

# **LEARNERS' PERCEPTIONS OF THE IMPACT OF USING DIGITAL STORYTELLING ON VOCABULARY LEARNING**

by **Amelia Chiew Har Leong, Mohamad Jafre Zainol Abidin and Jamalsafri Saibon**

Universiti Sains Malaysia, Penang, Malaysia

amelia\_160985@yahoo.com, jafre@usm.my, jamalsafri@usm.my

## **Abstract**

Learning vocabulary is one of the problems faced by English language learners. The inability to use vocabulary poses difficulties to learn the language effectively. One of the ways to attract to and interest learners in learning vocabulary is through the integration of technology, such as the use of digital storytelling as its interactivity can create interest in learning. This study examined the effects of digital storytelling in vocabulary learning among young Malaysian English as a Second Language (ESL) learners. Qualitative case study was employed as the research design of this study. Findings revealed that there were several impacts of digital storytelling on vocabulary learning and all of these effects are positive. Some implications of digital storytelling on education are also discussed in this paper.

**Keywords:** digital storytelling; vocabulary learning; Young ESL Learners; English as Second Language Learning

## **1. Introduction**

According to Katsuyama, Nishigaki and Wang (2008), the role of the English language has expanded so greatly that countries such as Malaysia and Singapore are teaching and learning the language as a second language. The English language is known as the second language in Malaysia (Badrul Hisham & Kamaruzaman, 2009). It is widely used in Malaysia for social media, politics, business, tourism and the educational system (Mohd Faisal, 2004). The learning of the English language in Malaysia is so prominent that English is a compulsory subject in all the schools in the country. However, Andrew (2006) as well as Norlida Ahmad, Munirah Ghazali, Anna Christina Abdullah and Amir Yazid Ali (2004) reported that Malaysian learners' acquisition of the English language is still below satisfactory, as 70% of the students are still weak in the target language, even though learners have been learning the language formally for at least eleven years. According to Barcroft (2004), in order to use a language fluently and correctly, learners' grammatical and lexical competence is needed. This is supported by Meara (1996), who stated that second language (L2) proficiency is highly dependent on learners'

vocabulary skills as the larger the vocabulary knowledge of the learners, the more proficient they are in the language as compared to learners with limited vocabulary knowledge. Besides, it is also believed that when activating their schemata in reading a text, learners should be provided with the appropriate vocabulary in the text (Carrell & Eisterhold, 1983). Hence, having high competency in vocabulary use is crucial in learning the language.

In the field of ESL learning, the utilisation of digital storytelling has proven to be beneficial and useful in preparing learners to learn the language effectively. According to Koisawalia (2005), the use of digital storytelling is beneficial to language learning as the language features – vocabulary, grammar, sentence structures and linguistic elements – are presented through digital stories. According to Kajder (2006), Marsh (2006) and Ware (2006), the use of digital storytelling is expected to enhance vocabulary learning by exposing language learners to the lexical items while listening to and reading digital stories. Hence, in this paper, we examined the effects of using tablet-based digital storytelling in vocabulary learning among selected young ESL learners in Malaysia.

## **2. The process of vocabulary acquisition**

In the English language, sentences are made up of a list of words defined as vocabulary, in order to convey meaning and to be comprehensible to other English language users. In order to achieve fluency, vocabulary use needs to be mastered by the learners. Thus, vocabulary learning is one of the most essential language abilities in the learning of the English language. In fact, as Wilkins (1972) states, “without grammar very little can be conveyed, without vocabulary nothing can be conveyed”. Harmon (2002), as well as Rupley, Logan and Nichols (1999) state that vocabulary skill is needed for English language learners to make meaning and interpret the English sentences, and the greater their mastery of the vocabulary skill, the better they can interpret meaning from the sentences.

Most studies conducted by English language researchers and experts recently have been primarily focused on the importance of vocabulary skill in the English language (Decarrico, 2001). Even though the learning of vocabulary is the most important element to be mastered in order to learn the English language effectively, vocabulary is also the language area which the learners commit most errors in (Segler, 2001). However, learning of vocabulary has never been put into consideration. Vocabulary is one of the lowest priority language skills and elements to be taught and learned in ESL classrooms, among all the other English language elements such as grammar, reading, writing, speaking and listening. Vocabulary is often expected to be self-acquired by their learners with their own effort. Fauziah Hassan and Nita Fauzee Selamat

(2002) reported that out of nine language activities used in the ESL classrooms, vocabulary activity was ranked at number four. Similarly, Teh Chee Seng (2004) highlighted that vocabulary activity was one of the lowest in the list of preferred learning activities of the learners. This is supported by Low (2004, as cited in Zulfa Zakaria, 2005), who indicated that learning of vocabulary is less emphasised and less preferred by learners due to limited exposure to the language, inability to make English language learning an interesting activity and the negative perception of the learning of the English language.

