DEPARTMENT OF ENGLISH PROGRAMS

A Thesis Submitted in Partial Fulfillment of the Requirements for the

Degree of Master of Arts in Teaching English as a Foreign Language

(TEFL)

The Impact of Educational Casual Computer Games on Preschool EFL Learners'

English Language Achievement

Thesis Supervisor: Irshat Madyarov, Ph.D.

Thesis Reader: Lilianna Edilian, MA

Statistics Consultant: Alexan Simonyan, Ph.D

By:

Luiza Grigoryan

Yerevan, Armenia

2012

1

American University of Armenia

Department of English Programs

We hereby approve that this thesis

By

Luiza Grigoryan

Entitled

The Impact of Educational Casual Computer Games on Preschool EFL Learners' English

Language Achievement

be accepted in partial fulfillment for the requirements of the degree of

M.A. in TEFL

Committee on the Thesis

Thesis Supervisor: Irshat Madyarov, Ph.D.:

………………………………..

Lilianna Edilyan, M.A.: Thesis Reader

………………………………

Catherine Buon, Ph.D.: Dean of DEP

………………………………..

Yerevan, Armenia

2012

Acknowledgements

The completion of this thesis is due to the assistance of many individuals who greatly supported and encouraged me to overcome all the difficulties while passing this long and complicated path of studying in the American University of Armenia.

First of all, I would like to express my gratitude to Dr. Madyarov, my thesis supervisor, for his insightful comments, generous help and understanding. I can surely state that without his guidance I would not have the strength to accomplish my research.

Secondly, I would like to express my deepest thanks to my reader Ms. Edilian for her enthusiasm and patience throughout the research.

I wish to thank Dr Simonyan for providing me with detailed feedback and advice on statistical section of research.

I am also thankful to Marina Avagyan who has become the close friend of mine during the Master Program. I was overwhelmed by her positive energy and warm friendship during the program.

I should also thank all the little kids who participated in this study. I would never forget the smiling faces of the kids willing to learn and get knowledge.

I owe so much to my parents, especially to my daughter for understanding, love and appreciation to the work I do. I dedicate this thesis to them.

TABLE OF CONTENT

Abstract

This thesis aims at discovering the benefits of incorporating the educational casual computer games into the EFL settings. The purpose behind this is to explore a possibility of implementing this kind of innovation in language teaching approaches and curricula in an Armenian kindergarten.

The study was carried out in the Armenian public kindergarten in Yerevan. Two groups were selected for the study. The focus group received the treatment with the use of casual computer games, whereas the comparison group practiced the language with the implementation of the traditional language games.

From the results revealed via the pre and post-tests it could be inferred that the both experimental and the focus groups performed similarly during the pre and post-tests. Therefore, the treatment with the implementation of educational casual computer games did not give significant improvement in learners' English language achievement, as compared with the control groups' results. However, both groups indicated a significant improvement in the language proficiency from the pretest to the posttest in favor of posttest.

Chapter1: Introduction

This chapter expounds on the significance of the research study and states the problem by discussing the current issues which are intended to be addressed in this study. It goes on to present the relevant literature on theoretical framework and historical background on implementing educational casual games in preschool settings, as well as issues on educational casual computer games as computer assisted language learning tool along with its theoretical rationale. To this effect, the discussions lead to the formulation of research question.

1.1. Background of the study

Language   is a remarkable tool of creativity, the development, and the expression of human inner and outer worlds, and it is also a fluid, multi- layered, dynamic, and prosperous phenomenon.

A child learning a second language needs explicit modeling and language teaching, appropriate time to acquire the new language and quality exposure to the target language. Learning a foreign language has a major role in supporting children's process of identity formation and in helping them understand where they fit in the new environment they are entering. The acquisition of language is essential not only to children's cognitive development, but also to their social development and wellbeing. Nowadays, teaching a language could be realized not only based on its grammatical, syntactical, morphological, and phonological systems by traditional teaching methods and approaches, but it might go far beyond these essential techniques by combining them with the fluid waterfall of new technology. If this belief is followed, language learning can become really experiential, and it can give an opportunity to the

students to digest the knowledge obtained on a level where they will be able to see, feel, understand, and personalize the target language.

