Promoting Digital Learning Environment in Arabic Language Education: The Use of Animated Video (AV) For Vocabulary Acquisition among Primary School Students

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Abstract
Digitalizing the learning environment receives profound attention for augmenting better learning experiences across subject disciplines, including Arabic language education. By measuring the effectiveness of promoting a digital environment in teaching the Arabic language, this quantitative research investigates the application of animated video (AV) in enhancing Malaysian students' Arabic vocabulary acquisition. Following a quasi-experimental research design, a group of fourth-grade students (N=46) who studied Arabic as a foreign language was randomly divided into treatment (n=23) and control groups (n=23). The treatment group experienced the use of AV during the teaching and learning sessions, while the control group underwent conventional classroom teaching. The AV contained a variety of multimedia sources to describe and depict Arabic vocabulary accurately. Each group received two 30-minute lessons per week, during which they learned five to seven new words in one lesson. Both groups were later assessed after three weeks, and the scores were analyzed using SPSS Version 20. Findings showed a significant difference between the two groups, $t(22)= -3.98$, $p<.001$ where the treatment group (M = 86.06, SD = 10.86) recorded higher mean scores in comparison to the control group (M = 80.53, SD = 15.48). This finding provides empirical evidence to suggest AV as an effective technology-supported pedagogy in improving Arabic vocabulary acquisition. The implication of this research informs other important stakeholders, particularly educational technologists and curriculum experts, to advance the application of AV in creating meaningful digital content for learning the Arabic language.

Keywords: Digital Learning Environment; Animated Video; Arabic Language Education.

INTRODUCTION

The Fourth Industrial Revolution has primarily embedded and promoted the rapid development of digital environments across various industries worldwide. Within the education sector, improving education quality among broader student populations remains a significant priority. Much focus is given to digitalizing the classroom learning environments through the integrated use of educational technology and digital media in the teaching and learning process (Camilleri &

Camilleri, 2017). The extensive use of educational technology creates a facilitative environment of learning as it provides a space for mutual discussion regarding learning content and the exchange of constructive feedback among teachers and students alike (Tiemann & Annaggar, 2020).

Technological advancement has long contributed to producing various innovative educational products and sophisticated delivery means of educational content for creating better students' learning experiences (Anealka, 2018). Incorporating technology in education supports students' learning environment by helping them experience meaningful learning, resulting in cumulative and positive progress in their learning processes. Correspondingly, educators, particularly school teachers, face critical challenges in innovating their pedagogical strategies following the fast-paced advancement of technologies to promote higher students' interest and meet their respective learning demands.

As the heart of teaching and learning, pedagogy has undergone impressive changes from its traditional form. The teachers have been the primary source of knowledge to its more recent form, the technology-supported pedagogy, where technology is used to facilitate the teaching and learning processes. This transformational change requires teachers' creative thinking to adopt appropriate technology for the delivery of content knowledge during their teaching. However, teachers should be aware that innovating pedagogical strategies must be performed according to the age-related cognitive readiness to help students combat boredom in the classroom (Salmeron et al., 2020). Thus, the technology-supported pedagogy ensures effective delivery of content knowledge via technology to ease students' understanding of specific topics and assist them in achieving the specified learning outcomes (Ahmed & Zaneldin, 2019).

Within this research context, the technology-supported pedagogy applies to the use of animated video (AV) in the teaching and learning Arabic as a foreign language among Malaysian primary school students. As part of the foreign language program, the Arabic language has been introduced into the national curricula for primary education, which poses an urgent need to review and transform the existing pedagogical strategies for meeting the learning demands of younger students (Ministry of Education, 2010). According to Frank (2019), AV associates better with younger students and serves as a potential pedagogical strategy to engage them during the teaching and learning process. AV is commonly defined as simulating the object's movements through multiple image displays presented in video form. Although the video has been long used to facilitate learning, its application in the modern era is still relevant as newer technology has revitalized its former features and purposes.

More precisely, AV captures and portrays a visual, dynamic movement closely resembling a real-life event (Zamora et al., 2021). This feature is crucial in learning a foreign language as it allows students to observe how a dialogue occurs between individuals in daily life. Another exciting feature is AV's ability to utilize and make use of students' attentiveness. Following an audio-visual input from AV,

the student can build closer attention and develop a comprehensive understanding surrounding the stimulus (Gurvitch & Lund, 2014). In simple words, maintaining attention is imperative to help students comprehend the situational use of the language in a more effective manner. Perez and Rodgers (2019) affirmed that the multimodal features of AV, which integrate various types of inputs, make AV an ideal and resourceful source for foreign language learning.

From a different perspective, the use of AV can facilitate students in remembering or memorizing their lessons for an extended period. The playback feature provides an opportunity for the students to view the video not only in class but also outside their classroom (Anderson & Davidson, 2019). Repetitive exposure to vocabulary, grammar conjugations, sounds, or phrases is central in foreign language learning, leading to longer retention of memory and more accessible recalling of information (Li et al., 2012). Furthermore, frequent exposure to spoken language helps students develop their vocabulary by encouraging them to verbally articulate the word after listening to it (Ghazi-Saidi & Ansaldo, 2017). Therefore, this process is critical for students to master aspects of languages related to foreign language acquisition.

