The Use of e-Pictionary in Vocabulary Instruction

RAFIAH ABDUL RAHMAN*
YEE BEE CHOO
KEE LI LI
Institute of Teacher Education Tun Hussein Onn Campus, Johor

ABSTRACT

The aim of this study was to investigate the use of e–Pictionary designed using the software of iSpring Pro 6.2 as a teaching and enrichment tool to enhance the vocabulary of English as a Second Language (ESL) learners. e-Pictionary consisted of words from different categories under the theme of World of Knowledge. The participants of this study consisted of 26 Year Four pupils from one of the primary schools in Malaysia. The design of this study was action research. The instruments used were vocabulary pre-test and post-test, and a semi-structured interview. The treatment was conducted over three sessions covering 15 categories of words. A triangulation of quantitative and qualitative analysis was employed. Results of the quantitative data indicated that the participants' vocabulary performance improved after they were introduced to the use of e–Pictionary. Results of the qualitative data indicated that they enjoyed participating in the activities conducted through the use of e–Pictionary. They felt motivated as e-Pictionary was used as an enrichment tool in the ESL classroom. The findings were discussed in relation to their pedagogical implications.

KEYWORDS: e-Pictionary, enrichment, vocabulary instruction

*corresponding author

Introduction

Vocabulary as one component of language content plays an important role in enhancing both productive and receptive language skills. According to Dalton and Grisham (2011), to understand a text, one must understand the words that represent the ideas or concepts. Pupils must continually be learning words as they learn structure and practise the sound system.

As English language practitioners, we should be creative to find ways to help pupils enrich their vocabulary so that they will not feel bored in class. One of the ways is by using various strategies and teaching aids. Romiszowski (1997) stated that aids are the carriers of message from some transmitting sources to the receiver of the message, in this case our learners. An efficient language teacher can use selected vocabulary activities or integrated activities to better teach vocabulary among second language (L2) learners (Mehta, 2009). This is supported by Rafiah (2008) and Letchumanan and Tan (2012) who stated that different strategies and methods are required to create an interest among ESL learners to acquire and extend vocabulary successfully. Therefore, it can be concluded that various strategies are important in teaching vocabulary.

Woodard (1998) and Nation (2005) suggested various strategies for the teaching of vocabulary. Among them are structural analysis, semantic mapping or webbing, and using the dictionary. Besides the strategies mentioned above, different forms of technology are being integrated into the teaching and learning of L2 vocabulary in the 21st century. Previous studies have shown that the computer-assisted language learning (CALL) programme which includes animated texts, online dictionaries, e-books and a hypertext environment was used to teach L2 vocabulary (Al-Jarf, 2007).

In Malaysia's ESL context, pupils in primary schools learn the first 1,000 high frequency words and continue to learn these words in secondary schools. They are then exposed to the next 2,000 high frequency words (Letchumanan & Tan, 2012). According to Nation (2005), the 2,000- and 3,000-word levels contain the high-frequency words that all learners need to know in order to function effectively in English. Therefore, it is important to enhance vocabulary among ESL learners in Malaysian classrooms to enable the students to perform efficiently in the language.

To support the above mentioned situation, the idea of producing e-Pictionary was triggered, especially after the researchers attended the iSpring Pro 6.2 course. Looking at the advantages of using the software to produce e-books, the researchers decided to develop and use e-Pictionary as an enrichment tool to teach vocabulary.

Research focus

When reflecting upon the researchers' teaching experiences, it was observed that ESL learners sometimes find some difficulties in the process of learning words in the English vocabulary as they may be confronted with words that are totally unfamiliar to them. They also tend to forget the words that they have learnt in class after some time due to lack of opportunity and limited hands-on experience to use them in meaningful contexts. In the long run, learners are weak in their English vocabulary. Thus, it is the teacher's role to select suitable materials for the teaching of vocabulary. It is important that the teacher knows the principles that underlie vocabulary selection. Thus, it signifies that a language teacher has to be able to organise teaching and learning activities by using a suitable technique pertaining to

teaching vocabulary items in a classroom situation. To enrich the children's experience in learning the meanings of words, the teacher has to try to select strategies that are beneficial.

