

Practical Game: Implementing Practical Game on Iranian Early EFL Learners

Fateme Ebrahimi¹

Mustafa Zamanian²

^{1,2} Faculty of Literature and Humanities,
^{1,2} Department of English Language Teaching,
¹Qeshm Branch, ²Shiraz Branch,
Islamic Azad University, Iran

Abstract: *Does using practical game have positive effects on Iranian early EFL learners? The current study examined the learning of EFL learners while using practical games. Students from 4 to 6 years old were assigned to two groups: one group used practical game and the other group used traditional method to learn English (ten students in each group). To have homogenized groups (to control moderate variable “intelligence”), Raven’s colored progressive test (IQ test) was run. Students of both group completed the achievement test and the results represented that practical game’s participants outperformed at both vocabulary learning and the sentence making. Students of game group made correct sentences while traditional group have difficulty with this part of achievement test.*

Key words: *practical game, vocabulary learning, early EFL learners*

1. Introduction

Vocabulary knowledge affects a student’s ability to participate fully in both social and academic classroom routines. (Blachowicz & Watts-Taffe, 2005, p.6) “Vocabulary is an essential means of interchanging ideas and of acquiring new experiences. Man’s growth in ideas has always been accompanied by a corresponding expansion of his vocabulary.” (Gray 1939, p.1, as cited in Iheanacho, 1997)

While many researchers accept the importance of vocabulary acquisition in language learning, their ideas about how vocabulary should be learned have varied widely. Yanqing Sun and Qi Dong (2004) focused on the importance of vocabulary learning through using context. Some scholars (Cornillie, 2012, Jan, 2011, Demirbilek, 2010) believe that even there are so many studies have been done on different kinds of method to learning vocabulary but still teaching methods need more research on how to improve second language learners’ vocabulary size.

Nowadays so many researchers (Aghlara, 2011, Iheanacho, 1997, Yanqing & Dong, 2004, Tozcu & Coady, 2004) work on teaching vocabulary through using different methods that are more interesting for learners especially at early ages. Language game is one of the most interesting methods that teachers use in their classrooms.

Game is a form of life. It has its own rules and leads to extend individuals’ mental and motor activity capacities. It holds the attention of participants all the time. Because of these, teaching through games develops into a new method during this decade. Children learn best through

discovery and experimentation and being motivated to learn in a playful and relaxed context. Language learning can be linked with natural activities such as play, since young children can learn languages as naturally as they learn to run, jump and play (Baker, 2000, as cited in Griva, Semoglou, & Geladari, 2010).

Games are activities that prepare the child for life. Owing to games, the child develops his/her motor skills and averts tensions by consuming his/her excess energy (Seker & Sahin, 2012, p. 1680). Children in the 2- to 5-year-old age group get their motivation and develop motor skills from self-play behaviors (Griva, Semoglou, & Geladari, 2010, p. 3700).

Moreover, teaching children is different from others. They are energetic with little patience to stay at classroom. Therefore, it is necessary to find an appropriate method for this age. Ages 'between' 5 to 8 can be considered as a sensitive and critical period for the acquisition of basic skills in a second language as well as for the development of perceptual-motor skills (Griva, Semoglou, & Geladari, 2010). Thus, this study investigates the impact of implementing game on early EFL vocabulary achievement and using it at sentence level.

2. Literature Review

During the past thirty years, theory and practice in language learning and language teaching have been changed in some ways:

- ✓ Individual learners and the individuality of learning
- ✓ Listening and reading as nonpassive and very complex receptive processes
- ✓ Listening comprehension's being recognized as fundamental skill
- ✓ Real language used for real communication as viable classroom model (Celce Murcia, 2001).

In a specific study toward children, Hashemi and Azizinezhad (2011) in a study worked on teaching English to children. They believed that teaching English to children is not an easy job. They announced some characteristics of children like they are curious of asking questions; they believe in what is said and the real world to express and comprehend meaning/message; they have distinct opinions about what they like and what they dislike; they are open to what happens in the classroom and begin asking a teacher's decision; and they can cooperate with each other and learn from others.

On the other hand, they state characteristics of language teachers who teach to children:

- ✓ must be energetic and patient.
- ✓ must love children.
- ✓ must pay attention to individual differences.
- ✓ must encourage, encourage, and encourage.

