is based on RP8's statement: "*BBM ni boleh bantu pelajar untuk lebih mahir dalam pembelajaran Quran*".

In terms of interpreting Quran verses, SwVI have a higher appreciation of the meaning of Quran verses learned through the explanation found in i-TALK PISMEN. RP3 explained that "*kemahiran belajar Quran saya akan lebih baik sebab saya boleh faham ayat dan maksud ayat Quran melalui i-TALK PISMEN*".

Also, SwVI believe that the use of i-TALK PISMEN is sufficient to assist them to become proficient in Islamic Education especially in Quran studies. Following is the explanation by RP4: "*pendapat saya i-TALK PISMEN ni dah mencukupi untuk saya mahir dalam belajar pelajaran Quran. Contohnya kalau tak tahu dan tak dapat jumpa cikgu, saya boleh rujuk i-TALK PISMEN*".

In this regard, RP6 argued that SwVI's skills in understanding Quran verses can be enhanced through various audio information in i-TALK PISMEN software. RP6 explained that "*i-TALK PISMEN boleh bantu meningkatkan kemahiran belajar Quran contoh sebelum ni kalau nak faham maksud ayat Quran kena buka Quran dan cari tapi dalam i-TALK PISMEN ni dah disediakan maksud melalui audio*". Thus, SwVI not only can listen to Quran verses but also understand the essence of the verses from the selected chapter of the Quran lessons learned. According to RP8, the SwVI who use i-TALK PISMEN can know and recite the Quran correctly with tajwid through listening to the correct recitation of the Quran from the expert qari. RP8's view that is "*pelajar lebih mahir membaca dan betul dari segi tajwidnya jadi kita akan mengikut cara bacaan yang betul*".

#### II. Computer Skills in Learning.

The researcher reviews that the usability of i-TALK PISMEN can also be categorised as a tool that provides a new experience as well as enhancing SwVI's skills in a new way of learning. RP1 explained that through i-TALK PISMEN, SwVI could encounter a new experience of learning Islamic Education using computers. The description is "*bagi pengetahuan yang baru dari segi pengalaman belajar menggunakan komputer*". Operating i-TALK PISMEN using the keyboard is an activity that can train SwVI to be proficient in learning using computer. This was explained by RP1 "*saya akan lebih mahir menggunakan komputer lepas belajar i-TALK PISMEN sebab i-TALK PISMEN ni menggunakan butang yang biasa saya guna*". Similarly, RP2 supported that the use of i-TALK PISMEN can enhance SwVI's skills in computer usage. RP2 explained "*ya, BBM ni boleh meningkatkan kemahiran saya menggunakan komputer kerana cepat faham bagaimana nak menggunakannya*". Hence, SwVI could recognise the function of the keyboard buttons used when running i-TALK PISMEN. This is what RP6 said "*kemahiran saya menggunakan keyboard akan lebih lancar*".

Besides, RP8 also said the use of technology-based TLA can provide knowledge on how to use the keyboard when running the TLA. The statement which was “*penggunaan BBM ni memberi pengetahuan baru kepada pelajar untuk guna keyboard semasa belajar. Sebab sesetengah pelajar tak pandai menggunakan keyboard untuk tekan*”. In addition, SwVI can also train to become proficient with the TAB, ENTER and SPACE buttons as those buttons are frequently used within i-TALK PISMEN. Explanation by RP7 that “*penggunaan i-TALK PISMEN dapat memberi Kemahiran kepada pelajar menggunakan komputer contohnya pelajar diberitahu tekan TAB untuk gerak, ENTER untuk masuk dan SPACE untuk stopkan suara. Jadi BBM ni boleh melatih pelajar untuk lebih mahir menggunakan komputer*”.

### III. Self-Learning Skills.

In addition, i-TALK PISMEN also offers SwVI the convenience to study independently at home or school. In the meantime, i-TALK PISMEN also makes it easier for them to learn, for example when they are not with their teacher, they can playback the audio to understand the lessons they have learned. This is based on RP1's view that “*i-TALK PISMEN boleh membantu saya belajar sendiri sebab bacaan dalam BBM ni boleh diulang-ulang dan saya boleh guna i-TALK PISMEN tanpa guru kerana tak susah menggunakannya untuk belajar*”. Among the statements that support i-TALK PISMEN as a TLA that helps SwVI with self-learning of Quran lessons are from RP2 which goes “*i-TALK PISMEN boleh bantu saya belajar di luar kelas tanpa bantuan guru*”. Also, the researcher found that SwVI can also use i-TALK PISMEN as reference material in their learning. RP4 explained “*i-TALK PISMEN boleh dijadikan sebagai bahan rujukan belajar saya di rumah*”. Thus, SwVI can easily understand the content of Quran lessons by using i-TALK PISMEN in their TnL sessions. This was explained by RP3 “*saya rasa mudah faham belajar Pelajaran Quran guna i-TALK PISMEN dan saya boleh belajar sendiri di rumah saya menggunakan i-TALK PISMEN*”. Next, RP5 also supported “*saya boleh belajar sendiri menggunakan i-TALK PISMEN*”.