According to Vygotsky's (1978) scaffolding, a teacher can give support to students by using the tools, resources and encouragement when they are needed. The support is gradually withdrawn when the students have mastered the vocabulary. In this research, e-Pictionary acted as an enrichment tool to prepare the pupils in using the appropriate vocabulary during the English language lesson. The vocabulary was categorised into 15 categories moving from the easiest to the most difficult words under the theme of World of Knowledge. Each word came with a picture to help pupils "see" the word. The word was spelled in a big font under each picture. Throughout the lesson, the teacher spelled out the word and the pupils listened. Then they spelled the word with the teacher guiding them. Later they spelled out the word on their own. Finally, they participated in the game at the end of each category with the teacher facilitating the process. The whole process was scaffolded and pupils became more autonomous learners at the end of the lesson.

Research objectives

The objectives of this research are to find out:

1. the effectiveness of the use of e-Pictionary in teaching vocabulary.
2. pupils' orientations towards the use of e-Pictionary in learning vocabulary.

Research questions

The research questions are:

1. Does the use of e-Pictionary improve pupils' vocabulary learning?
2. What are the pupils' orientations towards the use of e-Pictionary in learning vocabulary?

Review of literature

Using the dictionary is useful as an independent vocabulary acquisition strategy. Both bilingual and monolingual dictionaries have their unique strengths and weaknesses for developing vocabulary. There are three strengths of bilingual dictionaries (Hulstijn, Hollander & Greidanus, 1996; Knight, 1994). One, learners value them. Two, they can improve the reading comprehension of lower proficiency L2 learners. Three, they assist vocabulary learning at all levels of proficiency. During the early stages of language learning, a bilingual dictionary is recommended. This is appropriate because the learners' proficiency of the target language is too limited to understand definitions written in English. As proficiency of the target language develops, the learners can use the monolingual dictionary. Teachers and learners may also choose the dictionaries in various electronic forms such as software and online dictionaries. Regardless of the dictionary chosen, learners require training to use them effectively (Fauziah & Rafiah, 2005).

Learning in the 21st century emphasises the importance of incorporating information and communication technologies into education from the primary school level. Visual images, or using pictures, through technology in the classroom is very effective. An electronic book has design features that draw learners' attention to words (Segers, 2009). Therefore, it is important for the teachers to convert their traditional teaching setting into the e-setting (Chu, 1995). Teachers are further encouraged to use technology as an intervention strategy to reverse learners' negative attitudes toward reading in a foreign language (Adam & Wild,

1997), and the appearance of texts with multimedia support or e-books may account for the changes.

A picture dictionary can be used in teaching vocabulary. It can help the learners to understand a word easier because every word is presented in an interesting and enjoyable way, accompanied by a picture. McKeown and Holmes (2009) stated that a "picture dictionary is a book containing words of the language with the pictures." The use of a picture dictionary can be an effective or alternative way in teaching vocabulary as visual imagery assists learners in learning word meaning and in making better predictions and inferences (Center et al., 1999). This is also suggested by Van der Bijl, Alant and Lloyd (2006) who stated that students with learning disabilities can be aided by picture cues to decode words and develop their memory for the written words.

A research carried out by Li (2010) supported that computer-mediated dictionaries were more effective in supporting students' learning than print dictionaries and electronic handheld dictionaries. Her findings showed that L2 learners with access to computer-mediated dictionaries had better word retention than those with traditional print-based dictionaries. Another study by Fehr, Davison, Graves, Sales, Seipel and Sekhran-Sharma (2012) also found that students in the treatment condition outperformed control students after they were exposed to the computer-adaptive, individualised instruction provided by the vocabulary programme. This computer-adaptive programme was effective for students' learning of vocabulary. Therefore, it is the focus of this study to use e-Pictionary to improve vocabulary among primary school pupils.