- ✓ must let children see the beautiful and useful aspects of the language.
- ✓ must let them love you as the language teacher and the new language as well.
- ✓ must know the techniques of teaching.
- ✓ must respect children as human.
- ✓ must start teaching to children as soon as possible.

Hashemi and Azizinezhad at the end of their analytical study just mentioned one sentence “Remember: We Learn Teaching By Teaching.” (p. 2087)

“Those who educate children well are more to be honored than parents, for these only gave life, those the art of living well.” (Aristotle) The question is that by which method, which syllabus, and so many other questions. Stec (2011) searched to answer at least one of these questions. She believed, “For understanding the theory and practice of early language education, teachers should know the characteristic features and needs of children as language learners.” (p. 1123)

Thom and Sandhofer (2009) puts it, “Young children have been called ‘word-learning wizards’ due to their impressive ability to map novel words to their intended referents on the basis of minimal exposure” (p.466). In a study, they found that “vocabulary size is related to rapid word learning and extension within particular domains” (p. 471).

Game language is the other method that is the subject of some research studies toward language learning. It can be claimed that the history of gaming goes back to the beginning of the history of human being.(Demirbilek, Yılmaz, & Tamer, 2010) Games are indispensable part of education all the time and the concept of educational game has come into use in education world today. The value of educational games has been increasing in language education since they help to make language education entertaining. (Donmus, 2010)

Children learn best through discovery and experimentation and being motivated to learn in a playful and relaxed context. Language learning can be linked with natural activities such as play, since young children can learn languages as naturally as they learn to run, jump and play (Baker, 2000, as cited in Griva, Semoglou, & Geladari, 2010). Children learn by playing and having fun. Playing provides the opportunity to make mistakes without getting harmed. In this way, people learn by their experiences obtained from mistakes. (Cankaya, & Kuzu, 2010)

As game-based learning is focused on achieving the particular objectives of given educational content through game play, players’ attempts to solve problems are maintained throughout the learning session. Learning strategies and gaming strategies adopted to implement

problem-solving strategies in game-based learning may be the primary factor behind the high achievements in both learning and gaming. (Kim, Park, & Baek, 2009)

Games can fall into various categories such as ‘role play’ games, ‘physical’ games, ‘sorting’, ‘ordering’, or ‘arranging puzzles’, ‘labeling’ games, competitive and cooperative ones.(Griva, & et. al., 2010)Considering the benefits of educational games, games are programmed in different educational fields. Second language education is one of these fields. According to Seker & Sahin (2012), game teaching has three stages: *introducing the game, implementing the game, evaluation of the game.*

Kebritchi (2008, as cited in Donmus, 2010) states the positive effects of game according to his study as follows:

- The game motivates students because it has an alternative role in education. It offers students a learning environment apart from pen and paper.
- Desire to pass levels in games increases attention and learning.
- Game removes the lesson phobia in students’ minds.
- Concepts used in the games can be remembered longer.

Moon (2005) investigated both a teacher’s beliefs about the role of play and that teacher’s use of play in literacy learning serving children from diverse language backgrounds and “the result supported that each teacher may have a unique understanding or practical notion of play in literacy learning, and it may strongly affect his/her classroom practices” (p.vii).

Furthermore, Liu and Chu (2010) worked on the effect of game on learning. In this study, scholars investigated how ubiquitous (using different learning tactics) games influenced English learning achievement and motivation through a context-aware ubiquitous learning environment. They found that incorporating ubiquitous games into the English learning process could achieve a better learning outcomes and motivation than using non-gaming method. They further revealed a positive relationship between learning outcomes and motivation.

In teaching vocabulary by applying language game, there are some controversies. For example, Gale (2011) in his study found that although serious games can produce increases in learning, it does so at a lower rate than other instructional techniques.

In the other study that had been done by Seker and Sahin (2012) showed that “When the new Social Studies Curriculum is examined, it can be observed that the new curriculum has a structure that is student centered, based on activities, and based on using teaching strategies, methods, and techniques utilized in contemporary education-teaching activities.” (p.1683)

3. Research Questions

1. Is there any significant difference between the vocabulary learning of the group using practical games in classroom and the group applying traditional method?
2. Is there any significant difference between the vocabulary learning of the group using practical games in classroom and the group applying traditional method at the sentence level?