1.2. The statement of the problem

Considering on the background above, the research study formulates the following question

- Do educational casual computer games have an impact on preschool EFL learners' English language achievement?

1.3. Significance of the study

The significance of the present study stems from the following factors. Firstly and predominantly, it aims at exploring the effect of educational casual computer games on preschool ELF learners' English language achievement. The results could be also utilized by preschool teachers to develop curriculum with implementing computer games in the course syllabus in order to improve preschool learners' language skills. Secondly, the results will reveal Armenian preschool learners' attitude towards using this tool and, therefore, may lead to better understanding of preschool learners' perception towards learning English in general. Finally, the findings may encourage Armenian EFL learners, as well as teachers, to change their beliefs and attitude towards methods and approaches of teaching English at this preschool age.

Chapter 2: Literature Review

In this section, it is discussed what has been done so far, what is being done now, and what tendencies for the future can be observed in the field of TEFL/TESL in relation to implementing educational casual computer games in the TEFL/TESL kindergarten settings.

2.1 Learning a Foreign Language at Preschool Age

"Language is the most powerful tool in the development of any human being". It is undeniably the greatest asset we possess. A good grasp of language is synonymous with a sound ability to think. In other words language and thought are inseparable' (Vygotsky, 1986). The acquisition of the language is important not only for children's cognitive development, but also for their social development and wellbeing.

Considering the benefits of learning a foreign language at preschool age, the implementation of foreign language classes into early phases of primary education is becoming more and more vital. Evidence shows that young children can learn more than one language with ease, as long as they are exposed to good language models and have plenty of exposure to both languages. Children at this age actually have a strong potential to acquire almost an infinite number of information especially when foreign languages are concerned (Cross, 2000).

As Squire (2005) states language is a living tool for communication and thinking and it contains unlimited possibilities opening   doors to new cultures and makes children aware of the world around them. Additionally, it can increase mutual understanding and respect for others. Learning a foreign language opens up avenues to raise cultural awareness of the children.

Moreover, according to Moon, K., & S. Reifel, (2008), there are two principal positive outcomes of learning a foreign language at an early age. The first is emotional which fosters children's positive attitudes to foreign languages, strikes their fancy and enriches their social life. The second principal outcome is opening a window into the cultures of the world.

The preschool environment mirrors and mediates the "big world" in forms and ways accessible to children making them   acquainted with a new language. Languages and foreign countries are a part of modern reality and so they will be of our children. To find the answer to the question of why younger is better, researchers have suggested different reasons. Ellis (1994) listed six explanations for the superiority of child L2 learning over adult L2 learning. First, adults' ability to perceive and segment sounds in L2 has deteriorated. Second, adults' brain area for language learning has been lateralized so language learning is less fruitful in comparison to children. Third, children are more motivated and less anxious about using the target language. Fourth, while children use their language acquisition device to learn an L2, adults rely on their general problem-solving ability to analyze the language. Fifth, children receive better input than adults, although adult learners have more negotiation of meaning. Finally, child learners store L1 and L2 knowledge in different areas whereas adult learners store L1 and L2 information together.

2.2. General Concept of Game

What is a game? Ur (1996) states that a game is an organized action that is rule-governed, that involves motivation towards a clear goal through the performance of a challenging task, and it provides participants with a feeling of enjoyable tension. Other researchers, such as Toth (1998) and Lewis (2000) define game in a slightly different way and proclaim that language games can be characterized according to certain criteria. According to Lewis (2000) they include

rules followed while playing, a special time in which individuals or teams play, a score given at the end of the game, a result and a winner. Whereas Toth (1998) claims that games have a final outcome, some of them have both elements of challenge and co- operation which are necessary to complete the activity. According to Toth (1998), games are like a guarantee of a valuable learning experience in which the children can either exercise or review language structures in a meaningful way.

Wright further states that "game" means an activity which is entertaining and engaging, often challenging, and an activity in which learners play and usually interact with others.