### **2.1. Problems and difficulties in the learning of vocabulary**

Mastering the English language vocabulary proves to be difficult, especially in memorising new, long and seldom used words. It is believed that the main difficulty in comprehending an English text is the need to infer meaning of the new words presented in the text (Qian, 2002). According to Nation (1990), in order to read a text fluently, a learner will need to understand 2,000 common words. Nation (2001) added that a learner needs to possess at least 95% of English words in order to achieve comprehension in reading. In addition, lack of vocabulary would lead to misunderstanding, misinterpretation and inability to comprehend an English text. Thus, what is needed to understand and infer meaning from the English sentences is definitely vocabulary skills. Without the mastery of vocabulary, meaning cannot be inferred from the text and consequently language proficiency cannot be achieved.

In a study on the teaching and learning of vocabulary in ESL classrooms by Joseph, Pandian, Chan, and Ghazali (2011), five-year-old learners were taught vocabulary through reading and memorisation of the words for a spelling test and asked to repeat and write the words taught to improve their ability to spell the words correctly. There was no usage of nursery rhymes or storytelling in the classrooms. The teaching and learning process in Malaysia's five-year-old classroom is very teacher-centred – learners only follow the instructions given by the educators without motivation and engagement to learn the vocabulary.

A study conducted by Nguyen and Khuat (2003) stated that vocabulary learning materials used in the primary classroom are dull and boring. This study was conducted qualitatively by observing and interviewing the learners involved to examine the learners' attitudes in using games to learn vocabulary. The findings derived from this study revealed that 17 out of the 20 learners expressed their interest in being involved in the learning activity (games) and indicated satisfaction and positive attitudes towards learning vocabulary through games. Furthermore, 16 out of 20 learners stated that they were able to learn more new words through games whilst 18 out of the 20 learners said that using games is one of the most

effective ways to learn vocabulary. The learners felt that vocabulary learning activities such as drilling exercises are boring and dull as they were merely memorising the words without comprehending the meanings.

Similarly, Maesin, Mansor, Shafie and Nayan (2009) also expressed the view that the use of uninteresting and dull learning materials provided in the classrooms fails to attract learners' interest in vocabulary learning. These boring and dull learning materials make learners lose interest and discourage them from paying attention in learning vocabulary. Their study was conducted by employing the Likert-scale survey questionnaire with the aim of obtaining the level of learners' preference in using the modern way of learning (collaborative learning) vocabulary. The findings revealed that all 162 learners expressed a high level of preference in using collaborative learning in vocabulary acquisition.

Furthermore, the vocabulary presentation by educators and the use of textbooks are not sufficient in aiding learners' vocabulary learning (Rahimi & Sahragard, 2008). For this reason, learners should be exposed to more than these two input sources in order to achieve effectiveness in vocabulary learning. Carter (2002) opined that vocabulary learning should be conducted implicitly until learners achieve a certain level of proficiency in the language. Thang et al. (2013) reported that Malaysian English language learners who used digital storytelling showed positive attitudes and enjoyed learning the English language more with the use of digital storytelling. This is supported by Abdul-Ameer (2014), who reported that young Iraqi learners' vocabulary learning was made more effective by using digital storytelling as vocabulary learning based on textbooks and teacher-centred learning is discouraging in Iraq. It is also believed that the utilisation of digital stories and digital songs can help to enhance learners' vocabulary learning (Nation, 2001).

## **2.2. The use of technology in vocabulary learning**

It is crucial to identify learner's learning strategy and learning material in order to help them learn vocabulary effectively. The traditional way of learning using textbooks, blackboard and chalk and white board has failed and has been ineffective in the teaching and learning of the language. Hence, educators and learners have resorted to alternative teaching-learning approaches which are more creative through the use of images, songs, animations, videos and movies as the teaching and learning materials (McGill, 2010; Orlova, 2003; Kelly, Kelly, Offner & Vorland, 2002). The use of these creative learning materials is believed to be able to engage learners in their learning, present novelty and provide entertainment to learners. This can consequently get learners' attention and arouse their interest in learning the language.

The introduction and integration of technology into the education system is widely accepted by educators and learners. Besides being able to inject novelty, innovation, creativeness, interest and fun into the learning environment, the use of technology is also believed to be able to cater for various learning styles and strategies. Moreover, the use of technology promotes autonomous and independent learning, in which learners take charge of their own learning without anyone's help, including their educators. However, it is also believed that the effectiveness of using technology in the teaching and learning process is highly dependent on the learning activities. According to Trilling and Hood (1999), technology-based learning activities must be able to engage learners in learning and help them achieve better learning outcomes, which is not doable through the use of traditional learning activities. In other words, successful and effective learning is highly dependent on the degree of engagement in the learning activities by the learners. The higher the degree of engagement, the more successful and effective learning will be.