4. Methodology

4.1. Participants:

Twenty-six children enrolled to study English in Sokhan institution. They were between 4 to 6 years old. Participants were randomly assigned to one of the two groups: game and control. Only individuals who were not familiar with English were allowed to participate in this study. So four students who knew words like hello, water, cat, apple, banana, mom and dad, home were removed from study. To have two groups in the same size, two other children were removed randomly.

The sample in each group consisted of ten participants (five girls and five boys). All of them were Iranian and Persian is the only language that they knew. Consent forms were given to students' parents who read, signed, and returned it. The heads of institution gave approval for their students' participation in the study, too.

4.2. Settings

The game's class was full of child-size furniture, books, and chairs. There were so many colorful pictures on the wall. They were children's painting, vocabularies' pictures, and some children's handicrafts. On the one corner of class, there was a cabinet with glassy doors. It was full of crayons, pictures, dolls, books, papers, flashcards, and CDs. (see Appendix A)

The control class was in medium size with one picture of anatomy of body on the wall. There were two closed windows that their pink curtain were pulled across to cover them. There was a big whiteboard and teacher's table. Children had children-size chairs. (see Appendix B)

4.3. Materials

4.3.1. Raven's Colored Progressive Matrices

Colored Progressive Matrices is designed for younger children. This test contains sets A and B from the standard matrices, with a further set of 12 items inserted between the two, as set Ab. Most items are presented on a colored background to make the test visually stimulating for participants. However the very last few items in set B are presented as black-on-white; in this way, if a subject exceeds the tester's expectations, transition to sets C, D, and E of the standard matrices is eased. This test was used for homogenizing two groups and control the moderating variable that is intelligence level of children.

4.3.2. My First English Adventure' book

The pupil's book consists of six lessons and each lesson has four main vocabularies. The scope and sequences of book were as follows:

Table 4.1. *The scope and sequences of My First English Adventure*

Unit	Vocabulary	Structure	Songs, Chants, and Teacher Talk	Classroom English and Kinesthetic Language
Introduction	blue, red, yellow (brown, green, orange)	Hello/good-bye/ I'm(Mickey)/Look	This is Mickey/ Let's(sing/play/dance)/	Show me (blue)/ Touch(yellow)/ Stand up/ Sit down/ Circle/ Open your book/ Close your book
One	baby, dad, mom, (family, grandma, grandpa)	I see (mom)/ my (mom)	It's (my mom).	Turn around/ Go. Stop/ Come here
Two	My house, bedroom, bathroom, living room	Where is it?	Let's dance/ sing and do	Point, look at me
Three	arms, head, legs, (body, face, hair)	my (head)	Who's this?/ My arms are blue/ I can touch (my head)/ your (head)/ One, two, three	Point to (the arms)/ Dance/ Look at here
Four	apple, banana, biscuit(bread, cupcake, milk)	It's (red)/ Yes. No/ (two) (bananas)	Give me (the apple), please/ What color?/ for me, for you/ four	Jump, turn around, hop
Five	Bird, rabbit, butterfly, fish	I see (a bird)/ Look.	What do you see? /Yes	Jump up and down, fly
Six	ball, teddy bear, train, drum, toys	It's (a teddy bear).	up, down/ big, small	Clap for yourself

4.3.3. Achievement Test

The test was made of twenty questions. It was an oral test and children one by one answered to questions. The test was made of two parts: knowing vocabulary and using them in the sentence. In order to concern validity, the test was based on content of materials that covered in the classroom so it had content validity. Teachers agreed on it and two experts

approved it. Therefore, the test was valid. To be reliable, the test was piloted in a group with the same number of students in that specific age. Test retest was used for reliability of this test.

4.4. Data Collection Procedures

Before collecting data, permission was obtained from children's parents. Students' participation was voluntary and there was no penalty to refuse participating. If at any time a person wishes to stop participating, he or she was free to do so. The collected data was confidential.

A day before treatment, students participate in IQ test. The test was consisted of two parts; the first part was an interview about students' name, age, gender and some questions in English to recognize if they were familiar with English words. In this stage, four students who know English words were eliminated from the study. To have two groups with the same number of students, two other students were randomly removed. Then Raven's colorful test was administered and an expert in psychology administered and analyzed the results of pre-test. Then the final data was analyzed by using SPSS. Based on the data in the below table the sig. was .956 therefore both were homogenous. Then the treatment was began.