According to Celce- Murcia (1989) games are fun, and almost everyone would agree that, if learning takes place with the help of games, it can be enjoyable, and then students will learn more. In terms of pre- school language teaching, games should be considered as a fundamental part of the language syllabus, not as an amusing activity. They provide, in many cases an opportunity for real communication and establish a bridge between the classroom and the real world. Moreover, games also act as an indicative tool for the teacher, emphasizing certain areas of difficulty. According to Collier, C (1996) activities that are engaged in for fun, entertainment, or simply to exercise one's skill can be seen as a game. For younger children "how to play" a game may mean "what to do" in a game, and the best way to explain it is to do it. The more stimulating and communicative a teacher can make the learning setting, the more a teacher efforts to introduce games, the more a teacher changes forms and operates the language and environment, the better the conditions for learners are.

2.3. Language Learning through Language Games at Preschool Age

It is necessary to understand that language learning is a challenging task requiring continuous effort especially for young learners. This information brings us to conceptualize the

role of language games as one of the most essential tools of promoting learning and teaching process at all levels of education and training and in a variety of subject areas. This suggests us that language cannot be taught successfully if the implementation of games is neglected. Language games are to encourage learners to straighten their energy towards language learning by providing with meaningful contexts (Wright, Betteridge and Buckby, 1984). Hence, it is important that teachers should not see games as time consumers or tools designed for fun only, but integrate them into their foreign language teaching program. Taking into consideration pre-school learners' age and their abilities, it will be possible to form the best preconditions for making the teaching process more effective and productive with the implementation of a variety of games. Language learning is hard work. One must make an effort to understand, repeat accurately, adopt and use newly understood language. At this point, language games help and encourage many learners to sustain their interest and work (Wright, Betteridge, and Buckby, 20 Allery, 2004) defined a game as "a competitive activity with a prescribed setting, controlled by rules and procedures. The learning results from playing the game (for example, interactions and behaviors exhibited) and not from the academic content or specialist subject matter".

The use of games as a teaching strategy in preschool settings has been widely adopted and used in different subject areas. From the subjects language learning is not an exception. There has been a great inclination towards the use of games in language learning teaching and learning process. Language teaching methods, such as natural approach and suggestopedia include language games, which make learning process motivating and enjoyable (Ogershok& Cottrell, 2004).

The main principle of playing games is that "Learning is Fun". The primary aim of the teachers is to create a pleasurable learning environment and to motivate the language learners.

Schwienhorst (2002) has noted that games offer realistic socio-cultural context for language learning. Purushotma (2005) has suggested that games can sometimes be so motivating in their nature that they can even cause addictive behavior. These are the most important and at the same time the most required advantages of games which give the teachers opportunities to create a willing, ready to learn, active and energetic atmosphere in their classes. When preschool kids play games they feel better, get less tired, and are highly motivated when they do things they enjoy(Bakar, Tuzun&Cagiltay 2008; Sahhuseyinoglu 2007; Bayirtepe, Tuzun 2007 & Tuzun 2006). And, as a matter of fact, it could be considered that learning process should not be just learning through traditional methods, i.e. teachers can add some games in their classes making lessons more enjoyable and less exhausted. So, it is the time for the teachers to search for ways to get students out of this pain-giving process.

2.4 Advantages and Disadvantages of Language Games at Preschool Age

Using games in language teaching can help preschool kids to develop their language proficiency repeatedly. Correspondingly supplementing different topics with a large variety of games is highly recommended to teachers as games have numerous advantages. Games provide language teachers with many benefits when they are used in classroom.

One of these advantages is that learners are motivated to learn the language when they are in game. McCallum (1980) highlights this fact by proposing that "games automatically stimulate student interest, a properly introduced game can be one of the highest motivating techniques". Another advantage is the fact that students' anxiety toward language learning decreases as games are used. While teaching pre- school kids it is important to create the atmosphere of positive feelings where learners are not afraid of using the simplest elements of the target language. As a result, in such an environment while completely focusing on a game as

an activity, kids acquire language in the same way as they acquire their mother tongue, that is, without being aware of it (Cross, 2000) .As Celce - Murcia argues (1999,p 542), that " in games, language use takes superiority over language practice, and in this sense help bring the classroom to the real world, in the meaningful context where learners gain the language unconsciously willing to be the winner".