According to Traore and Kyei-Blankson (2011), the use of technology can motivate learners to learn vocabulary as highly interactive technological learning materials are able to engage learners in learning. Learning activities are enhanced and enriched through the use of technology in the language classrooms. Traore and Kyei-Blankson (2011, p. 563) added that the use of technology gives the learners a "sense of freedom, motivation and encouragement they need for learning". A study conducted by Mohamad Jafre, Majid Pour-Mohammadi, Neda Sharbaf, See Toh and Afif Mohamad Jafre (2011) reported improvement in Malaysian secondary school learners' vocabulary competency after the learners were exposed to the use of electronic and printed glossary in vocabulary learning. It was stated that the use of the electronic glossary is more effective in vocabulary learning as it enhances learners' retention and memorisation of the vocabulary items learned. Similarly, findings from a study conducted by Letchumanan and Tan (2012) showed that learners preferred to use computer games in learning vocabulary as computer games are said to be more interesting and fun to use. The illustrations integrated in the games are believed to enhance the retention of vocabulary items. This is supported by Ab Kadir and Nur Fairuz (2013), who indicated that the utilisation of educational games is able to attract learners to vocabulary learning. Educational games are favourable in vocabulary learning as vocabulary can be implicitly learned when playing the games while learning can be done from anywhere, at any time and at learners' own pace. Hence, the use of technology in vocabulary proves to be beneficial in enhancing ESL learners' vocabulary learning.

### **2.3. Digital storytelling in vocabulary learning**

According to Digital Storytelling Association (2011), digital storytelling is the modern version of the traditional form of storytelling, using the digital media to generate texts to tell stories. Digital storytelling is a way of telling stories creatively by integrating images, texts, sounds and movies to tell and share users' stories in a digital format. As compared to traditional storytelling, digital storytelling has evolved drastically with the integration of technology. The storytelling has been digitalised and used as a learning material in promoting language learning as it can motivate learners to be involved in learning, while the incorporation of technology into the production of the stories increases the interactivity of stories that can attract learners' interest (Hibbing & Rankin-Erikson, 2003; Boster, Meyer, Roberto & Inge, 2002). Besides, Gregori-Signs (2008) found that digital storytelling is a useful tool in language learning as it improves learners' language skills such as reading, writing, listening, speaking, grammar and vocabulary.

The use of digital storytelling allows implicit teaching of vocabulary to be done in an interesting and attractive way. As Guthrie and Wigfield (2000) mentioned, the attractiveness of the learning materials plays a major role in engaging learners in acquiring vocabulary. It is believed that with the use of digital storytelling application, the implicit learning of vocabulary can be conducted in a fun and relaxing way. The use of digital storytelling is believed to promote interactivity and flexibility among learners. Learners should be able to retain and recall learning input better as feedback can be obtained immediately. Moreover, learners will be exposed to more learning opportunity as learning is not restricted to in-class or classroom-hour learning.

Lambert (2003) stated that digital storytelling is an effective tool and material in the learning process. The use of digital storytelling as a learning material in the classroom is believed to be able to attract the learners who used to be called "Digital Natives" (Prensky, 2001, p. 1) to learn the language element. The use of digital storytelling is able to engage learners in learning as it provides them with the motivation to learn "because of the up-to-date ICT technologies and multimedia functions, which can appeal to young generations" (Tecnam, 2013, p. 27). Nowadays, learners are exposed to the use of technological devices such as smartphones, tablets and laptops most of the time; hence, the use of technology in learning poses little or no difficulty at all to the learners as technology is already a part of their lives.

According to Haven (2000, p. 75), digital storytelling is very useful in the teaching and learning of vocabulary as "factual and conceptual information is learnt faster, remembered longer, recalled more readily and applied more accurately, when that information is delivered as

a well told story” because digital storytelling can portray language forms in the most natural way (Cameron, 2001). With the integration of multimedia, learning is a lot more convenient and easier for learners. This echoes what Sadik (2008) posited, i.e. the utilisation of digital storytelling creates creative and interactive learning environment. Similarly, Barrett (2005) also expressed the same thought i.e. digital storytelling can promote student-centred learning such as student engagement, involvement in thorough and in-depth learning, involvement in project-based learning and incorporation of technology in learning. The dynamics of the multimedia elements, the high interactivity of the digital storytelling and the attractiveness of the visuals and audio embedded in the application add to the increased effectiveness of vocabulary acquisition.

#### **2.4. The Cognitive Theory of Multimedia Learning (CTML)**

The use of digital storytelling application on tablet to learn vocabulary among the young ESL learners is in line with the assumptions of the Cognitive Theory of Multimedia Learning (CTML) as proposed by Mayer (Berk, 2009; Dikilitas, & Duvenci, 2009). The use of multimedia enables materials to be presented in several forms, both auditory and visual. According to Dikilitas and Duvenci (2009, p. 168), “if how human mind operates is considered in designing multimedia learning environment, it is likely that the learning will become more meaningful”. Mayer (2001, in Berk, 2009 & Doolittle, 2002) stated that in multimedia learning, there are five cognitive processes to tap on to activate the Cognitive Theory of Multimedia Learning: “(a) selecting relevant words for processing in verbal working memory, (b) selecting relevant images for processing in visual working memory, (c) organizing selected words into a verbal mental model, (d) organizing selected images into a visual mental model, and (e) integrating verbal and visual representations as well as prior knowledge” (p. 54). Moreover, the Cognitive Model of Multimedia Learning is based on three main assumptions, which are the dual channels assumption, the limited capacity assumption and the active processing assumption (Dilikitas & Duvenci, 2009; Mayer, 2001 in Doolittle, 2002). Based on these assumptions, it is assumed that learners make use of two channels to process information; one to process the visual information and the other to process the verbal information. The processing of information is assumed to be an active cognitive process that is able to construct new knowledge based on the mental presentation. However, it is also assumed that each channel has limited capacity to process the information obtained.