Table 4.2. Results of IQ test

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean
group	Equal variances assumed	.064	.804	.056	18	.956	121.00000
	Equal variances not assumed			.056	17.818	.956	120.80000

Game group's class was held on Saturdays, Mondays, and Wednesdays from 17 to 18 o'clock. In this group, the teacher used *My First English Adventure* and different songs and plays. It should be mentioned that the songs were different from computer programs. Teacher applied different games: role-play, play in yard, handicraft, painting, and singing song. She used different instruments like crayons, painting colors, pictures, gum, scissors, colorful papers, mp3 systems, whiteboard, picture cards, stickers, and voice CDs.

A song in *Hello* began each section. Then teacher repeat what she taught in the last session. To do this, she played with picture cards. At first, she asked cards name from

children, then she arranged them on the board. She picked up one of them when children closed their eyes, then they opened their eyes and guessed which one was removed. If they answered correctly, they gave a sticker (mostly they were free to choose their desired sticker). The play was continued until all of children learned well and gave sticker.

At the second part of the class time, she taught the new lesson, e.g. *mum* and *dad* expression was taught first by role-playing, then picture cards, and finally teacher and children sang song based on new expressions. During teaching, students were free to express their ideas and changed their places in the classroom. Teacher listened to their ideas and answered their questions.

Some of the words were function verbs like *Jump*, *Turn around*, and *Hop*. To teach this kind of vocabularies, she brought children to the yard and asked them to jump, turn around or hop. To learn more, they played a game named *ley ley* (this game was consisted of eight houses that players have to go through each house in hop, jump or turn). Teacher played with them in groups or pair groups.

Pantomime was the other game. It was a kind of role-playing that teacher was the actress in the class. When vocabularies were acquired, children played it in pairs. Teacher whispered one vocabulary into one of student's ear, she/he showed it using pantomime and the other student tried to guess it. In another game, the teacher lined the children and whispered one word to the first children. Each student whispered that word to the next one, then the last children find the picture of that word and other children named that picture.

Before the final part of the class, children had snack time. Then class's time was devoted to the review of new lesson.

Control group's class was held in Sundays, Tuesdays, and Thursdays on 18 to 19 o'clock. *My First English Adventure* was used. Control group's class consisted of two parts. The first part, like other two groups, focused on reviewing prior lesson. In this part, teacher showed picture cards to children and asked questions in Persian. They should name the picture and if they forgot it, teacher named it (both in Persian and English). Then they repeat it several times.

In this class, children were not allowed to change their place or speak. They had to do tasks that teacher has already prepared. Between two parts, they had snack time in the classroom. They sat on their chair and ate and at the same time, the teacher asked questions from students that had problem and asked them to repeat again. Therefore, the first part referred to repeating the previous lessons.

The second part was begun by teacher's explanation about new expressions. E.g. colors: the teacher asked the children to name colors in Persian then she named them in English.

Children repeat them several times, then new color was introduced. It should be mentioned that some vocabularies like jump that is based on motor activity was taught in the classroom.

Control class was not equipped with voice systems. Teacher used a recorder just in review sections and mostly she sang song by heart. The other point that should be mentioned was the specific parts of book. *My First English Adventure* had specific place for painting at the end of each lesson or some page to stick pictures. Students had done it before at home. Teacher just assigned them. Activity book was an important part which students should do it themselves at home.

Finally, the posttest that was consisted of two parts was held. The test was began by using vocabularies into sentences then ended with vocabulary knowledge. The test was reliable by pilot studied in test re-test ($r = .876$) and valid based on content of teaching and two experts confirmed it.

5. Results

In order to answer the first question, the mean of students in both groups was analyzed and then independent sample t-test was used based on SPSS.

Table 5.1. *Descriptive Analysis of Using Vocabularies*

Group Statistics						
	type	N	Mean	Std. Deviation	Std. Error Mean	
group	game	10	9.2000	.91894	.29059	
	contro	10	7.2000	1.75119	.55377	

Table 5.2. *The Outcome of Independent Sample t-test of Using Vocabularies*

Independent Samples Test							
		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
group	Equal variances assumed	4.571	.046	3.198	18	.005	2.00000
	Equal variances not assumed			3.198	13.607	.007	2.00000

As it can be inferred from table 5.2 the sig.(2-tailed) was .005. It shows game is significantly different from traditional method in teaching vocabularies. In the other words,

there was significant difference between control and game group in the knowledge of vocabularies.

