

AN EVALUATION OF AN INTERACTIVE e-TAJWEED SYSTEM FOR THE SURAH OF YAASIN

Jamaliah Mohd Taib^{*a}, Hisam Satari^a, Siti Aishah Sokhibul Fadil^a, Hajah Makiah Tussaripah Jamil^b

^aUiTM Kampus Kuala Pilah, 72000 Kuala Pilah, Negeri Sembilan, Malaysia

^bUiTM Kampus Seremban, 70300 Seremban, Negeri Sembilan, Malaysia

E-mail: *ajamaliah@uitm.edu.my

Received: 05.05.2020

Revised: 02.06.2020

Accepted: 28.06.2020

Abstract

Tajweed is a set of rules to be followed by a person who wish to read, recite and interpret the verses of the Holy Al-Quran. In this study, an interactive e-tajweed Yaasin system was developed to accommodate teaching and learning of tajweed for the surah of Yaasin. The system is a compilation of notes, audio, video, graphics with colour cues and pointers and interactive buttons. The multimedia components were developed to emphasize on common mistakes based on nine different tajweed (rules) done by the previous students. It was found that there was an improvement of recitation of students after the implementation of this interactive system. However, some improvements had occurred for certain rules (6 out of 9) but not in others. This study was to discuss the factors that lead to better or lack of understanding of tajweed. The study has found that there is a need to establish joint and continuity of both traditional and modern systems to produce a more effective and efficient system of teaching and learning the surah of Yaasin.

Keywords-- Interactive System; Tajweed; Evaluation: E-Learning.

© 2020 by Advance Scientific Research. This is an open-access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>)
DOI: <http://dx.doi.org/10.31838/jcr.07.08.208>

INTRODUCTION

For a complete and proper reading of the verses in the Al-Quran, a reciter had to learn, understand and implement all the rules. These rules also known as tajweed have to be practiced and implemented. In terms of language, tajweed which was derived from Arabic word jawwad, means doing things properly. In Islamic terms and rules, tajweed is a science which to identify proper places for each Arabic letter by giving its legitimate properties such as to which letters were to be stated or hidden. It also involved what to be required of Arabic letters with extra properties that indicate how a reciter to read these letters such as for duration of prolong reading, proper pronunciation and other factors. Tajweed is a set of rules to be followed by a person who wish to read, recite and interpret the verses of Holy Al-Quran (Al-Quran 73:4).

Studies done by Hassan & Zailaini (2013), Ali Hasan, Shadli, & CheBakar (2010) and Awang, Azman, & Ahmad Nazuki@Marzuki (2010) have shown that students were having problems of reading and reciting the Al-Quran using the correct tajweed. A Quranic learner undergoes a traditional method of learning known as syafawiah. This syafawiah systems require a teacher or 'ustaz' to give guidance directly to the students. There are also a number of e-learning systems to facilitate teaching and learning of the Al-Quran. A few studies (Akkila& Abu-Naser, 2018; Abdou & Rashwan, 2015; Ahsiah, Noor, & Idris, 2013; AlZoubi, 2013; Elhadj, 2010; Muhammad, Muhammad, Muhammad, & Martinez-Enriquez, 2010; Mourtaga, Sharieh, & Abdallah, 2007) have developed a computerized system to capture recitation from the learner. These systems were to capture and evaluate recitation where it is able to recognize any incorrect recitations from the learners.

In this project, an e-learning system was developed to facilitate teaching and learning of the surah of Yaasin for Muslim students at diploma level at UniversitiTeknologi MARA. This research focuses on an interactive e-learning system that is able to support teaching and learning of tajweed for the surah of Yaasin. There are, however, some contentions with the implementation

of e-learning systems for teaching and learning of al-Quran. As stated by Dolan, Hancock, and Wareing (2015), evaluation of online teaching is still very limited as opposed to traditional based learning techniques. The project further seeks to evaluate the efficacy of the online learning system by comparing students' assessment on nine different tajweed. It was found that there was an improvement for certain tajweed but not in others. Thus, the aim of this study is to evaluate the e-tajweed Yaasin system and give suggestions on other approaches to be used to improve the teaching and learning of the surah of Yaasin.