The Cognitive Theory of Multimedia Learning emphasises that the information be processed auditorily and orally. Before any information is kept in long-term memory, it will be

processed in memory channels. These different forms of multimedia such as text and audio are essential for both the teachers and learners. It is believed that these forms of multimedia are able to stimulate learners to learn and comprehend the lesson better, especially in online learning as visual and auditory layers of texts serve very important features.

It is obvious that learners can learn better with more than one medium provided to them. Instead of only offering the learners the printed words, the auditory form of text will be able to help them to comprehend the text better. In addition, incorporating illustrations into a text is always better than having the printed words alone.

The Cognitive Theory of Multimedia Learning comprises twelve multimedia instructional principles, which are the coherence principle, the signalling principle, the redundancy principle, the spatial contiguity principle, the temporal contiguity principle, the segmenting principle, the pre-training principle, the modality principle, the multimedia principle, the personalisation principle, the voice principle and the image principle. Out of the twelve multimedia instructional principles, the researcher concentrates on only three principles – the multimedia principle, the modality principle and the signalling principle, which support the design and development of the digital storytelling application on tablets in learning vocabulary by young ESL learners.

The multimedia principle focuses on the combination of visual and texts in explaining and presenting the input involving the working memory in enabling learning. Using both visuals and printed texts in presenting the learning content can improve learners' learning outcomes rather than using just the printed texts. Learners comprehend the learning content better by looking at the visuals. The principle assumes that learners learn better with visuals and printed texts rather than with printed texts alone (Mayer, 2001). This is so as they have the opportunity to conceptualise the learning content. The visuals help them to understand, make connections and grasp the learning content better.

The modality principle focuses on the combination of visual and verbal in presenting the learning contents, and going through the working memory for learning to happen. Both the visual and verbal modes used in presenting the learning input will facilitate learning and increase efficiency in learning rather than just using visuals and printed texts. According to the principle, learners learn better with visuals and audio rather than just with visuals and printed texts (Mayer, 2001). Learners will be able to learn better with audio especially when learning vocabulary by listening to the audio as it provides them with the right way the new words are spelled and pronounced. In fact, it helps them to comprehend, remember and recall the words better with the audio provided.



The signalling principle proposes that learners learn better when signs are added to the learning contents to highlight the intended items to be learned. According to Mayer (2009, p.109), “signalling reduces extraneous processing by guiding the learner’s attention to the key elements in the lesson and guiding the learner’s making of connection between them”. The principle directs the learners straight to the items intended to be learned so that the learners know what they should concentrate and put focus on. Signalling is often done using arrows, circles, highlights, volumes or tones of voice and others. According to the principle, learners learn more when cues are added to highlight the important items to be learned in the content (Mayer, 2001). Learners will be able to learn better with the intended vocabulary to be learned highlighted (Mayer, 2005). It is believed vocabulary learning is more effective when it is learned implicitly. Hence, when the signalling principle is implemented, the vocabulary items to be learned need to be highlighted. Highlighting of the words is very crucial as the words use hypertext to display the multimodal glosses with the verbal and printed spelling, pronunciation and definitions of the words. The signalling principle, together with hypertext and glosses, can increase the effectiveness in vocabulary learning of learners.

### **3. The study**

#### **3.1. Objective of the study**

The general objective of this study is to examine the impact of the use of digital storytelling on vocabulary learning by Malaysian young ESL learners. The findings from this study are able to provide detailed, in-depth insights and information on the impacts of using the digital storytelling application on the young learners’ vocabulary learning.

#### **3.2. Research design**

This study employed a qualitative case study approach. The researcher played the role of observer as the participant to “observe and interact closely enough with members to establish an insider’s identity without participating in those activities constituting the core of group’s membership” (Adler & Adler, 1998, p. 85). The observation conducted was more like an open observation; the researcher observed everything and anything that happened in the observation setting – the learners’ behaviours, conversation, expressions, gestures and more. The researcher recorded and jotted down notes of everything that was observed in a number of sessions. In order to be more focused on what to observe during the observation sessions, a rubric adapted from Bryman College, San Francisco’s The Plan and Chew Valley School’s Setting Reports

Guidelines was used to look at the learners' attitudes, motivation, independent learning, and responses to feedback in every observation session. This rubric was checked and validated by two in-service educators who had a minimum of 20 years of experience in the teaching field. This research design was employed to gain detailed and in-depth responses from the 11-year-old ESL learners on the use of digital storytelling in the learning of vocabulary.

### **3.3. Research participants**

The research participants involved in this study were 6 Primary Five learners from a public school in Perak, Malaysia. The participants were selected using the purposive sampling method based on the following sampling criteria – the learners' age (11-year-old) and the level of English language proficiency (high, intermediate, and low). The participants are referred to as S1, S2, S3, S4, S5 and S6 in this study.

Prior to conducting this study, permissions were sought and granted by the state's Education Department and the Headmistress of the public primary school which the participants were used as the sample. Besides, consent was also granted from the learners' parents for their children's involvement as the young learners in the study as they were minors.