The second part of achievement test, refers to using words in sentences. Therefore, table 5.3 shows the descriptive statistics of the post-test and table 5.4 depicts independent sample t-test.

Table 5.3. *Descriptive Statistics of the Post-test*

Group Statistics					
	type	N	Mean	Std. Deviation	Std. Error Mean
group	game	10	9.7000	.67495	.21344
	control	10	7.4000	1.42984	.45216

Table 5.4. *Independent Sample t-test*

Independent Samples Test

			Levene's Test for Equality of Variances		t-test for Equality of Means			
			F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
group	Equal variances assumed		3.797	.067	4.600	18	.000	2.30000
	Equal variances not assumed				4.600	12.821	.001	2.30000

Since table 5.3 confirms that, there is a significant difference between means of both groups. Table 5.4 shows that significance result is .000, that is below 0.05, therefore, there is a statistically significant difference between the mean of game group with control group.

6. Discussions

The result showed that using language games has significant effect on vocabulary retention of the elementary EFL learners. Therefore, the first null hypothesis stating that, “using activity game has no significant effect on vocabulary retention of the elementary EFL learners”, cannot be confirmed. It can be claimed that using activity game language has a positive effect on students’ learning.

This result is in contrast with different studies like Turgut and Irgin (2009) that shows the effectiveness of games on the young learners’ vocabulary learning and another study by Connolly, Stansfield, and Hainey (2011) in the other study stated that games-based learning has made progressively significant contributions in helping to promote enhanced learning experiences within education. Virvou and Katsionis (2008) believed, “game was indeed usable and likeable but there was scope for usability and likeability improvement so that the educational

benefits may be maximized for all categories of students” (p. 154). This scope and likeability to improve learning can be made clearer by answering the next question.

At sentence level, the results of independent sample *t*-test (table 5. 4) illustrated that activity game helped students to improve their learning second language at sentence level.

Game language method helps students to employ words at correct format of sentences. They play not only at word level but also at sentence level. They make use of vocabularies at sentence level when they sang song, role-play, play at yard before and after the classroom. Students’ parents of game group said that their child speak English with their toys or teach their toys in English. They learned role-play in the class and applied it outside of the classroom.

7. Conclusion

The purpose of this study was to determine the impact of implementing practical games on early EFL vocabulary learning. This study compared the differences in students’ scores following an instructional session. The results illustrate that Game language’s influence is more obvious at sentence level where students that benefit game use more correct sentence in compare with students in the other group.

Blunt (2009) sought to determine a Return on Learning (ROL) measure when teaching using serious games. He conducted an empirical study using three university level business courses and found that, although serious games did not always increase student’s learning, “at least in some circumstances, the application of serious games significantly increases learning” (Blunt, 2009, as cited in Gale, 2011). In line with Blunt’s study, this study found that game language increased students learning at sentence level.

Furthermore, this study is pursuant with Gale’s study that did not find any instances of where serious games improved student learning. This study suggests that at vocabulary level, language game cannot improve learning when compared to traditional instructional method.

References

- Aghlara, Laleh & Nasrin Hadidi Tamjid. (2011). The effect of digital games on Iranian children’s vocabulary retention in foreign language acquisition. *Procedia - Social and Behavioral Sciences*, 29, 552 – 560. Retrieved April 20, 2012, from <http://www.sciencedirect.com/science/article/pii/S1877042811027364>
- Blachowicz, Camille L.Z., Peter J. Fisher, & Susan Watts-Tffe. (2005). *Integrated Vocabulary Instruction: Meeting the Needs of Diverse Learners in Grades K-5*. P. 6. Naperville: Learning Point Association