LITERATURE REVIEW

In Malaysia, there is a long track history and contributed a lot to the traditional Malay education for learning and teaching al-Quran. Learners were to use a specific text called Muqaddam. There is also other system known as Iqra' system for formal learning and reading al-Quran. This system is implementation at the elementary school level in Malaysia. It has enabled many learners to learn, read and recite the verses in the al-Quran. A study done by Yusof, Abdulaziz, and Mohamed (2003) has indicated that Iqra' system can support the learning of tajweed at elementary school level. Methods of Talaqi, Musyafahah, drills, tatbiqui, group work, individual work, and tasmii' are also implemented at school to supplement the Iqra' system (Mohdlqbal, 2005; Kementerian Pelajaran Malaysia, 2004; Ridhuan, 2000). All of the stated practices are using the concept of syafawiah where there is a direct guidance and the learning process is to be monitored directly by the instructor.

There is a wide range of applications for learning and teaching al-Quran available to learners using technology such as CD or Internet access. Elhadj (2010) has stated that the existing technology until the twentieth century for the learning of al-Quran is the usage recording systems and electronic devices that keep both text and audio of the Quran. A learner has to look at a specific text while listening to the audio of an authentic reciter. Other improvement which includes a pointer where a novice learner can follow the pointer to the corresponding text on the screen while listening to the verses (Elhadj, 2010). There were a few studies (Abdou & Rashwan, 2015; Ahsiah et al., 2013; Muhammad et al., 2010; Mourtaga et al., 2007) which have

developed computerised system that captured learners' recitation for direct assessment. AlZoubi (2013) and Elhadj (2010) have developed a system that facilitated direct online interaction between learners and instructor. It is a model to simulate actual learning known as syafawiah via cyberspace.

There are a numbers of cloud-based online portal were created with specialised features to facilitate e-learning of al-Quran as stated by Ahmed Adhoni, Al Hamad, Ahad Siddiqi, and Ahmed Adhoni (2013). Examples of portal are www.versebyverseQuran.com, quran.ksu.edu.sa and www.holyquranandroid.com. These e-learning systems employed a different approach compared to the traditional method since users can learn and read the al-Quran without the guidance of an experienced teacher.

METHODOLOGY

System design

An interactive multimedia system known as the e-Tajweed Yaasin system was developed to support teaching and learning of surah of Yaasin. An e-learning system that incorporated technology and multimedia can supplement classroom instructions (Babiker, 2015). The presentation of learning materials such as graphics, charts or diagrams and its relation with the other materials can encourage students to use mental skills in a more effective way as discussed by Surjono (2015). Learners can learn at their own pace since multimedia and interactive components can support self-learning of learners as stated by Lau, Yen, Li, and Wah (2014) and Srinivasan (2013).

The system has enabled users to learn, identify and revise the correct tajweed for the surah of Yaasin. An explanation of tajweed was given as notes which was accompanied with some colour cues on each common mistakes and later, supported by animated pointers to be run concurrently with video of an experienced 'ustaz' reciting the verses. Combination of notes with audio and video can simulate the learning and teaching process of an e-learning system (de Oliveira Neto, Huang, & Azevedo Melli, 2015). Implementations of colour cues can also facilitate the learning of tajweed (SitiHajar, 2012). The complication of features such as notes, audio, video, graphics with colour cues and pointers and interactive buttons were developed to emphasize on common mistakes done by the previous students. This approach is concurrent with the suggestion from Babiker (2015). Babiker (2015) has suggested that educators should develop their own multimedia applications to enhance teaching and learning process.

Data collection

All Muslim students at diploma level are required to be able to read the surah of Yaasin with correct tajweed as part the assessment of an Islamic course in University Teknologi MARA. The assumption of knowledge was that all students have gone through the learning of tajweed spanning from the elementary to secondary level in Malaysia educational system. Sample from two groups of student were taken based on who did or did not use the e-Tajweed Yaasin system. Diploma students of session one and two (2014/15) were being evaluated based on nine different rules (tajweed) as shown in table 1. Assessment validity was ascertained by using the course syllabus endorsed by Universiti Teknologi MARA (Academy of Contemporary Islamic Studies, 2014)

Table 1. List of Rules to be Evaluated based on the Course Syllabus

No.	Tajweed (Rules)	Brief Explanation of Tajweed
1.	'IzharHalki'	The reading involved direct and clear pronunciation of Arabic letters.

