

# A Study of Kindergarten's Self-Learning Tools to Read Jawi using Mobile Application

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**Abstract:** *Jawi is a script based on the writing of the Al-Quran and derived from Arab-alphabet characters. When reading and writing religious books, stories, and so on, Jawi script is essential. However, in order to understand Jawi, students must first learn how to read Jawi, which should begin in kindergarten. They must be able to identify characters in Jawi. As a result, this paper addresses a research gap for existing work on learning Jawi script that is available in the market for commercial and scientific uses of mobile applications. We present our findings through a review and analysis of several studies. The features' and utility's strengths and shortcomings are also offered to provide a better knowledge of the gaps and weaknesses of each tool.*

**Keywords:** Jawi, Jawi Mobile application, Kindergarten Learning, Jawi apps

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## 1. Introduction

Jawi is a writing script based on the writing of the Al-Quran. Jawi characters were discovered in Malaysia in the 15th century and were derived from Arab-alphabet characters. The Arabic characters, which consist of 29 characters, entail the process of understanding the character, forms, writing, continuous character, and reading the Jawi text. However, towards the end of the twentieth century, the Jawi script had been superseded by the Rumi script, notably in the school curriculum system.

Jawi script is important when to read and write the religious book, story, etc. The development learning of Jawi should adapt since in young generation. It is should begin from the family by expose them with Jawi education from early. Therefore, this is can be illustrated that participation between young generation and family about Jawi is very low. Thus, it is resulted the young generation unable to learn the Jawi script in proper manner. Furthermore, the lack of material and research in market to provide jawi script contributes the negative perception of young generation (Abdullah et al., 2020). It is a less well-supported learning medium for attracting the young generation in an engaging and appealing manner (Ahmad et al., 2018). Therefore, Jawi script learning is becoming an essential process in the development of mobile application for young generation.

This paper presents a review of existing studies as well as tool assistance for reading and writing Jawi script utilising a mobile application among kindergarten children. The following is how the paper is structured: The survey literature is described in Section 2. Section 3 provides a description of selected tools for Jawi script learning on Jawi scripts that are now available on

the market, as well as a comparison study. Section 4 depicts a discussion of the overall finding, and the document closes with a conclusion section.

## 2. Related Work for Tool survey

Several studies have been done on developing tools to interpret the Jawi script for the Kindergarten mobile application. We give a descriptive review of Jawi script learning for mobile applications in this part. Our goal is to look into the features of the Jawi script for commercial and research purposes.

(Mohd Rashid & Md Salleh, 2019) developed a mobile application named ‘Oh Jawiku’ that used constructivism approach and ADDIE model during the development process. This study also provide Jawi writing to allowed student interested for learning in Jawi. Based on their findings, they found that most of student like to learn jawi using ‘Oh Jawiku’. However, the support platform of mobile application is limited to android applications and primarily focuses on gaming action.

(Ahmad et al., 2018) proposed an application called ‘Bijak Jawi’ which is integration of phonics reading technique and interactive approach. This application was created specifically designed to visualize ‘jawi’ alphabets, phonics ‘makhraj’, syllables, sentences, and numbers. However, this application is limited for children with five to six years old and supports for windows, not for mobile application. (Ab Rahman et al., 2017) suggested a way for learning and writing Jawi script concentrating on handwriting framework. This study focuses on Jawi script and the Roman alphabet. This study, however, does not give an application or anything else to convert from the Roman alphabet to the Jawi script.

(A.Rahim & Hamzah, 2016) proposed a E-Jawi digital learning tool for Jawi character recognition that used a grid baselines. This application focusing on how to writing the Jawi character and developed for Windows application. Meanwhile, (Abdul Aziz, 2016) H.Adilah (2016) proposed an application Mobile Educational Jawi Games that use ADDIE model to developed their framework. The purpose of this development as teaching aids and learning Jawi in nurseries and at home. However, this study focusing on the Jawi Games and limit with years three to five years old of children to play the games.