Methodology

This is an action research based on Kemmis and McTaggart's Action Research Model (1988). Typically, legitimate action research requires two complete research cycles and it is undertaken in social collaboration with a research team (Kemmis & McTaggart, 1988; McNiff & Whitehead, 2005). Kemmis and McTaggart (1988) proposed the spiral model comprising four steps: planning, acting, observing and reflecting. In cycle one, the research team identifies the problem and then collaboratively acts, observes and reflects on the data. After the researchers have reflected on the actions taken and the data in cycle one, the second cycle emerges from the first. The question to be addressed in the second cycle of research is not predetermined in any way; the question is unknown and emerges inductively from the research cycle (Craig, 2009; Sagor, 2005). This is illustrated in Figure 1.

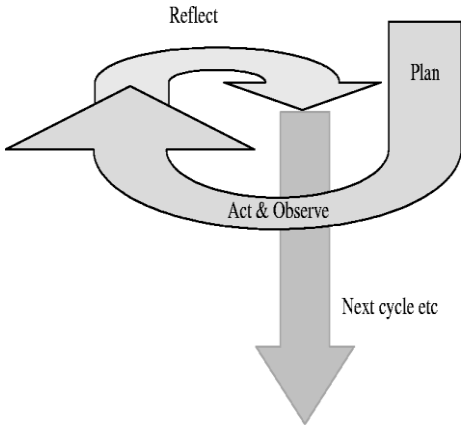


Figure 1. Kemmis and McTaggart Action Research Model (1988)

Research participants

The participants of this research consisted of 26 Year Four pupils from one of the primary schools in Malaysia. The target group consisted of 19 boys and seven girls. All of them were Malays and they were 10 years old on average. They came from the middle income group. In the academic aspect, the class consisted of mostly average pupils in all subjects. However, they were eager to learn English.

The pupils were chosen based on convenience sampling. The participants were chosen in a non-random manner and they were available for this study. This was done due to time and cost factors. The selected school was the nearest school to the workplace of the researchers and it had only one class for Year Four. Since this study was an action research which is widely used by teachers to improve their practices (McNiff & Whitehead, 2005), the results gained were important for primary school teachers to share their teaching and learning practices in the classroom.

Research instruments

The instruments used for this research were a vocabulary pre-test and a post-test, and an interview protocol. The vocabulary tests were used to investigate the effectiveness of the use of e-Pictionary in teaching vocabulary. They were constructed by one of the researchers. The tests were designed in consideration of the pupils' proficiency level and the test format was in line with the school syllabus for Year Four. The tests consisted of pictures and words learnt. The test format used comprised matching words to pictures, completing words with letters and labelling (Appendix A). Both tests consisted of 30 items with 10 items in each test format. Construct validity for the items was checked by two experts in the area of vocabulary instruction. The response from both experts was positive. The items had high construct validity. The vocabulary pre-test was given before the intervention. The post-test, which was the same as the pre-test, was used after the three sessions of intervention.

An interview was conducted to triangulate the quantitative data (Creswell, 2012). As a consideration of time, this research employed a semi-structured interview to solicit information from five participants. A semi-structured interview (Appendix B) was used to enable the researchers to seek specific information, but yet allowed for the discovery of new ideas (Patton, 2013).

The five questions were constructed to answer Research Question 2. The main focus of the interview questions was to get the participants to describe their feelings when using e-Pictionary and how e-Pictionary helped them to improve their vocabulary Due to time constraints, only five participants were selected for this one-to-one interview. These participants were chosen based on recommendations from the teacher as they were not hesitant to speak and could share ideas comfortably.

Research procedure

e-Pictionary (Appendix C) was a package designed using iSpring Pro 6.2, a software application which allows creation of e-learning tools such as e-book. e-Pictionary was designed by the researchers and it took four weeks before the first trial run was conducted. It consisted of 15 categories of pictures and words, followed by a game for each category. The pictures were originally produced by the researchers. The games consisted of Word Puzzle, Word Grab, Jumbled Alphabets, Bingo, Hangman, Kim's Game, Snap Game and Crossword Puzzle. The words chosen consisted of the words participants had learned in school and some unfamiliar words which they had never learnt before. The words are found in Appendix D.