2.	'IkhfakHakiki'	The reading that involved humming for a set of Arabic letters.
3.	'IdghamMa'alGhunnah'	The reading that involved humming and changing of pronunciation for a set of Arabic letters.
4.	'IdghamBilaGhunnah'	The reading that does not involved humming for a set of Arabic letters
5.	'Qalqalah'	The reading that required strong rebounded sound for a set of Arabic letters.
6.	'WajibulGhunnah'	The compulsory humming for two specific Arabic letters.
7.	'Mad Lazim'	The reading that involved long vowel.
8.	'Mad WajibMuttasil' and 'Mad Ja'izMunfasil'	The rules of 'Mad' letters when it is to be read with one specific letter.
9.	'MakhradjHuruf'	Correct pronunciation of each Arabic letters.

FINDINGS

A sample of fifty-one (n=51) students of session one 2014/15 was obtained for the number of tajweed mistakes. These students (session one 2014/15) did not use the e-Tajweed Yaasin system. A sample of fifty-one (n=51) students of session two 2014/15 who has used the system were also being evaluated based on the nine tajweed. Data collected was based on student's ability to recite the verses of number twenty until forty of the surah of Yaasin. The actual number of mistakes before and after implementation of the system with its corresponding percentage of reduction is shown in table 2.

Table 2. Number of Mistakes and its Percentage for Two Groups of Students

No.	Tajweed(Rules)	Number of Mistakes		Percentage of Reduction
		Session 1	Session 2	
1.	'IzharHalki'	31	11	64.5%
2.	'IkhfakHakiki'	133	132	0.8%
3.	'IdghamMa'alGhunnah'	96	70	27.1%
4.	'IdghamBilaGhunnah'	48	11	77.1%
5.	'Qalqalah'	34	7	79.4%
6.	'WajibulGhunnah'	110	78	29.1%
7.	'Mad Lazim'	179	35	80.4%
8.	'Mad WajibMuttasil' and 'Mad Ja'izMunfasil'	40	2	95%
9.	'MakhradjHuruf'	174	63	63.8%

Table 2 shows comparison for the number of mistakes done by students who did and did not use the e-Tajweed Yaasin system based on nine different rules (tajweed). Analysis was done based on the different outcome of the comparison which is to identify rules that have reduced significantly its number of mistakes. It was found that there were six out of nine (6 out of 9) rules that have the number of mistakes significantly reduced after the implementation the system. The number of mistakes that has significantly reduced are for the rules of *IzharHalki*, *IdghamBilaGhunnah*, *Qalqalah*, *Mad Lazim*, *Mad WajibMuttasil* and *Mad JaizMunfasil* and *MakhradjHuruf*. The most significant improvement is for the *Mad WajibMuttasil* and *Mad*

JaizMunfasil where the number of mistakes before implementation is forty (40) and later reduced to be only two (2) with the reduction percentage of ninety-five percent (95%).

Another outcome to be discussed is the rules that have not significantly reduced its number of mistakes. It was found that only three out of nine (3 out of 9) rules that have not reduced significantly for the number of mistakes. The number of mistakes that has not significantly reduced is the rule of *Ikhfa' Haqiqi*, *IdghamMaalGhunnah* and *WajibulGhunnah*. The least significant improvement is for the rule of *Ikhfa' Haqiqi* where the number of mistakes before implementation is one hundred thirty-three (133) and reduced to be one hundred thirty-two (132) with the reduction percentage of less than one percent (0.8%).

DISCUSSIONS

It was found the e-Tajweed Yaasin system was able to improve the reading of students where the result of six (six out of nine) rules have improved. The rules that have significantly reduced its number of mistakes are the rule of *Mad Lazim* and *Mad WajibMuttasil* and *Mad JaizMunfasil*. The result of *Mad Lazim* and *Mad WajibMuttasil* and *Mad JaizMunfasil* are similar to the finding of SitiHajar (2012) and Roslan and Hamzah (2009). The study done by Roslan and Hamzah (2009) which only emphasized on the Mad rule also have indicated that students basically are able to grasp the Mad rule. SitiHajar (2012) also has shown improvement of the Mad rule with the implementation of visual cues. SitiHajar (2012) has implemented visual cues of red colour to emphasize on the Mad rule for reading of the verses of the al-Bayyinah surah. The concept of colour has also being used in this e-Tajweed Yaasin system. This system has also incorporated colour and animated pointers as to highlight the common mistakes done by previous students. The contents of e-tajweedYaasin system that combine colour cues and animated pointers is shown in figure 1.