### **3.4 The Tablet-Based Digital Storytelling Application**

The digital storytelling application used in the study was designed and developed in accordance with three multimedia instructional principles of Mayer's (2001) Cognitive Theory of Multimedia Learning (CTML), namely, the multimedia principle, the modality principle and the signalling principle. The digital storytelling application was a digitalised storytelling application integrated with multimedia elements serving to assist the learning of vocabulary by the 11-year-old ESL learners. The multimedia principle states that learners will learn better from visuals and printed texts rather than from texts alone, the modality principle states that learners learn better from visuals and audio rather from visuals and printed texts, and the signalling principle states that learners learn better when the essential items in the learning content are being highlighted and prompted. Hence, learners' vocabulary learning was expected to be made more effective and efficient as this application was integrated with visuals, audio, hypertext, multimodal glosses and word texts.

The implementation of the multimedia principle and the modality principle in the digital storytelling tool was achieved through the integration of colourful images, animations, voiceover narration, songs and texts when the stories were narrated in the application. On the other hand, while implementing the signalling principle, hypertext and multimodal glosses

were used in the application as vocabulary items intended to be learned implicitly were highlighted and made in hypertext as multimodal glosses – glosses with audio and printed texts to be displayed upon the touch of the finger to increase learners' comprehension. The implementation of the three multimedia principles in this digital storytelling application can help the learners to achieve better learning outcome such as increasing their interest, attention, motivation and retention of the digital stories and vocabularies learned in the application.

The implementation of the three multimedia principles of Mayer's (2001) Cognitive Theory of Multimedia Theory (CTML) enabled learners to acquire vocabulary implicitly. The vocabulary items were learned implicitly through the highlighted and hypertexted multimedia glosses (the definition, spelling and pronunciation of the vocabularies were provided verbally and in printed texts) in the form of prompt dialogue box which would pop up with the initiation of a touch on the highlighted vocabulary items. Moreover, there were two vocabulary exercises to be completed by the learners.

### **3.5 Pilot test and data collection procedures**

A pilot test was conducted with 3 Primary Five ESL learners from a public primary school in Malaysia who were not involved in the actual study. They possessed different levels of language proficiency – high, intermediate and low. The learners were provided with the digital storytelling application and were required to listen to and read the first two digital stories from the digital storytelling application for two weeks. At the end of the two weeks, these 3 learners were interviewed to check on the feasibility of the interview questions. Some of the difficult terms used in the interview questions were replaced with simpler terms which can be comprehended by the young learners. The pilot test was successfully conducted with the three learners.

The data were collected from the learners through interview, documentation and observations. They were observed and required to record their daily usage of the application in a log book for a duration of 8 weeks. The learners were interviewed twice at the end of the 8 weeks. Data obtained from the interviews, documentations and observations were analysed both manually and by using the NVivo software. Data were also triangulated and examined by two inter-raters.

The qualitative data were analysed both manually and by using the NVivo software. First and foremost, the data were analysed manually before they were processed using the NVivo software. In order to analyse the data, they were organised systematically, followed by data reduction and data coding. The data went through data reduction process to reduce the

unwanted or insignificant data. Lastly, the data were coded according to the themes derived from the literature review and some of themes emerged from the data obtained. Two human inter-raters were employed to validate the consistency of data coding.

#### **4. Results and findings**

##### **4.1. The impact of digital storytelling on vocabulary learning**

The aim of the research was to explore and document the impact of the digital application on vocabulary learning of Malaysian 11-year-old ESL learners. Thus, this research sought to investigate and elaborate on the perceptions of vocabulary learning utilising the digital application at learners' own conveniences – anytime, anywhere at learners' own pace and time.

In exploring the perception of its effect on vocabulary learning of young learners, it was revealed that all the responses derived from the learners on the impact of digital storytelling on vocabulary learning were positive. All the young ESL learners posited that the use of digital storytelling in vocabulary learning enhances their learning of vocabulary. Besides, the use of this application was also found to influence their English language learning as a whole. In terms of vocabulary learning, S4 stated that when using the application,

*... I will read more and learn more new words (I1: L35)*

Besides, S6 also expressed the opinion that the use of the application provided the definitions for the vocabulary items learned in the following way:

*... just a tap and it shows explanation of words (I2: L73-74)*

Furthermore, as revealed by the learners, they were able to learn vocabulary via the use of this application due to its multimedia features,

*Yes, because it has nice pictures and we learn new words (S3, I2: L30)*

*Yes, digital storytelling has more words in it and with pop-ups, therefore more learning of words and meanings (S4, I2: L54-55)*

*Yes, because in digital storytelling more words and meanings are presented (S5, I2: L51)*

*More vocabulary learning as I can tap on new words which are highlighted and the pop-up information is really good (S6, I2: L51-52)*

*... Digital storytelling makes me happy when learning vocabulary (S6, I2: L68-69)*

*...I like to learn more words for speaking and reading as well (S3, I1: L74)*

*... I can learn more words... (S6, II: 26)*

Data collected from the observation learning sessions also yielded similar findings with the data collected from the interview sessions. The researcher observed that in most of the observation learning sessions, the learners were repeating the pronunciation and memorising the spelling of the vocabulary items.