To conclude, games have a great pedagogical value providing language teachers with many advantages when they are used in foreign language classes. They enhance cooperation and motivation providing successful, joyful and enthusiastic learning. Kindergarten- age children are in the process of the discovery of self   in the context of personal environment and are becoming to   relate effectively with their peers. Therefore, cooperative activities are a fun way to reinforce the values of sharing, working together and developing mutual respect among young children. There are mainly some types of language games such as cooperative, communicative, competitive games   for kindergarten age which are typically   correspondent with this particular age.

2.5 Learning Language through Educational Casual Computer Game at Preschool Age

In comparison with traditional language games, computer games are today the most important part of children's leisure time and increasingly an important part of our culture as a whole. However, the greatest concern is whether this new powerful medium might be used to support children's learning in this new information era. Therefore, in order to better understand digital games and game play, it is necessary to   distinguish more clearly the nature of gaming. Being characterized as a combination of fantasy, challenge and curiosity, computer games develop valuable skills such as strategic thinking, planning, communication, negotiating skills, decision making. Along with this the experience of game play influences learners' expectations

of learning activities. In terms of kids' learning, while playing computer games it is obvious that children enjoy learning when they have a sense of their own progress and where learning is appropriate and relevant. Moreover, in this process of playing and learning simultaneously "digital kids" are viewed as active participants in practice rather than being involved in the process of acquisition of "separate chunks of the target language".

2.6 Concept of Digital Game

In the early 1990s, digital games were already called the "integral part of modern language teaching methodology" (Gee, J.P. (2003). Twenty years later, the global popularity of digital games certainly demonstrated that they are integral to many people's leisure consumption, but their roles in language teaching methodology are still questionable (Ito et al., 2010).

What is a digital game? Nowadays, it is obvious that technology- based learning could influence learning and it is widely used in language learning. One of the basic elements of this digital technology is a digital game which is referred to any game on –line, on computer or using any handheld device (Shaffer, 2006).

Digital games are the powerful tools which involve students in the process of learning, foster positive attitude towards learning as well as improving their problem-solving and collaborative skills. The use of digital games could be considered as the new way in pedagogy which leads to develop students' cognitive, social, and thinking abilities (Aldrich, 2005; Anderson, 2005; Borja, 2007).

Taking into consideration the fact, that any person acquires digital literacy informally through games, and computer games playing may be a prerequisite to computer literacy, the creation of the game- based learning environment is mandatory for analyzing the findings of using casual educational computer games in the language classroom.

The demands of the digital era require language teachers to change teaching methods adapting them to the digital society. Therefore, digital games being challenging, co-operative, engaging and problem- solving are the greatest opportunity to be included in the language curriculum (Squire, 2005). According to Squire, digital games are designed not only for offering appropriate content relevant for educational purposes, but they are to enhance primarily digital literacy, learning styles, and skills, in other words the overall process of learning.

Liu (2007) further states that playing a computer game has a purpose to it, vivid outcomes as in order to play learners have something to do with the language, and in other words they are obliged to use the target language. The role of digital games is how to make classes' serious fun, how to help stimulate the brighter learners while nurturing the slower ones, and how to associate fun to learning by teaching a language through games. It's significant to point out that learners' personal abilities can develop in digital games.

According to Prensky (2007) the goal of any computer game is how to find a solution to a problem and what to say and how to win. In order to solve these tasks learners start to think using the target language. In addition, games give the opportunity for learners to develop their creative abilities. Learners are eager to know and learn more as digital games stimulate and motivate them to new results making them willing participants. The collection of language learning histories showed that digital gaming provides two dimensions for language learning and use: in-game texts and online gaming platforms. First, the need for game level advancement makes gamers more aware of the English in game texts. Second, gaming platforms provided authentic opportunities for interactions with other gamers in English.

In their books and articles, many specialists have stated that in a game all learners are equal, which encourage them to interact freely as they have a reason to communicate rather than

just repeat things back unconsciously. Moreover, as far as it is known, repetition is the mother of skill   being generally too boring, but thanks to the games it is fun. Therefore, the repetition needed for language can be attractively packaged in a game and pass unnoticed as students focus on the process of the game itself, while using the language in a relaxed and above all fun environment (Prensky, M. 2000).