Figure 1. The screen that incorporated notes, video, animated pointer, colour cues and nagivation buttons

There were also some rules that were not fully grasped by the students. Rules that did not significantly reduced its number of mistakes are the rule of *Ikhfa' Haqiqi* and *IdghamMa'alGhunnah*. Students were not able the grasp the rule of *Ikhfa' Haqiqi* since they need to memorise and identify fifteen Arabic letters (MohdTaib, MohamadYusof, Jamil, Aris, &Satari, 2016). The findings of the rule of *Ikhfa' Haqiqi* is supported by the findings of Munawaroh (2011). Munawaroh (2011) has indicated that the method of read aloud is one way to improve the rule of *Ikhfa' Haqiqi*. Read aloud method is where a student will recite the verses which to be listened by the other student or instructor. The read aloud method has not supported by the e-Tajweed

Yaasin system. The study done by Asyachowi (2011) has found that the ability to understand and apply the rule of *IdghamMa'alGhunnah* is very low. Learners were not able to grasp the rule of *IdghamMa'alGhunnah* because learners did not do a lot of reading practises and assignments as being instructed by their instructor (Asyachowi, 2011).

The common method of learning and teaching of tajweed is using the traditional method known as *syafawiah*. This traditional method follows the same practice of the Prophet Muhammad (S.A.W.) and his companions. With the advances in computing, traditional pedagogy of learning and teaching can be supplemented with a number of e-learning systems. There are a number of e-learning systems available, but the evaluation of these systems is still limited (Dolan et al., 2015). A study done by Sihes (2017) has shown students did improve their understanding of tajweed using the e-Quran e-learning system. Hanafi, Murtadho, Ikhsan, Diyana, and Sultoni(2019) has also suggested that e-BBQ e-learning system was accepted by both students and instructors. This study is to evaluate an e-Tajweed Yaasin system to support learning and teaching of surah Yaasin. It is found that the system can improved the reading of students for certain tajweed but not all. Some improvements should be done for the system since an e-learning system can enhance the traditional learning method due to its interactive learning-teaching environment (Aljena, Al-Anzi, & Alshayeji, 2011). An e-learning system allows students to replay, pause and rewind the session so that it can support learning anywhere and anytime (Dolan et al., 2015; Luaran,Samsuri, Nadzri, & Rom, 2014). The proposed revised system will include some online assessments such as exercises and quizzes as being suggested by Asyachowi (2011).

CONCLUSIONS

The aim of this study is to evaluate the effectiveness of the e-Tajweed Yassin system to support the teaching and learning process. It is apparent that students' reading has improved due to some improvement for certain tajweed after the implementation of the system. Unfortunately, this system has not significantly reduced the mistakes done by students for the rules of *Ikhfa' Haqiqi*, *IdghamMaalGhunnah*, and *Wajibulghunnah*. A few studies (MohdTaib et al., 2016; Asyachowi, 2011; Munawaroh, 2011) have suggested other approaches to improve the students' reading. Munawaroh (2011) has suggested that there should be a face-to-face interaction. It is also suggested that there should be some supervision mechanisms to monitor students' learning activities (MohdTaib et al., 2016; Asyachowi, 2011). It can be concluded that the e-Tajweed Yaasin system can improve the learning and reading for the surah of Yaasin since six out of nine rules were able to be grasped by the students. In order to improve the teaching and learning of the surah of Yaasin, it is suggested that there is a need to establish joint and continuity of both traditional and e-learning systems to produce a more effective and efficient system of teaching and learning the surah of Yaasin.

REFERENCES

1. Abdou, S. M., & Rashwan, M. (2015). A Computer Aided Pronunciation Learning system for teaching the holy quran Recitation rules. Proceedings of IEEE/ACS International Conference on Computer Systems and Applications, AICCSA, 2014, 543-550. <http://doi.org/10.1109/AICCSA.2014.7073246>
2. Ahmed Adhoni, Z., Al Hamad, H., Ahad Siddiqi, A., Parvez, M., & Ahmed Adhoni, Z. (2013). Cloud-based online portal and mobile friendly application for the holy Qur'an. Life Science Journal, 10(SPL.ISSUE 12), 524-538.
3. Ahsiah, I., Noor, N. M., & Idris, M. Y. I. (2013). Tajweed checking system to support recitation. In 2013 International Conference on Advanced Computer Science and Information Systems, ICACSIS 2013 (pp. 189-193).