Besides, RP6 also explained “*saya rasa i-TALK PISMEN boleh membantu saya belajar semasa ketiadaan guru dan In sya Allah saya boleh gunakan i-TALK PISMEN untuk belajar sendiri di rumah*”. Hence, the use of i-TALK PISMEN will make it easier for SwVI to obtain information on Quran lessons during the TnL process. This is because the user instructions contained in the software are explained via audio, and based on the research participants, the usage of this software is very easy and simple. The followings are the elaboration by RP7 and RP8 that described their views as “*boleh belajar sendiri, kalau kat rumah ada masa lapang dan BBM ni boleh digunakan secara sendiri oleh pelajar sebab dia dah ajar macamna nak guna*”. While there was a research participant who responded positively on the usability of i-TALK PISMEN in enhancing SwVI interaction with teachers in the classroom. This is based on RP3 who explained “*in sya Allah lepas ni kalau guru tanya dalam kelas saya boleh jawab soalan yang ditanya*”.

Based on the observational study, the researcher found that the teacher asked students convergent questions which are focused questions so that the answers given are more accurate and critical. Students are more prepared and confident when answering questions given upon undergoing the learning process through a multimedia software medium. Thus, SwVI can enhance creative and efficient thinking skills. To stimulate SwVI, the teacher also plays his role in providing positive praise and reinforcement to students who answer the questions being asked. Besides, students not only learn the Quran but also mastering the operation of i-TALK PISMEN and subsequently able to use the software independently.

## 6. DISCUSSION

The findings from the usability study on i-TALK PISMEN had looked on the aspect of student's skills in using the software. Most SwVI are of the view that multimedia software usage could help them in the process of learning Quran in the Islamic Education. Thus, SwVI can save their time as the concise content has been developed through i-TALK PISMEN. The systematic presentation of

teaching can enhance the understanding of SwVI due to its attractive use of audio, sound and graphics. This is also supported by the study of (Muhammad Nazir et al., 2017 & Zabedah A. Aziz et al., 2014) stating the use of multimedia TLA is an alternative to solve the problem of recitation command and understanding of Quranic learning faced by Muslim students nowadays. In addition, the effective factor of a TLA is the presence of the elements of creative, innovative and relevant to the student's soul (Mohd Rino Johari et al., 2019 & Zabedah A. Aziz & Irfan Naufal Umar, 2014). Therefore, the process of study revision can be simplified and the presentation is also easy to understand and user-friendly. Although study revision can be easily conducted, teacher support is still needed to further enhance student's understanding through question and answer interactions in the classroom.

Moving on, the researcher observed that the implementation of the learning process using i-TALK PISMEN is systematic and can spark the interest of SwVI in the classroom. This is because the organised delivery features can help shorten the learning time of SwVI. Meanwhile, a variety of audio presentations can stimulate students' interest in making the learning environment more enjoyable and fun. As such, with the technology adopted in the learning syllabus, students will not only be more interested in learning the Quran, but also stimulate students to be creative and instil a sense of curiosity about the technology applied in the developed learning system (Sutaji & Siti Suhaila, 2015).

Next, the researcher found that the teaching process can also be simplified for teachers who are less familiar with Braille texts. Through interesting teaching process situations, SwVI become active as their senses are stimulated and they give more focus to the process of channelling the teaching message. According to the studies by Sutaji and Siti Suhaila (2015) and Othman and Lee (2003), the use of technology such as multimedia can help improve the visual skills of students as it combines elements of graphics, text, animation, video and audio that can stimulate the whole senses. When this happens, it strengthens memory and enhances the interest and motivation of the lessons learned.

Therefore, the learning skills of SwVI can be achieved with the appropriate provision of TLA. The researcher discovered the presence of self-learning skills because the facts of the lesson are easy to understand and remember through the simple and concise usage and form of i-TALK PISMEN's presentation. Multimedia software also works to help students remember and summarise what their teacher has taught them. So, student interaction with teachers can be enhanced with the use of multimedia software, where it can be seen when students appeared to ask questions through discussions and ask teachers for any topic they may not understand. As for students' interaction with their peers, there were discussions between them that there was an atmosphere of helping each other making the learning environment active.

## **7. CONCLUSION**

The employment of TLA based on multimedia technology in the TnL process, especially in Islamic lessons, is not an easy task and be taken as granted. The employment is a positive effort that requires the cooperation and commitment of everyone in the school community whether students, teachers or the management. Everybody has a role to play in the mechanism to determine the effectiveness of the current educational system. Multimedia-based learning technology, whether aided with the computer or not is the most sophisticated learning tool and learning a source attainable everywhere. The use of TLA based on multimedia technology appropriate with the lesson objectives will result in effective teaching. Besides from building and designing TLA skills, teachers also need to be trained in using the TLA so that the usage of the TLA can be delivered to the students. The lack of classrooms makes teaching resources less efficient than the schools providing specific rooms with basic facilities to teach more effectively.

There are barriers faced by SwVI in accessing the contents of Islamic Education lessons because they require access to Braille reading materials or teachers' explanations. Therefore, the use of this TLA that is based on multimedia technology is suitable for both school and self-learning sessions. In addition, teachers must recognise the diverse needs of students and their unique potentials. Before preparing the teaching materials, teachers need to consider the differences in students' skills, abilities and enthusiasm. Hence, teachers should prepare themselves with knowledge and skills in technology as a teaching resource to fit students' learning styles that traditional classroom settings cannot accommodate. Teachers' attitudes towards applying TLA based on multimedia technology will greatly influence the atmosphere of TnL and motivate students to learn and actively collaborate which ultimately makes the TnL process effective.

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