- Cankaya, Serkan, & Abdullah Kuzu. (2010). Investigating the characteristics of educational computer games developed for children with autism: a project proposal. *Procedia Social and Behavioral Sciences*, 9, 825–830. Retrieved September 30, 2012, from http://ac.els-cdn.com/S1877042810023475/1-s2.0-S1877042810023475-main.pdf?_tid=213b2452-6d71-11e3-8551-00000aacb35d&acdnat=1387982020_03e885c085e3af05c50bd7de5eb51480
- Celce-Murcia, M. (2001) *Teaching English as a second or foreign language* (3rdEd.). U.S.A.: Heinle & Heinle Publishers.
- Connolly, Thomas M., Mark Stansfield, & Thomas Hainey. (2011). An alternate reality game for language learning: ARGuing for multilingual motivation. *Computers & Education*, 57, 1389–1415. Retrieved May 21, 2012, http://www.sciencedirect.com/science?_ob=ShoppingCartURL&_method=add&_eid=1-s2.0S0360131511000261&_acct=C000228598&_version=1&_userid=10&_ts=1387981958&md5=ded718351cf8cc8a4b782e5428e1ca43
- Cornillie, Frederik, Geraldine Clarebout & Piet Desmet. (2012). The role of feedback in foreign language learning through digital role playing games. *Procedia - Social and Behavioral Sciences*, 34, 49 – 5. Retrieved November 20, 2012, <http://www.sciencedirect.com/science/article/pii/S1877042812003163/pdf?md5=454cc083d802b00e7ec4368e6bab590d&pid=1-s2.0-S1877042812003163-main.pdf>
- Demirbilek, Muhammet, Ebru Yilmaz, & Suszan Tamer. (2010). Second language instructors' perspectives about the use of educational game. *Procedia Social and Behavioral Sciences*, 9, 717–72. Retrieved April 20, 2012, from <http://www.sciencedirect.com/science/article/pii/S1877042810023281/pdf?md5=1eecd6227062163843856948998f166e&pid=1-s2.0-S1877042810023281-main.pdf>
- Donmus, Vildan. (2010). The use of social networks in educational computer-game based foreign language learning. *Procedia Social and Behavioral Sciences*, 9, 1497–1503. Retrieved September 30, 2012, from <http://www.sciencedirect.com/science/article/pii/S1877042810024602/pdf?md5=c66fafafd21b5564e39c73f5e1c64873&pid=1-s2.0-S1877042810024602-main.pdf>
- Freitas, Sara de, & Martin Oliver. (2006). How can exploratory learning with games and simulations within the curriculum be most effectively evaluated?. *Computers & Education*, 46, 249–264. Retrieved Jan 24, 2012, from http://www.sciencedirect.com/science?_ob=ShoppingCartURL&_method=add&_eid=1-s2.0S0360131505001600&_acct=C000228598&_version=1&_userid=10&_ts=1387982632&md5=d39ca2c55904a5d0b0f65db6a0cb1484

- Gale, Mark Thomas. (2011). Gameplay in higher education: The use of serious games vs. traditional instructional methods in learning. *ProQuest Dissertations and Theses*. (UMI Number: 3464449)
- Griva, Eleni , Klio Semogloua, & Athina Geladaria. (2010). Early foreign language learning: Implementation of a project in a game –based context. *Procedia Social and Behavioral Sciences* 2, 3700–3705. Retrieved April 20, 2012, from http://ac.elscdn.com/S1877042810006154/1s2.0S1877042810006154main.pdf?_tid=31afd27c6d7311e3a55300000aacb362&acdnat=1387982907_0670fd7e8b9a70b17454e0ad05ad983f
- Hashemi, Masoud, & Masoud Azizinezhad. (2011). Teaching English to children: A unique ,challenging experience for teachers, effective teaching ideas. *Procedia - Social and Behavioral Sciences*, 30, 2083 – 2087. Retrieved Jan 24, 2012, from <http://www.sciencedirect.com/science/article/pii/S1877042811024426/pdf?md5=4f18bb03b6acbec5655ee1fa7a8383bf&pid=1-s2.0-S1877042811024426-main.pdf>
- Iacob, Ioana. (2009). The effectiveness of computer assisted classes for English as a second language. *Annals. Computer Science Series, VII* , 141-148. Retrieved Jan 24, 2012, from <http://arxiv.org/ftp/arxiv/papers/0905/0905.4611.pdf>
- Iheanacho, Chiemeka Clement. (1997). The effects of two multimedia computer assistance language learning programs on vocabulary acquisition of intermediate level of ESL students. *Master Abstracts International*. (UMI Number: 3024746)
- Jan, Mingfong, Chee Yam San, Ek Ming Tan. (2011). Reconceptualizing science classroom discourse towards doing science through a game-based learning program. *US-China Education Review B*, 6, 786-796. Retrieved May 21, 2012, from <http://files.eric.ed.gov/fulltext/ED529374.pdf>
- Kim, Bokyeong, Hyungsung Park, & Youngkyun Baek. (2009). Not just fun, but serious strategies: Using meta-cognitive strategies in game-based learning. *Computers & Education*, 52, 800–810. Retrieved Jan 24, 2012, from http://www.sciencedirect.com/science?_ob=ShoppingCartURL&_method=add&_eid=1-s2.0S0360131508001954&_acct=C000228598&_version=1&_userid=10&_ts=1387982998&md5=e79997ba89e9b322aec02a61d15fa19c
- Liu, Tsung-Yu, & Yu-Ling Chu. (2010). Using ubiquitous games in an English listening and speaking course: Impact on learning outcomes and motivation. *Computers & Education*, 55, 630-643. Retrieved May 21, 2012, from http://www.sciencedirect.com/science?_ob=ShoppingCartURL&_method=add&_eid=1-