- <http://doi.org/10.1109/ICACIS.2013.6761574>
4. Akkila, A. N. & Abu-Naser, S. S. (2018). Rules of Tajweed the Holy Quran Intelligent Tutoring System. *International Journal of Academic Pedagogical Research (IJAPR)* 2 (3):7-20. PhilArchive copy v1: <https://philarchive.org/archive/AKKROTv1>
 5. Ali Hasan, A. R., Shadli, S. and CheBakar, C. M. (2010). Tahap Penguasaan Bacaan Al-Quran Dikalangan Pelajar-pelajar UiTM Sarawak'. N.p.: Institute of Research, Development and Commercialization, Universiti Teknologi MARA, 2010. Web Accessed: 13 May 2015.
 6. Aljenaa, E., Al-Anzi, F. S., and Alshayegi, M. (2011). Towards an efficient e-learning system based on cloud computing. In *Proceedings of the Second Kuwait Conference on e-Services and e-Systems (KCESS '11)*, ACM, New York, NY, USA, , Article 13, 7 pages. doi:10.1145/2107556.2107569
 7. AlQuran, AlZoubi, A. A. Y. (2013). Use of Information Technology in the Teaching of Quran Recitation (Qira'at) - Electronic Miqrah as a Model. 2013 Taibah University International Conference on Advances in Information Technology for the Holy Quran and Its Sciences, 593-621. <http://doi.org/10.1109/NOORIC.2013.99>
 8. Asyachowi, A. H. (2011) Upaya meningkatkan kemandirian belajar siswa pada mata pelajaran PAI pokok bahasan Hukum Nun Mati/Tanwin dan Mim Mati melalui model information search (penelitian tindakan pada siswa kelas VII A SMP Negeri 31 Semarang tahun ajaran 2009/2010). (Bachelor dissertation), Retrieved from Walisongo Institutional Repository (1950)
 9. Awang, A., Azman, C. M., and Ahmad Nazuki@Marzuki, Y. (2010). 'Kebolehpayaan Membaca Al-Quran Di Kalangan Pelajar Diploma UiTM Terengganu: Satu Kajian Kes'. N.p.: Institute of Research, Development and Commercialization, Universiti Teknologi MARA, 2010. Web accessed: 13 May 2015.
 10. Babiker, M. E. A. (2015). For effective use of multimedia in education, teachers must develop their own educational multimedia applications. *Turkish Online Journal of Educational Technology*, 14(4), 62-68.
 11. de Oliveira Neto, J. D., Huang, W. D., & Azevedo Melli, N. C. De. (2015). Online learning: audio or text? *Educational Technology Research and Development*, 63(4), 555-573. <http://doi.org/10.1007/s11423-015-9392-7>
 12. Dolan, E., Hancock, E., & Wareing, A. (2015). An evaluation of online learning to teach practical competencies in undergraduate health science students. *The Internet and Higher Education*, 24, 21-25. <http://doi.org/10.1016/j.iheduc.2014.09.003>
 13. Elhadj, Y. O. M. (2010). E-Halagat: an E-Learning System for Teaching the Holy Quran. *Turkish Online Journal of Educational Technology*, 9(1), 54-61. Retrieved from <Go to ISI>://WOS:000274244500007
 14. Hanafi, Y., Murtadho, N., Ikhsan, M. A., Diyana, T. N., & Sultoni, A. (2019). Student's and Instructor's Perception toward the Effectiveness of E-BBQ Enhances Al-Qur'an Reading Ability. *International Journal of Instruction*, 12(3), 51-68. <https://doi.org/10.29333/iji.2019.1234a>
 15. Hassan, S. S. Bin, & Zailaini, M. A. Bin. (2013). Analysis of Tajweed Errors in Quranic Recitation. *Procedia - Social and Behavioral Sciences*, 103(Tq 1000), 136-145. <http://doi.org/10.1016/j.sbspro.2013.10.318>
 16. Kementerian Pelajaran Malaysia. (2004). Huraian Sukatan Pelajaran Pendidikan Islam. Kuala Lumpur: Dewan Bahasa dan Pustaka