All these points make up an important picture of using educational casual games in EFL/ESL context as well as it is possible to view gaming as a learning activity beyond the language classroom (Benson, 2011).

2.7. Advantages and Disadvantages of Educational Casual Computer Games at Preschool Age

The use of digital games, with preschool children, provides additional opportunity for children to practice concepts related to cognitive development and school readiness. According to Li and Atkins (2006), the use of educational casual computer games at home in addition to kindergarten has a positive effect on cognitive development.

However, according to some results, it should be noted that the use of such games do not improve cognitive development. Their use provides additional opportunities for children to practice concept skills and is a useful tool for children especially for those who are at risk for developing learning disabilities. They hold the attention, are motivational, and facilitated the children's ability to concentrate and practice difficult concepts (Prensky, M. 2000).

In the area of language, the studies reviewed indicate that use of digital games is not a barrier to expressive language. Children use a variety of language while playing to give direction, make requests, describe depictions, give explanations, seek clarifications and express

themselves. However, the amount of language used declines once the children are comfortable with the software.

The study reviewed by McCarrick (2007) also concludes while the implementation of digital games may not enhance language development more than traditional language activities, the computer environment provides an opportunity for children to use large amounts of language. In the area of social interaction, children interact with each other when paired at the computer and mostly to give direction. While playing this or that game children get engaged in the active communication and are obliged to help each other using the language they acquire accomplishing the task. Thus, they develop communicative and language skills simultaneously.

Another research demonstrates that when learning a language through digital games children prefer working with one or two partners over working alone (Lipinski et al. 1986; Rhee & Chavnagri 1991; Clements, Nastasi, & Swaminathan 1993). They seek help from one another and seem to prefer help from peers over help from the teacher (King & Alloway 1992; Nastasi & Clements 1993). Children engage in high levels of spoken communication and cooperation while playing. They initiate interactions more frequently and in different ways than when engaged with traditional activities. They engage in more turn taking at the computer and simultaneously show acquired pieces of language and cooperative-play activity. On the other hand, there is concern among early childhood professionals that the use of digital games will alter and perhaps hinder connections in the brain from developing with computer use during the critical development years, birth to 7 years of age(Papert, S. 1998).

Regardless, technology will continue to develop and be a part of our future. This is, indeed, a crucial point. We cannot afford to leave children behind in their exposure to effectively and efficiently use technology. Therefore, in relation to the teaching the foreign language with

the utilization of the digital games, it is imperative that teachers and educators learn to use technology in a way that will be beneficial and appropriate just as any tool can (Shade & Watson 1990). In short, in any given situation, a professional judgment by the professional is required to determine if a specific use of technology is age appropriate and whether the choice of appropriate games is set up in a way that is conducive to group learning and develop creative thinking skills, practice expressive and receptive language skills, and encourage social interaction.

2.8. Teacher's Role in Language Learning **with the Implementation of Educational Casual Computer Games at Preschool Age**

The amount of time the learners are in class, how much they practice, how good the teacher is, what the quality of the resource in the classroom is, what the home environment is, are all to determine how well your learners acquire the language. Hence, the lesson should be interesting first of all for the teacher herself. If learners are interested in the learning process, they overcome obstacles easily and master the language acquiring proper linguistic skills and abilities. By using different methods and techniques, a teacher should make the learning process attractive   in order to achieve the best results (Ne Harmer, 1999).

Lenhart et al.,(2008)states the role of a teacher is magnificent in arranging computer games as she/he is the game manager especially in the first stage of making the learners adapted with the new technology. The game's objective and the learning target are not equal so that learners sometimes may train or learn new words without recognizing them. The teacher can reach more than one learning target in the same game as students have to negotiate rules, correct and challenge each other. This helps learners use and improve their thinking, problem solving, language skills (Gros, 2007).

