A STUDY OF COMPARISON ANALYSIS TOOLS SUPPORTING SELF-LEARNING TAJWEED USING A MOBILE APPLICATION FOR KINDERGARTEN STUDENT

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Abstract

The use of Al-Quran is most common as a mandatory reading for Muslims and their worship. However, in order to ensure that the verses of the Holy Quran are correctly recited, Tajweed regulations must be observed and children must be exposed to them. Therefore, self-learning of Tajweed is essential process to learning Tajweed. As a result, this report addresses a research gaps in previous work on Tajweed for market, commercial, and research objectives. Then, we provide our observations from the evaluation and analysis of various research. In order to obtain the limitations of each tool, we consider its features' and utility's strengths and weakness. Finally, we believe that these tools still need to be improved, particularly for kindergarten.

Keywords: *Tajweed learning, kids learning, mobile application, self-learning.*

INTRODUCTION

Tajweed is an Arabic term that means a system of guidelines for pronouncing the Quran. Tajweed is the primary portion of the Qur'an that regulates short length strains and produces a humming sound when read. Learning Tajweed is obligatory (fard-al-ain) while reciting the Quran, and it becomes a communal obligation when each individual understands all Tajweed rules and terminology (Essentialilm, 2019). Therefore, the development of learning Tajweed should be encouraged by the family. If there is a mistake while reciting the Al-Quran, it will change the meaning of the Al Quran.

Nowadays, primarily Muslims have poor comprehension and appreciation for reading Al Quran that resulted from the kids have lack of interest and knowledge in learning Tajweed (Mukhiri, 2014). This study supported by (Ibrahim et al., 2012) that claimed today's current lifestyle needs a modern and technological approach to improve Al-Quran and Arabic learning and optimising the study time. Thus, tajweed learning for kids from development mobile application is an essential process to enhance the process of learning and how to properly recite the Quran.

This study presents a review of previous studies as well as tool assistance to learn tajweed utilising a mobile application among kindergarten students. The following is how the paper is organised as follows: Section 2 discusses the survey literature. Section 3 provides an overview of various tajweed instruments available on the commercial market, as well as a comparison study. Section 4 depicts the general finding, and this paper concludes with a conclusion section.

RELATED WORK FOR TOOL SURVEY

There have been several works on developing tools to understanding the Tajweed for kindergarten of mobile application. In this section, we present a descriptive review of learning tajweed for mobile application. Our goal is to investigate and evaluate the usefulness of the tajweed for self-learning use for commercial and research purposes.

Altalmas et al. (2017) has developed a technique for identifying Lips tracking. The system was designed with the goal of extracting the lip movement of a random user, drawing a displacement graph, and comparing it to the expert's pronunciation. However, this application analyses the variations in Quranic alphabet pronunciations based on the lip geometry and the movement of the points assigned to the lips. This application limited to windows application and not for mobile application.

Moreover, Mustafa (2018) provided the application called Eztajweed. This application is a mobile application that was created to replace the manual of learning tajweed with the mobile application method. The application is focusing on the animation to learn tajweed in a fun way. However, this application cannot read Jawi text and must rely on Adobe Photoshop pictures.

In addition, Mohd Nasir et al. (2010) developed e-TLM. A new conceptual model for teaching and learning Tajweed was suggested in order to provide an interactive and learning environment that supports semantic and multimedia components. However, the goal of this work is to establish a conceptual model to tackle the difficulty of teaching and learning tajweed.

Besides, Amiddudin et al. (2017) developed Tajwid4U, an application that allows people to learn Tajweed based on their availability. The suggested application incorporates Tajweed legislation and provides audio to read the Al-Quran while focusing on pronunciation and rules. However, this application was developed with the intention of delivering the talent to society through the Ustaz and Ustazah.

Other than that, Sardan and Rias (2013) proposed a M-Tajweed application as a mobile courseware to help Tajweed leaners. They used an interactive learning method and a mind map to teach the rules of tajweed that able to deliver course

content. However, the application was developed purpose for learning rules by teacher and students.

Furthermore, Solite Kids (2019) provided a Secil Tajwid as child education application that help the child learn to read Al-Quran with follow the tajweed law such as idzhar, idgham, iglab, ikhfa and etc. This application also used an interactive learning method as multimedia elements that can attract the kid to learn the Tajweed. However, the purpose of application developed to keep children from becoming bored while playing.

Besides, Hussain et al. (2014) constructed a model for support the requirements and architecture of mobile game called as mFakih. This model provided interactive modules, examples and exercises. However, this application does not support complicated words Quran reading modules and still in its early stages.

Meanwhile, Akkila and Abu-Naser (2018) developed an Intelligent Tutoring System (ITSB) for teaching Al-Quran Tajweed recitation. This ITSB architecture contains for the material to be educated, pedagogical expert module which controls intelligently all the roles of the system, student model which contains the information of the learner, and user interface model which is the communication between the user and the application. However, this application support on windows application not for mobile application.

TOOL COMPARISON

We compare the existing tools for learning Tajweed. Here, we compare features based on method/approach and application supports platforms as shows in Table 1 above.

Table 1 : Comparison of Application for Tajweed

Authors	Tools Name	Approach/Methodology	Platforms
Altalmas et al. (2017)	Lips tracking identification	Lips tracking identification	-
Mustafa (2018)	Eztajweed	Multimedia elements method	Mobile Application
Mohd Nasir et al. (2010)	e-TLM	e-Learning Method	Mobile Application
Amiddudin et al. (2017)	Tajwid4U	Tajweed law and provided the audio to read the Al-Quran that focusing on pronunciation and rules.	Mobile Application

Sardan and Rias (2013)	M-Tajweed application	interactive learning method and a mind map	Mobile application
Solite Kids (2019)	Secil	interactive learning method as multimedia elements	Mobile Application
Hussain et al. (2014)	mFakih	Modelling Mobile Learning Game to Recite Quran for deaf Children	Mobile Application
(Akkila and Naser, 2018)	ITSB	pedagogical (expert) module	Windows application

RESULTS AND DISCUSSION

Pronunciation of Holy Quran used a correct Tajweed establish in early. A proper self-learning to learning Tajweed encourages learning and provides the effectiveness of teaching to children. However, current works and tools do not provide formal learning of the Tajweed, such as self-learning and conduct an active exercise for self-learning Tajweed. Thus, it is necessary to have self-learning for kindergarten, especially for mobile applications. We have conducted a review on eight types of tools that support the Tajweed, such as Lips tracking identification, Eztajweed, e-TLM, Tajwid4U, M-Tajweed application, Secil, mFakih and ISTB tool.

Based on our review, as shown in Table 1, we found various approaches or methodologies used by the existing Tajweed tool for kindergarten application. We also found that Tajweed based on the specificity and purpose of the respective tools. In terms of approach, Lips tracking identification, interactive learning method, Tajweed law and provided the audio, Mobile learning games and pedagogical (expert) module. Based on the analysis, it found that the interactive learning method most used followed by mobile learning games and pedagogical modules. Further, it also found that primarily the application supports the mobile application and windows application.

CONCLUSION AND FUTURE WORKS

Self-learning on Tajweed for kindergarten through mobile application during early phase of kindergarten is very crucial. They must learn to recognise the rules and law in Tajweed at early as possible before reciting the Holy-Quran. As a result, this paper is provides a gap of study for existing work on learning Tajweed that is available in current market for commercial and for scientific purposes. We provide the data and analyses of several research on Tajweed learning. Understanding the limitations of the present instrument is provided by the strengths and weaknesses. We may infer that the current system is still immature and requires additional development.

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