 17. Lau, R. W. H., Yen, N. Y., Li, F., & Wah, B. (2014). Recent development in multimedia e-learning technologies. *World Wide Web*, 17(2), 189-198. <http://doi.org/10.1007/s11280-013-0206-8>
 18. Luaran, J. @ E., Samsuri, N. N., Nadzri, F. A., & Rom, K. B. M. (2014). A Study on the Student's Perspective on the Effectiveness of Using e-learning. *Procedia - Social and Behavioral Sciences*, 123, 139-144. <http://doi.org/10.1016/j.sbspro.2014.01.1407>
 19. Mohd Iqbal (2005). *Kaedah pembelajaran al-Quran*. Jakarta: Gunung Agung
 20. Mohd Taib, J., Mohamad Yusof, N., Jamil, H. M. T., Aris, H. R., & Satari, H. (2016). An Interactive Approach of an e-TajweedYaasin System. In J. @ E. Luaran, J. Sardi, A. Aziz, & N. A. Alias (Eds.), *Envisioning the Future of Online Learning* (pp. 115-123). Singapore: Springer Science+Business Media Singapore. <http://doi.org/10.1007/978-981-10-0954-9>
 21. Mourtaga, E., Sharieh, A., & Abdallah, M. (2007). Speaker Independent Quranic Recognizer Based on Maximum Likelihood Linear Regression. *World Academy of Science, Engineering and Technology*, 1(12), 61-67.
 22. Muhammad, W. M., Muhammad, R., Muhammad, A., & Martinez-Enriquez, A. M. (2010). Voice content matching system for quran readers. *Proceedings of Special Session - 9th Mexican International Conference on Artificial Intelligence: Advances in Artificial Intelligence and Applications, MICAI 2010*, 148-153. <http://doi.org/10.1109/MICAI.2010.11>
 23. Munawaroh, M. (2011). Peningkatan hasil belajar materi pokok hukum bacaan ikhfa'haqiqi melalui metode reading aloud siswa MI Miftahul Ulum 02 Rowosari Tembalang Semarang (Bachelor dissertation), Retrieved from Walisongo Institutional Repository (2477)
 24. Ridhuan, J. (2000). *Kaedah pengajaran dan pembelajaran al-Quran*. Kuala Lumpur :Pustaka Salam Sdn. Bhd
 25. Roslan, A. S. & Hamzah, A. R. (2009). Penguasaan Pelajar Ijazah Sarjana Muda Sains serta pendidikan (pengajian Islam) dalam Ilmu Tajwid: Satu Kajian dalam hukum Mad. (Bachelor dissertation). Retrieved from Malaysian Education Research Repository. (09217)
 26. Sihes, A. J., Razali, K., & Razali, K. A. (2017). The Effectiveness of e-Quran in Improving Tajweed Learning Among Standard Three Pupils in Primary School. *Sains Humanika*, 9(1-3), 57-62. <https://doi.org/10.11113/sh.v9n1-3.1143>
 27. Siti Hajar, A. S. (2012). Penggunaan Warna Pada Huruf-Huruf Mad Asli Dalam Pengajaran Surah Al-Bayyinah. Koleksi Artikel Penyelidikan Tindakan PISMP Pendidikan Islam amb. Januari 2009. , Retrieved from <http://www.ipbl.edu.my/portal/penyelidikan/BukuKoleksi/2012/PA/2.%20SITI%20HAJAR%20AHMAD%20SABARI.pdf>
 28. Srinivasan, D. (2013). Effectiveness of e-learning Components in Building Stronger Foundation in Engineering Fundamentals. In *2013 IEEE 5th Conference on Engineering Education (ICEED)* (pp. 78-83). <http://doi.org/10.1109/ICEED.2013.6908307>
 29. Surjono, H. D. (2015). The effects of multimedia and learning style on student achievement in online electronics course. *TOJET: The Turkish Online Journal of Educational Technology*, 14(1), 116-122.
 30. Universiti Teknologi MARA. (2014). CTU151: Islamic thought and civilization course syllabus. Shah Alam, Malaysia: Academy of Contemporary Islamic Studies.
 31. Yusof, M. A., Abdulaziz, A. M., & Mohamed, A.K. (2003). Keberkesanan Iqra' sebagai kaedah pembelajaran membaca Al-Quran. In *Seminar Penyelidikan Pendidikan Guru Peringkat Kebangsaan* 2003. <http://www.ipbl.edu.my/portal/penyelidikan/seminarpapers/2003/ahmadKUIIMkk.pdf>