*All the learners were attempting the vocabulary exercises silently. They seemed to be very focussed and careful in choosing the answers. S2 was trying to recall the spelling of a certain vocabulary item in the story. S6 was mouthing the spelling of another item. There were no eye contacts among the learners.*

*(5<sup>th</sup> observation learning session: 30/5/15)*

*Every time the learners clicked on the hypermedia and vocabulary glosses, they were seen to be repeating after the spelling and pronunciation of the items learned. Some of the learners were mouthing the spelling and pronunciation provided by the application.*

*(10<sup>th</sup> observation learning session: 17/6/15)*

*S5 was repeating after the voiceover narrations in learning the vocabulary items in the digital story*

*(12<sup>th</sup> observation learning session, 24/6/15)*

*S2 was trying to spell and pronounce the vocabulary items after listening to the voiceover narration*

*(13<sup>th</sup> observation learning session, 27/6/15)*

*S6 was seen to be memorizing the spelling of the items by mouthing the spelling*

*(15<sup>th</sup> observation learning session, 4/7/15)*

However, one of the learners, S5, posited that classroom's learning of vocabulary is valued more than the use of digital storytelling on tablet,

*Traditional because I like to use the dictionary (S5, II: L11)*

This is because the learner felt that using a dictionary for vocabulary learning is better than using the hyperlinked multimodal glosses in the digital storytelling application on tablet. This

may be due to the learner having little knowledge in how to operate and handle technological devices, hence, the learner preferred the classroom's learning of vocabulary.

#### **4.2. The impact of digital storytelling on English language learning**

In addition, the findings also showed that the use of digital storytelling could not only enhance vocabulary learning, it also fosters the learning of the English language skills such reading, writing, listening and speaking. As expressed by S2, since the digital storytelling application is embedded with the pronunciation function,

*...you can listen to the pronunciation and the next time you happened to use the word you would not pronounce it wrongly (I1: L87-88)*

S5 also stated the learning of vocabulary using the digital storytelling application was able to help improve her knowledge of the English grammar, while S3 also added that the use of the digital storytelling application helped to broaden the learners' knowledge in language learning. The learners posited further that

*... I will surely learn more. There are many new and old words with their meanings that I can learn. I can also listen to the stories and improve my pronunciation (S2, I1: L33-34)*

*... I can learn more and also use the tablet for learning new words and improve my reading and spelling (S5, I1:L28-29)*

*I listen and learn to talk to others using good English (S1, I1: L75)*

*It helps me to speak in English (S4, I1: L86)*

Hence, the findings revealed that the use of digital storytelling could enhance the learning of the English language as a whole. The multimedia features of this application helped to make learning of the English language more interesting and novel.

#### **4.3. Motivation to learn vocabulary and other skills**

The findings from this study also showed that the digital storytelling could motivate learners to learn vocabulary. Learners posited that they were motivated to learn vocabulary via the use of the of the digital storytelling application on tablet. The high interactivity of the tablet, the hyperlinked vocabulary items and the multimodal glosses made the learning of vocabulary effective and efficient. Thus, the learners were motivated to learn vocabulary through the use of this application. Learners stated the following during the interview sessions:

*... it motivates me to learn more words (S5, I1, L79)*

*Yes, because of its pop-up vocabulary which motivates me to read*

*more (S5, I2: L47)*

*Of course. I especially love the pop-up words. It helps me to learn words in an interesting and enjoyable way... (S2, I1: L29-30)*

*Yes, it motivates me to learn vocabulary at the fastest way possible (S2, I2: L33)*

*Yes, because it has nice pictures and we learn new words (S3, I2: L30)*

*Of course, it is fast to know the meanings of words. (S4, I2: L32)*

The data obtained from the observation sessions also revealed learners' motivation to learn vocabulary via the use of the digital storytelling on tablet,

*S3 was trying to memorize the spelling and definitions of the vocabularies learned in the digital stories. S3 was seen mouthing the spelling of the vocabulary items*

*(16 observation learning session, 8/7/15)*

*S2 was replaying the multimodal glosses for vocabulary items learned in the digital storytelling. S2 was repeating softly after the voiceover narration of the spelling of the vocabulary items*

*(12<sup>th</sup> observation learning session, 1/7/15)*

Thus, the learners were motivated to learn vocabulary via the use of the digital storytelling application on tablet due to its attractiveness, efficiency, visual representations and multimodality.