The pre-test was administered a day before the intervention took place. The participants were given 30 minutes for the test. The intervention was conducted over three sessions covering 15 categories of words in the e-Pictionary. During each session, the participants were shown the pictures and words in each category. The teacher read the words and participants repeated after her. The participants spelled the words as a whole class and individually. The teacher highlighted the characteristics, colours and special features of each picture. After all 10 words in a category were shown to the participants, they participated in the game. Each session was completed in two hours. The instructional outline is illustrated in Table 1.

Table 1
Plan for Vocabulary Intervention

Session	Category	Game
Session 1	Animals	Word Puzzle
	Flowers	Word Grab
	Food	Jumbled Alphabets
	Hobbies	Bingo
	Local fruits	Hangman
Session 2	Places	KIM's Game
	Plants	NIE's Game
	Vegetables	Snap Game
	Natures	Crossword Puzzle
	Actions	Word Puzzle
Session 3	Parts of the body	Word Grab
	Stationeries	Jumbled Alphabets
	Imported fruits	Bingo
	Accessories	Hangman
	Electrical appliances	KIM's Game

The post-test was given immediately after the three sessions of intervention. The pre-test was used again as the post-test. The interview was conducted at the completion of the last session of the intervention period. The participants could choose to respond either in Bahasa Melayu or English. The interview was conducted by the researchers in an informal setting in the canteen.

Data analysis

Descriptive statistics that indicate general tendencies in the data and the spread of scores or standard deviation (SD) were employed for the quantitative data. The vocabulary test was scored using percentages and the mean scores between the pre-test and post-test were compared. The mean scores, SD and the results of the paired sample t-test were reported as the researchers wanted to look at the trend in the data and to find out the effectiveness of using e-Pictionary to enhance vocabulary learning.

For the qualitative data, the interviews were recorded and then transcribed. The transcripts were coded according to the themes of effectiveness and motivation. The analysis was done according to these themes.

Findings and discussion

Results of the quantitative data indicated that the participants' vocabulary performance was better after they were introduced to the use of e–Pictionary. The comparison of means and SD presented in Table 2 shows that there is a difference between the pre-test and the post-test vocabulary scores.

Table 2
Means and SDs of pre-test and post-test

	N	Mean	SD
Pre-test	26	27.12	10.79
Post-test	26	72.50	16.51

The scores of the pre-test and the post-test show that there are differences in the mean. The mean value for the post-test is higher (mean = 72.50, SD = 16.51) compared to the pre-test (mean = 27.12, SD =10.79). The higher mean value from the post-test illustrated that the participants performed better in the post-test. The higher mean value and SD also showed that participants' scores in the post-test were more spread compared to the pre-test. The findings indicated that the participants improved in their vocabulary after they had been exposed to the three sessions of using e-Pictionary.

Based on the paired samples t-test, as shown in Table 3, there is a significant difference between pre-test and post-test [t (25) = -14.356; $p < .05$].

Table 3
Paired Samples t-test for Pre-test and Post-test

		Mean	SD	t	df	Sig. (2-tailed)
Pair 1	Pre-test – Post-test	-4.538E1	16.11974	-14.356	25	.005

The above findings seem to be in line with Li's (2010) research on the use of computer assisted dictionaries. They were more effective in supporting students' learning as compared to print dictionaries and electronic handheld dictionaries. Students learn more words with access to computer-mediated dictionaries than without.

The results of the interview were discussed based on the themes of effectiveness and motivation.

Effectiveness

The results indicated that participants enjoyed participating in activities conducted through the use of e–Pictionary. The use of e-Pictionary to teach vocabulary has helped the participants to remember the names of the pictures shown as they can see the characteristics, colours and special features of the pictures. For example, Pupil A stated that "*I can remember the words because I can see colourful pictures.*" This is supported by Pupil B who stated that "*I can remember the name of the flower cockscomb because of its shape."* This is in line with Segers (2009) who stated that an electronic book has design features that draw students' attention to words, thus helping them learn the words effectively. This is further supported by Fehr, Davison, Graves, Sales, Seipel and Sekhran-Sharma (2012) that computer adaptive technology may be a useful strategy for vocabulary instruction.