(Diah et al., 2011a) proposed an application that included a digital teaching tool. This research focuses on writing using Jawi characters. This study focuses on four attributes: pre-writing activity, jawi character development process, practise activities, and jawi character identification. This study, however, only supports Windows applications and not mobile applications. Another work by (Diah et al., 2012) developed AJAW as a writing programme that focuses on the development of motor skills during the writing process. The Hannafin and Peck's Instructional Model was employed in this Application method. However, the majority of their work is spent on writing the Jawi script rather than reading it.

**Table 1: Comparison of Application for Jawi Script**

Authors	Tools Name	Approach/Methodology	Features	Platforms
(Mohd Rashid & Md Salleh, 2019)	Oh Jawiku	Constructivism theory	Spelling Writing	Android Application
(Ahmad et al., 2018)	Bijak Jawi	Integration of phonics reading technique for ‘jawi’ with interactive approach	Reading	Windows Application

(A.Rahim & Hamzah, 2016)	E-Jawi: Digital Learning Tool for Jawi Character Recognition	Jawi Character recognition	Writing	Windows Application
(Abdul Aziz, 2016)	Mobile Educational Jawi Games	ADDIE model	Teaching and Learning	Mobile
(Diah et al., 2012)	AJaW	Hannafin and Peck's Instructional Model.	Writing	Windows Application
(Diah et al., 2011b)	Digital Training Tool	Jawi Character Formation	Writing	Application

### 3. Tools Comparison

We compare the six of existing tools for learning Jawi script in current research and market. Here, we compared its features based on method or approach and application supports platforms as shows in Table 1 above.

### 4. Result and Discussion

Jawi script was developed and especially spread in Malay community at early 21<sup>st</sup> century but learning with proper self-learning to read and understand Jawi script enhances learning effectiveness and success. However, present works and tools do not provide an appropriate learning environment for the Jawi script, such as self-learning and active exercises for self-learning Jawi script. As a result, self-learning is essential for kindergarten, particularly for mobile applications. We reviewed seven different types of Jawi script-supporting tools, including Oh Jawiku, Bijak Jawi, E-Jawi: Digital Learning Tool for Jawi Character Recognition, Mobile Educational Jawi Games, AJaW, and Digital Training Tool. Based on our analysis, as shown in Table 1, we discovered that the existing Jawi script tool for kindergarten application employs a variety of approaches or methodologies. We also discovered that Jawi scripts differed depending on the specificity and aim of the individual instruments. In terms of approach, the Jawi Character Recognition and Formation, the merging of Phoenic reading and interactivity, Hannafin and Peck's Instructional Model, and the ADDIE Model are the most notable. According to these findings, the majority of tools are Windows applications, followed by Android applications. Most additionally do not support cross-platform use and are only effective on a single platform.

**Table 2: Comparison of Application for Jawi Script**

Features	Number of Studies	Authors
Spelling	1	(Mohd Rashid & Md Salleh, 2019)
Reading	1	(Ahmad et al., 2018)
Writing	4	(A.Rahim & Hamzah, 2016) (Diah et al., 2012) (Diah et al., 2011b) (Mohd Rashid & Md Salleh, 2019)

According to Table 2 above, the most used for learning Jawi is writing with accounts to four studies, followed by reading and spelling with two studies. These findings shows that the spelling and writing are recent study by the authors in year 2019, followed by reading in year 2018 and writing in year 2016 and below. Therefore, reading and spelling is most concerned due to kindergarten children may additional features of learning Jawi to support their learning. However, writing also still contribute highest number of studies which to encourages

kindergarten to learn Jawi. Thus, learning of Jawi since kindergarten is essential process to expose them the usage of Jawi so that kindergarten children know the existence of Jawi in our country.

#### 4. Conclusion

During the early years of kindergarten children, the relevance of self-learning Jawi script for kindergarten children of mobile application cannot be stressed. However, they must be able to recognise Jawi characters in proper way. As a result, this book addresses a research gap in the market for existing work on learning Jawi script for both commercial and scientific objectives. We offer the findings and analysis of numerous studies on Jawi script learning. The strengths and disadvantages of the current instrument convey understanding of its limitations. We might infer that the current system is still in its infancy and requires additional development.

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