s2.0S0360131510000667&_acct=C000228598&_version=1&_userid=10&_ts=1387983053
&md5=c20bd8203d5f72a82ff849f7f4dd00f6

- Moon, Kyunghee. (2005). A teacher's use of play to promote literacy learning in a prekindergarten classroom serving children from diverse language backgrounds. *ProQuest Dissertations and Theses*. (UMI Number: 3176240)
- Seker, Burcu Sezginsoy, & Guliz Gur Sahin. (2012). Sample game applications in social studies teaching. *Procedia - Social and Behavioral Sciences*, 46, 1679 – 1683. Retrieved September 21, 2012, from <http://www.sciencedirect.com/science/article/pii/S1877042812014899/pdf?md5=79f910e7a07fd8e4fbba2a2db87bf0de&pid=1-s2.0-S1877042812014899-main.pdf>
- Stec, Maria. (2011). Early language teaching and syllabuses. *Procedia - Social and Behavioral Sciences*, 29, 1123 – 1132. Retrieved September 21, 2012, from <http://www.sciencedirect.com/science/article/pii/S1877042811028072/pdf?md5=8217aa6cf6ff3e79a88f374c1455987&pid=1-s2.0-S1877042811028072-main.pdf>
- Sun, Yanqing and Qi Dong. (2004). An experiment on supporting children's English vocabulary learning in multimedia context. *Computer Assisted Language Learning*, Vol. 17, No. 2, pp. 131–147. Retrieved September 21, 2012, from <http://www.tandfonline.com/doi/abs/10.1080/0958822042000334217#preview>
- Thom, Emily E., & Catherine M. Sandhofer. (2009). More is more: The relationship between vocabulary size and word extension. *Journal of Experimental Child Psychology*, 104, 466–473. Retrieved September 21, 2012, from http://www.sciencedirect.com/science?_ob=ShoppingCartURL&_method=add&_eid=1-s2.0S0022096509001477&_acct=C000228598&_version=1&_userid=10&_ts=1387983290&md5=aec1a66b306173bb8e81c16f506c80a4
- Tozcu, Anjel and James Coady. (2004). Successful learning of frequent vocabulary through CALL also benefits reading comprehension and speed. *Computer Assisted Language Learning*, Vol. 17, No. 5, pp. 473–495. Retrieved May 21, 2012, from Taylor & Francis Ltd
- Turgut, Yildiz, & Pelin rgin. (2009). Young learners' language learning via computer games. *Procedia Social and Behavioral Sciences*, 1, 760–764. Retrieved Jan 24, 2012, from http://ac.elscdn.com/S1877042809001384/1s2.0S1877042809001384main.pdf?_tid=f02a69d26d7411e3827d00000aab0f01&acdnat=1387983656_9a4bdb8c10c7b5cf13818e805be9991c
- Virvou, Maria, & George Katsionis. (2008). On the usability and likeability of virtual reality games for education: The case of VR-ENGAGE. *Computers & Education*, 50, 154–178.

Retrieved Jan 24, 2012, from
http://www.sciencedirect.com/science?_ob=ShoppingCartURL&_method=add&_eid=1-s2.0S0360131506000789&_acct=C000228598&_version=1&_userid=10&_ts=1387983550&md5=9d0bf8db48cb4098e269cf0a5ac0e23c.

Appendix A: Game's Setting



Appendix B: Control's Setting