Motivation

When asked why they enjoyed the lesson, all five participants agreed that they liked the word games that were conducted after each session. Although the games were meant to check their understanding of the vocabulary taught, the pupils did not feel bored. Instead they were very eager to participate in every game. This was evident when one of the pupils, Pupil C, stated "*I only had one chance to play the game*."

Further analysis of the transcription provides evidence that the pupils felt highly motivated when using e-Pictionary. They loved flipping the pages of e-Pictionary when they were given

the chance to try it during and after the lesson. This was shown in Pupil D's response *"I prefer e-Pictionary because it has pictures."* In agreement to this response, Pupil E said that *"It helps me to understand words better."* As most of them were used to having computer, ipad or iphone, working with e-Pictionary seemed to be just another toy. This further suggests that e-Pictionary can be used as an enrichment tool for teaching vocabulary.

This study provides evidence of the value of using e-Pictionary in primary school vocabulary instruction. The researchers found that pictures and words in the form of e-book assist in vocabulary instruction. The findings of this study seem to support Schmitt (2000) who stated that by presenting the words in an interesting and enjoyable way, children are encouraged to look up meanings and learn more words for themselves easily and confidently. Furthermore, Nunan (1991) stated that picture dictionary can be used to teach vocabulary items because it has both words and pictures. The results also provide further evidence that there was an improvement in vocabulary performance among the pupils. Apart from that, pupils felt motivated in using e-Pictionary as an enrichment tool to learn English.

Conclusion

The findings of this research provide evidence that e-Pictionary helps pupils to learn vocabulary more effectively. The games utilised during the intervention motivated the pupils to participate actively. Therefore, this research supports Vygotsky's scaffolding theory in showing the value of support through appropriate tools and resources in vocabulary teaching and learning. The researchers learn that highlighting the characteristics, colours and special features of the pictures in e- Pictionary helps pupils to learn the words.

More importantly, the researchers learn that e-Pictionary can be used as an enrichment tool for pupils to develop their vocabulary as the pupils found it motivating to use ICT during the learning process. In many ways, positive response was given by the pupils towards e-Pictionary.

Based on the findings, some implications for future research can be observed. Future studies may want to carry out studies to compare the effects of e-Pictionary on pupils of different proficiency levels and age groups.

Taking advantage of the possibilities inherent in computer-assisted learning, future studies should use the hypertext linking and create software which is based on principles of teaching vocabulary. There is a need for programs which specialise on a useful corpus, provide the expanded rehearsal and engage the learner at deeper levels. These studies could also employ the Internet as a source for meaningful activities in a web-based environment.

References

Adam, N. & Wild, M. (1997). Applying CD-ROM interactive storybooks to learning to read. *Journal of Computer Assisted Learning, 13,* 119-132.

Al-Jarf, R. (2007). Teaching Vocabulary to EFL College Students Online. *CALL-EJ Online,* 8(2). Retrieved on 22.04.2014 from http://www.tell.is.ritsumei.ac.jp/ca;;ekonline/journal/8-2/al-jarf.html

Burns, A. (1999). *Collaborative action research for English Language teachers*. Cambridge: CUP.

Center, L., Freeman, L., Robertson, G. & Outhred, L. (1999). The effect of visual imagery training on the reading and listening comprehension of low listening comprehenders in Year 2. *Journal of Research in Reading*, *22*(3), 241-256.

Chu, M.L. (1995). Reader response to interactive computer books: Examining literary responses in a non-traditional reading setting. *Reading Research and Instruction, 34*(4), 352-366.

Craig, D.V. (2009). *Action research essentials*. San Francisco SA: Jossey Bass.

Creswell, J.W. (2012). *Educational research. Planning, conducting, and evaluating quantitative and qualitative research (4th Edition).* New Jersey: Pearson Prentice Hall.

Dalton, B. & Grisham, D.L. (2011). eVoc Strategies: 10 ways to use technology to build vocabulary. *The Reading Teacher, 64*(5), 306-317.

Fauziah, H. & Rafiah, A.R. (2005). "Does using the dictionary help?" Paper presented at LAHE Seminar, Universiti Putra Malaysia, Palm Garden Hotel, Putrajaya.