Previous research has shown that most Malaysian students face complex challenges in learning Arabic as a foreign language. One of the critical reasons is students' limited Arabic language vocabulary which barely reaches the learning outcomes outlined in the national curricula. For instance, Aisah (2017) describes the major challenge for mastering the Arabic language among school students as lacking basic vocabulary knowledge and skill. As a result, these students face subsequent problems developing other language domains such as listening, speaking, reading, and writing skills (Gharawi & Bidin, 2016). Therefore, an effective pedagogical strategy targeting improving Arabic vocabulary skills is essential to develop and enhance the students' overall language proficiency.

Meanwhile, some researchers suggest that the inadequate vocabulary learning among the students may be influenced by the teachers' choice of pedagogical strategies. The current strategies cause severe difficulties for students to make sense and understand the knowledge content (Maskor et al., 2016). Moreover, Huist et al. (2020) reveal that most Arabic language teachers still prefer the conventional lecturing method as they perceive it to be more effective and time-saving. At the same time, their strong preferences reflect their insufficient skills in navigating and applying technology in their pedagogical practices. Yasim et al. (2016) also discovered that Arabic vocabulary teaching aids that incorporate the latest modern technology are relatively scarce compared to other foreign languages such as English, Mandarin, and French.

The further review informs that the existing Arabic vocabulary teaching aids, which are freely available online (Abdullah et al., 2017), barely conform to the learning objectives set by the national curricula on the Arabic language for primary school students in Malaysia. Therefore, these setbacks have underpinned the focus of the current research in providing recommendations for Arabic language

teachers to utilize appropriate technology-supported pedagogy, particularly AV, to enhance vocabulary acquisition among primary school students.

METHOD

Guided by the primary aim of determining the effectiveness of AV for Arabic language vocabulary acquisition, this research employed a quasi-experimental design to answer the following research question: 1) What is the effect of the use of AV on students' achievement scores in vocabulary acquisition?. The research sample included a total of 46 fourth-grade students (N=46) who were purposefully selected based on several predetermined criteria. The criteria were active students who studied the Arabic Language for the Foreign Language Program at public primary school and Arabic language teachers with at least a degree in Arabic Language Education and a minimum of five-year teaching experience. The researchers randomly assigned the sample into two groups; the treatment and control group, where each group comprised 23 students (n=23). The treatment group received teaching intervention in the form of AV, while the control group experienced the conventional lecturing method for three weeks.

The Planning of the Research

A team consisted of an Arabic Language expert, educational technology specialist, and Arabic Language school teacher was appointed to select appropriate multimedia sources such as texts, graphics, visuals, audios, and educational songs to create three AVs. These videos were carefully designed based on the Arabic language national curriculum for fourth-grade students, which included several learning units, namely "Let's Explore the Kitchen," "Eating the Most Delicious Food," and "Learning Meal Timings." The Arabic language is introduced in primary schools, governed by the Malaysian Ministry of Education with the primary aim of producing students four language skills, namely listening, speaking, reading, and writing at the level of 'Independent Proficiency' following the Common European Framework for Languages (Ministry of Education, 2015). At the same time, the general goal of learning the Arabic language for primary school students is to develop essential language skills and communication skills using simple sentences.

Moreover, the team was requested to develop an Arabic vocabulary assessment instrument to evaluate the students' achievements. It was essential to note that the instrument comprised of 20 items that were specifically constructed to assess the students' vocabulary acquisition related to the learning units—one external curriculum expert and three Arabic school teachers with more than five years of teaching experience.

The Implementation of the Research

Prior to the teaching intervention, both treatment and control groups completed a test using the standardized instrument where uniform distribution of

the initial achievement scores were achieved. During the intervention, the students received three teaching sessions where the AV were projected and played for two times. After three weeks, both groups were assessed using similar instrument to identify any changes in their achievement scores. Each data was tabulated in a systematic manner and analysed using SPSS Version 20. Figure 1 illustrates the procedures used in this research.