The use of this application also proved to motivate learners to improve (i) speaking, (ii) listening, (iii) reading, and (iv) writing. Learners revealed that they were motivated to learn and practice their speaking skills through the use of digital storytelling on tablet. Voiceover narration in the application in reading the stories and in pronouncing and spelling the words helped to enhance the learners' speaking skills while working with the digital storytelling on tablet. The learners stated the following with regards to being motivated to learn the speaking skill:

*It motivates me... and improves my speaking... skills (S5, I1, L79)*

*Yes..., for speaking ... as well (S3, I1: L74)*

Similarly, data from the observation also revealed the same scenario. S4 and S5 were seen to be practising their speaking skill after listening to the voiceover narration. Both learners were mimicking the intonation and tone of the narrator's voice, as evidenced in the quotes below:

*S4 was mimicking the way the characters speak. S4 even replayed the page and kept on repeating after the voiceover narration at the part where the characters speak*

*(9<sup>th</sup> observation learning session, 13/6/15)*

*S5 was diligently imitating the way the voiceover narration narrates the story with great expression. Learner were seen to be repeating over and over again what is said by the voiceover narration*

*(11<sup>th</sup> observation learning session, 20/6/15)*

The learners were motivated to learn and enhance their speaking skills utilising the digital storytelling application. The integration of voiceover narration has been proven to be a useful feature in assisting the learners to learn and enhance their speaking.

In addition, the learners were also motivated to learn and practise listening via the use of the digital storytelling application on tablet. In using this application, the learners were required to listen to the digital stories, which provided them with the opportunity to practice their listening skills. The learners were willing to listen to the digital stories as the stories were interesting and equipped with interactive animations. Learners posited that

*I listen and learn to talk to others using good English (S1, II: L75)*

*I enjoy using it for learning language skills in the classroom especially for listening and reading (S1, II: L95-96)*

*I am also learning listening, reading and writing skills*

*(S2, II: L116)*

Thus, the listening skill can be learned, practiced and enhanced through the use of digital storytelling on tablet while learning vocabulary. In more specific terms, the learners were given more opportunities to improve their listening skills.

Reading is one of the most frequently mentioned skills which made the learners motivated to learn. The use of digital storytelling on tablet to learn vocabulary had indirectly motivated the learners to learn reading. This is because reading the digital stories was a fun and interesting thing when utilising this interactive multimedia application. The learners developed high interest in reading after being exposed to the use this digital storytelling application on tablet. The learners were heard to be saying,

*Yes, I want to read more and I enjoy reading the story (S5: I2: L32)*

*Yes, because reading it, I will go on to read more interesting story (S3, I2: L80)*

*Yes, because I will read the stories again and again... (S4, II: L31-32)*

*Yes, ... because I can keep on reading the stories and it is fun (S6, II: L30-31)*



*Yes, I personally like reading stories. Digital storytelling is better as you can listen to the stories and learn vocabulary at the same time (S2, I1: L91-92)*

During a conversation overheard by the researcher during one of the observation learning sessions S6 was asking S3 not to disturb her as she likes reading the digital stories,

*S3: Come, look at this, it's so cute!*

*S5: No, I don't want to look at your screen. I want to read my story.*

*S3: Just for a while. Come!*

*S5: I love reading my story. Please do not disturb. Stop disturbing me.*

Similarly, data obtained from an observation learning session also showed that the learners were motivated to indulge in reading after being exposed to the use of digital storytelling on the application to learn vocabulary:

*S4 looked at S1 angrily as S1 distracted S3 from reading her digital story. S4 gestured to S1 that she wanted to continue reading the story. S1 nodded as a sign of comprehending what was signalled by S4. S4 then continued reading her digital story.*

*(2<sup>nd</sup> observation learning session, 20/5/15)*

Based on the data derived from both the interview and observation sessions, the learners were clearly seen to be motivated to indulge themselves in reading and enhancing their reading skill using the digital storytelling application on tablet.

The use of digital storytelling on tablet is also claimed to be able to motivate the learners to improve their writing skills. The learners posited that with the correct grammatical sentence structures used in the application, they were able to learn from the examples. As posited by the learners,

*Yes, because after reading the stories, we get to know the flow of the story and we will know how to write essays... (S2, I1: L100-101)*

*I learn the spelling and next I use the words in writing sentences (S4, I2: L77-78)*

Similarly, it was observed that S5 was writing down some sentences on a piece of paper. Those were the sentences that she said would be used in writing essays,

*S5 was diligently copying some sentences from the digital story. When asked, S5 replied it was for writing essay purposes as the sentences are very well constructed*

*(8<sup>th</sup> observation learning session, 10/6/16)*

Looking at the data obtained from various sources, it can be summarised that the use of digital storytelling on tablet was able to motivate learners to learn vocabulary as well as develop speaking, listening, reading and writing skills. This is because the integration of multimedia elements in the application on tablet is beneficial to be used as learning material and tool.

## **5. Discussion**

The digital storytelling application did serve its purpose in enhancing vocabulary learning of young learners. In specific, the use of this digital storytelling application enabled the learning of vocabulary implicitly. Moreover, the learners were interested in and motivated to use the application to learn vocabulary with thorough guidance, practice and assessment (hyperlinked vocabulary notes, multimodal glosses, and vocabulary exercises) ensured that vocabulary learning has taken place. The multimedia principle and the modality principle of CTML (Mayer, 2001) incorporated in this application enabled the multimedia elements of texts, visuals and audio to be integrated in this digital storytelling application. In addition, the Signalling Principle of CTML (Mayer, 2001) made it possible for vocabulary items to be hyperlinked and displayed as multimedia glosses. This is supported by Moon (1999, as cited in Boase, 2008), who stated that digital storytelling can act as a “vehicle to facilitate learning” (p. 10). Coherently, Nygren and Blom (2001) also stated that digital storytelling is very likely to make learning meaningful and achievable to the learners.