Fehr, C.N., Davison, M.L., Graves, M.F., Sales, G.C., Seipel, B. & Sekhran-Sharma, S. (2012). The effects of individualized, online vocabulary instruction on picture vocabulary scores: An efficacy study. *Computer Assisted Language Learning*, *25*(1), 87-102.

Hulstijn, J.H., Hollander, M. & Greidanus, T. (1996). Incidental vocabulary learning by advanced foreign language students: The influence of marginal glosses, dictionary use, and reoccurrence of unknown words. *Modern Language Journal, 80,* 327-339.

Kemmis,S., & McTaggart, R. (Eds.). (1988). *The action research planner.* (3rd ed.) Victoria: Deakin University.

Knight, S. (1994). Dictionary use while reading: The effects on comprehension and vocabulary acquisition for students of different verbal abilities. *Modern Language Journal, 78,* 285–299.

Letchumanan, K. & Tan, B.H. (2012). Using Computer Games to Improve Secondary School Students' Vocabulary Acquisition in English. *Pertanika Journal of Social Sciences & Humanities, 20*(4), 1005 – 1018. Retrieved on 22.04.2014 from http://www.pertanika.upm.edu.my

Li, J. (2010). Learning vocabulary via computer-assisted scaffolding for text processing. *Computer Assisted Language Learning, 23*(3), 253-275.

McKeown, C. & Holmes, A. (2009). *English Dictionary*. HarperCollins Publishing Limited.

McNiff, J. & Whitehead, J. (2005). *Action research for teachers*. London: David Fulton Publishers.

Mehta, N.K. (2009). Vocabulary teaching: Effective methodologies. *The Internet TESL Journal*. *XV*(3). Retrieved on 22.04.2014 from http://iteslj.org

Nation, I.S.P. (2005). Teaching and learning vocabulary. In Hiebert, E.H. & Kamil, M.L. (Eds.). *Teaching and Learning Vocabulary: Bringing research to practice* (pp.581-595). Mahwah, NJ: Lawrence Erlbaum Associates.

Nunan, D. (1991). *Language teaching methodology*. London: Prentice Hall Publishing.

Patton, M.Q. (2013). *Qualitative evaluation and research methods (2nd ed.)*. Newbury Park: Sage Publications.

Rafiah, A.R. (2008). *The effect of vocabulary instruction on depth of vocabulary knowledge and reading comprehension performance.* Unpublished doctoral dissertation. University Putra Malaysia, Serdang.

Romiszowski, A.J. (1997). *The selection and use of instructional media*. New York: Kogan Page Publisher.

Sagor, R. (2005). *The action research guidebook*. California: Corwin Press.

Schmitt, N. (2000). *Vocabulary in language teaching*. New York: Cambridge University Press.

Segers, E. (2009). Learning from interactive vocabulary books in kindergarten. In A. Bus & S.B. Neuman (Eds.), *Multimedia and Literacy Development* (pp. 112-123). New York: Routledge.

Woodard, C. (1998). *Developing vocabulary skills*. ERIC Document Reproduction Service No. EDA426400.

Van der Bijl, C., Alant, E. & Lloyd, L. (2006). A comparison of two strategies of sight word instruction in children with mental disability. Accessed on 22.04.2014 from http://www.ncbi.nlm.nih.gov/pubmed/15939572

Vygotsky, L.S. (1978). *Mind in society*. Cambridge, MA: Harvard University Press.