Figure 1: Research Procedures
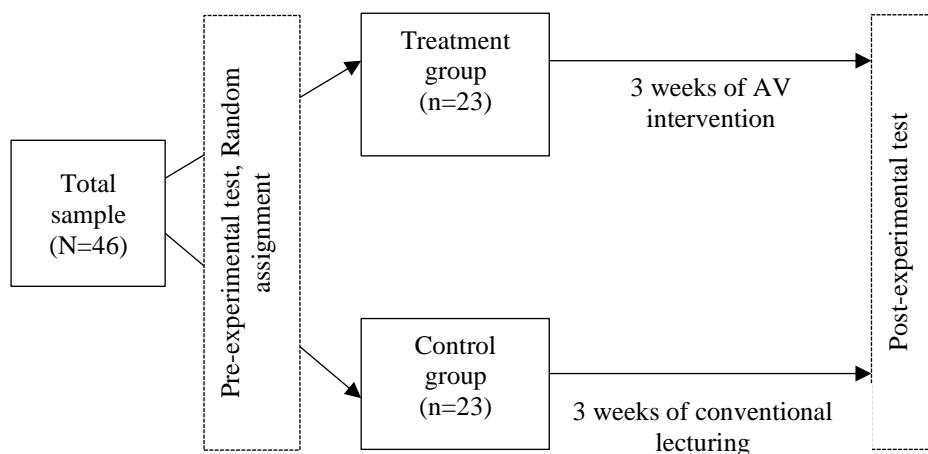
RESULTS AND DISCUSSION
The Effectiveness of AV For Arabic Vocabulary Acquisition
Table 1 shows the t-test findings for the treatment and control groups. An independent t-test was performed at a 95% confidence interval to investigate significant differences in achievement scores between the treatment and control groups. All assumptions related to normality and outliers were tested and met accordingly. Findings showed a significant difference between the two groups, $t(22)= -3.98$, $p<.001$ where the treatment group ($M = 86.06$, $SD = 10.86$) recorded higher mean scores in comparison to the control group ($M = 80.53$, $SD = 15.48$). Consequently, the use of AV significantly increased the achievement scores for Arabic vocabulary among primary school students compared to the conventional teaching method. The findings suggested the effectiveness of AV in helping primary school students to learn and understand Arabic vocabulary.

Table 1: T-Test Findings of the Treatment and Control Groups

Group	Number of Students	Mean	SD*	t value	Sig.
Treatment Group	23	86.06	10.86		
Control Group	23	80.53	15.48	-3.98	0.00**

*SD= standard deviation, **p<0.05

Along the same line, previous research has reported similar findings where the multimedia-based video increases students' interest, achievement, and understanding towards particular learning topics (Lin et al., 2019; Ahmed & Zaneldin, 2019). The students feel more motivated to learn and can memorize faster as the AV can be easily replayed several times (Ismail et al., 2017). The use of AV in the teaching and learning of the Arabic language creates a more active learning environment where the students can interact with each other while watching the video. Informed by this knowledge regarding the numerous benefits of AV for students' learning, the current findings serve as empirical evidence to support the use of AV in teaching the Arabic language among primary school students.

Additionally, Keong and Abu (2013) state that teaching aids in the form of AV can improve the students' understanding by stimulating the students' visual and hearing senses. In contrast to the conventional lecturing method, which heavily depends on hearing, AV heightens the students' level of engagement towards their learning process. Based on the educational theories, watching video allows simultaneous stimulation of students' visual and auditory, which further enhances the students' cognitive processes. AlMasseri and AlHojailan (2019) explain that the multimedia elements in the AV can trigger the students' cognitive abilities in receiving, storing, and recalling information. These subconscious processes involve complex organization and categorization of the information by the central nervous system. The information is later encoded into short-term or long-term memory storage in the event of further cognitive stimulation.

Correspondingly, Shiu et al. (2019) recommend that teachers prepare at least one video clip to deliver content knowledge effectively. This suggestion applies to all levels of education from primary to tertiary education as the use of video indirectly promotes the students to practice self-learning. Students can repeatedly watch the video beyond schooling hours. In other words, this repetition process also helps to improve the overall student's memory of the subject. Due to audio-visual presentations, the students are less likely to become bored and disconnected from their learning process. Another research by Jamunarani (2016) views educational videos as additional practice exercises for the students and reduces the over-reliance on the exercises provided in the textbook. Azniza et al. (2017) report that video has aided the educators' roles as facilitators when applied within the online, blended learning environment. Students can retrieve the lecture notes more easily from the available video.

Most importantly, the integration of video in the subject matter related to Social Intelligence has provided a more engaging experience for the students. Social, academic subjects are subjects with non-scientific contents which rely more on description and discussion of events. These subjects are therefore more complicated to be understood as the students face difficulties in visualizing multiple events. However, Tan and Carol (2013) identify that the students can relate and understand better the chronological and details of historical events with the help of video in the teaching of History.

CONCLUSION

This research shows that using AV for learning the Arabic language can create a thriving digital learning environment for students to increase their knowledge and understanding of the Arabic vocabulary, improving their overall language proficiency skills. Therefore, this research suggests that foreign language teachers utilize AV as an effective technology-supported pedagogy to facilitate teaching and learning, particularly for the Arabic language. The implication of this research informs other essential stakeholders, particularly educational technologists and curriculum experts, to advance the application of AV in creating meaningful digital content for teaching and learning Arabic as a foreign language.

Despite the positive findings reported by this research, several limitations require further discussion. Firstly, these findings are restricted to the teaching and learning of the Arabic language involving only fourth-grade primary school students. Therefore, these findings may not be applicable for other language subjects or different student age groups. Next, the application of AV in this research may be devoid of the highly sophisticated forms of educational technology such as virtual or augmented reality and artificial intelligence. However, the findings confirm that the advanced features used in AV remain attractive and engaging for the younger students. Thus, future research is recommended to extend the use of AV in various student cohorts and explore the integration of newer forms of technology in designing AV for enhancing students' learning.

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