In addition, the features of hyperlink and multimedia glosses (the signalling principle) enabled efficient and effective vocabulary learning. Words which had been hyperlinked directly indicated that these are the vocabulary items intended to be learned in the story. With the tap of the finger, the multimedia glosses were displayed for vocabulary learning purposes. Moreover, the multimedia glosses were integrated with the replay button, which provided the opportunity for the learners to replay the audio to re-spell, re-pronounce and re-define the hyperlinked items until they are learned (the modality principle). This confirms Yoshii's (2006) claim about the usefulness of multimedia glosses in the learning of vocabulary and Watanabe's (1997) finding that the use of multimedia glosses is effective in the implicit learning of vocabulary.

The feature of the voiceover narration motivated the learners to practice their speaking skill. This is because as stated by the modality principle (Mayer, 2001), the learners will be able to learn better with the presence of visual and verbal aids rather than the visual aids alone. In this study, the learners were tempted to repeat after the voiceover narration while narrating the stories in different intonations of voice, punctuation, exclamation and pauses, as well as spelling and pronouncing the vocabulary items learned. According to Normann (2011),

speaking encompasses pronunciation, pacing, rhythm, intonation and stress. Imitating, mimicking and repeating after the voiceover narration gives learners the opportunity to practice their speaking and to learn the right way to speak in the language. As posited by Ellis (1991), children are better than adults in imitating speeches. Yang and Wu (2012) also reported that the use of digital storytelling does not only develop motivation to learn, improve English language achievement and stimulate critical thinking skill, but is also effective in enhancing the speaking skill.

The visual representations integrated in digital storytelling help to lower the learners' anxiety level. As stated by Graham (2006) and Hedge (2006), listening comprehension among the learners is difficult to be achieved as the learners displayed high anxiety in learning the listening comprehension. However, Chung (2002) believes that listening comprehension can be enhanced through the use of visual representations. When integrated with such audio elements as voiceover narration and background audio, digital storytelling exposes learners to the visual representations such as moving animation and colourful graphics. Learners were able to learn and listen better when their anxiety level was lowered. Hence, learners' listening skills were enhanced. Thus, the use of digital storytelling can motivate learners to learn listening. Ramirez, Alonso and Chung (2002, as cited in Sandaran & Lim, 2013) supported this by stating that the integration of technology in digital storytelling was "interesting, attractive, interactive and reiterative" and "ideal for listening comprehension" (p. 126).

Besides listening comprehension, the incorporation of voiceover narration while reading the digital stories also motivated learners in reading comprehension. Reading comprehension takes place as the integration of multimodal glosses and voiceover narration will enable learners to learn new words. Having the knowledge of vocabulary is crucial as it can motivate learners to learn reading (Hague, 1987). The learning of vocabulary indirectly motivates the learners to read as well. This echoes with what Dale (1965) posited, i.e. one's knowledge of the vocabulary determines how good someone is at reading as one is a better reader if one possesses a vast knowledge of the vocabulary. In fact, the learning of vocabulary is crucial in determining the effectiveness of reading comprehension (National Reading Panel, 2000).

Moreover, the style and form of writing of digital stories motivate learners to learn writing. Modelled writing of the narrations of the digital stories was found to enhance learners' writing skill (Oakley, 2011). Digital storytelling contains a modelled writing of narrations as these digital stories are usually presented in correct grammatical structures and construction of sentence structures as well as appropriate uses of linguistic elements. This is supported by Koisawalia (2005), who stated that the digital stories used in the application contain all the

language features such as vocabulary, grammar, sentence structures and linguistic elements which would help learners to learn writing.

All in all, the use of digital storytelling not only helps to enhance vocabulary learning and all other language skills, it also motivates the learners to learn them. This application, incorporated with multi-functions and multimedia, is believed to be highly beneficial for learning purposes of young learners.

## **6. Pedagogical implications and final conclusions**

The lively, attractive, fun and interesting contents of the digital storytelling tool enhanced and motivated learners to acquire vocabulary, as well as develop listening, reading, speaking and writing. Halvorsen (2011, as cited in Normann, 2011) believes that being motivated in learning is a very important factor as motivated learners will possess high enthusiasm in learning which opens more learning opportunities to them. Language learning can be conducted in a motivating, relaxing and conducive environment through the use of digital storytelling. The use of this application provides a stress-free, low-anxiety learning environment to the learners and this will aid them in learning English vocabulary better as by lowering the affective filter.

The digital storytelling application is a suitable and appropriate learning material to be implemented in the primary school setting for the purpose of vocabulary learning. The findings from this study proved the use of digital storytelling has positively influenced vocabulary learning of young learners. In other words, the learners were more positive and more motivated to learn using this application. It is believed that the implementation of this learning material will help to foster language learning and vocabulary acquisition.

To sum up, it can be stated that digital storytelling has achieved its objective in enhancing and motivating the learning of vocabulary by the young learners. Besides, the use of this application has indirectly enhanced and motivated language learning of young learners.

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