Appendix A Vocabulary Test

A. Write the names of the objects in the box provided. (40 marks)

B. Complete the words by filling in the missing letters. (30 marks)

				
o _ r a	l _ tt u _ e	b r _ c c o _ i	c _ c k s c o _ b	d a _ s _

				
doing tae _wan _o	c _ c ling	g _ a _ s	r _ _ n	s _ _ l

C. Match the words to the pictures. (30 marks)

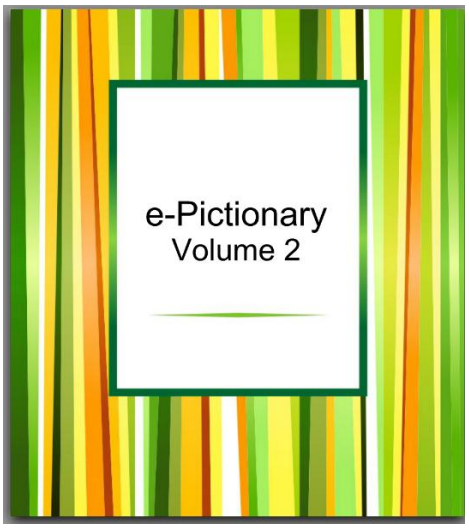
chilli	rambutan	jetty	cactus	allamanda
mountain	curry leaves	soup	lizard	tapioca

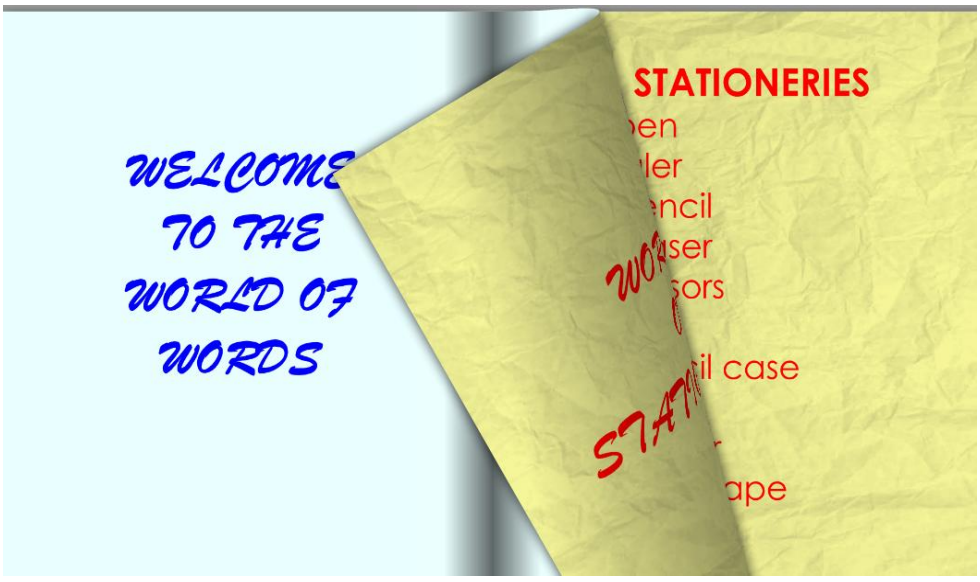
				
				

Appendix B Interview Questions

1. Do you enjoy the lesson?
2. Which part of the lesson do you enjoy the most? Why?
3. Do you learn any new words?
4. Are you motivated to learn English this way? Why?
5. Do you like your teacher to use the e-Pictionary or traditional dictionary? Why?

Appendix C





Appendix D


daisy
tus


KIM'S GAME
funfair
railway
recreational park
apartment
convenience shop
pagoda
badminton court
jetty
construction site
hawker centre

Author Information

Rafiah Abdul Rahman is a lecturer at the Language Department in the Institute of Teacher Education Tun Hussein Onn Campus, Johor. She has been a language practitioner for 30 years and she completed her PhD in TESL at Universiti Putra Malaysia. Her research interests are reading in the second language and testing and evaluation.

Yee Bee Choo is an English lecturer at the Institute of Teacher Education Tun Hussein Onn Campus, Johor. She completed her Master's degree at Universiti Teknologi Malaysia and her research interests are English Grammar and Literature. She is the author of English reference book, New Literature Component Form 4 – Poems, Short Story and Drama.

Kee Li Li is an English lecturer at the Institute of Teacher Education Tun Hussein Onn Campus, Johor. She completed her Master's degree at Universiti Kebangsaan Malaysia and her research interests are ESL Writing, English Grammar and Literature. She is the blogger of Like English & etc. She is the author of the English reference books: New Literature Component Form 1 – Poems and Short Story and SPM English Paper 1: Directed Writing & Continuous Writing.