As technology becomes easier to use and early childhood software proliferates, young children's use of technology becomes more widespread. Therefore, early childhood educators have a responsibility to critically examine the impact of technology on children and be prepared to use technology to benefit children. Early childhood educators must take responsibility to influence events that are transforming the daily lives of children and families. This statement addresses several issues related to technology's use with young children: (1) the essential role of the teacher in evaluating appropriate uses of technology; (2) the potential benefits of appropriate use of technology in early childhood programs; (3) the integration of technology into the typical learning environment; (4) equitable access to technology, including children with special needs; (5) stereotyping and violence in software; (6) the role of teachers and parents as advocates; and (7) the implications of technology for professional development(Gros, 2007,p213)

It is important to consider how all these issues are presented to pre-school learners. Well-designed early childhood software grows in dimension with the child, enabling her/him to find new challenges as she becomes more proficient. Appropriate visual and verbal prompts designed in the software expand play themes and opportunities while leaving the child in control. Vast collections of images, sounds, and information of all kinds are placed at the child's disposal. When used appropriately, technology can support and extend traditional materials in valuable ways. (Byrne, D. (1986).

To sum up, taking into account all the issues mentioned above and   focusing on the need to implement digital games in the EFL /ESL context in pre-school settings it could be assumed that the more early childhood educators believe in the benefits of appropriate use of technology at the preschool age, the more responsibility they bear in ensuring equity and access to this

important learning tool. At this point, let me state that my literature review has brought me to the following research question:

"What impact do educational casual computer games have on preschool learners' English language achievement?"

Chapter 3: Methodology

The aim of this chapter is to provide detailed information about the educational context of the study, the participants, the materials used in the study, the data collection and the description of the procedures of the study.

3.1. *Research Design*

The project aims at implementing an experimental method of doing research in which at least one independent variable should be manipulated. The research question is as follows:

- "What impact do educational casual computer games have on preschool learners' English language achievement?"

Two groups were involved in the experiment**:** control group and the experimental group. The experimental group received the treatment, whereas the control group did not receive any treatment. The groups did not know about the experiment to avoid any external factors influencing the experiment. In the experimental group, casual computer games were used based on the topic given in class, in control group the traditional language games were used. In both groups the language of the instruction was the learners' L1 (Armenian), and L2 (English) for conducting the lesson.

The purpose of this research was to determine to what extent casual computer games may promote learners' English language achievement. For this purpose the classes were conducted with the implementation of a variety of casual computer games. Then, at the end of the course, a posttest was assigned to determine whether the treatment with the use of educational casual computer games helped the learners to develop their language proficiency or not.

3.2. Educational Context

The research was conducted in the Armenian public kindergarten located in Yerevan. The duration of the research was 8 weeks (6 weeks for instruction, 2 weeks for pre and post –tests). The classes took place twice a week, 30 minutes per session. The English language as part of the curriculum is taught in this kindergarten starting from the age of 4 to 5 in preschool groups twice a week with the duration of 30 minutes

3.3 Participants

The participants of this study were from the Armenian public kindergarten and the teacher (8 students in the experimental group, 8 students in the control group). The researcher was the teacher. Two groups of the students were chosen for this experiment. The learners were randomly chosen from the same group. One group (experimental group) included 8 learners (3 girls and 5 boys). The other group (the control group) included 8 learners as well (4 girls and 4 boys). The students' age of both groups ranged from 4 to 5. The first language of all the students was Armenian. Taking into account the fact, that the English language was taught in this group approximately for 6 months with some intervals before the start of the research , the learners had nearly no exposure to the English language.

3.4. Materials

The material used for the course was chosen by the teacher as there was no certain textbook designed for the course. Therefore, the special course was designed by the teacher .It consisted of 4 units, each unit focusing on one selected topic (See Appendix E). Each topic was covered during two or three lessons. Each lesson encompassed a large range of activities and topics in accordance with the general teaching program in preschool education in Armenia. The

lessons were enriched with drawing projects, rhymes, songs, cooperative learning and the variety of language games chosen appropriately for each given topic. Special emphasis was put on developing speaking and listening skills. The given materials were chosen for promoting communication skills and enabled learners to practice listening and speaking skills while accomplishing the particular task. The course consisted of four units with the duration of 6 weeks was to cover the following topics:

1. Me and you

2. Playtime

3. At the kindergarten

4. Let's go to the party

It should be noted that, though the same materials and activities were used in both groups, the treatment of the experimental group depended on the use of particular computer game (See Appendix F). For this reason, the classes in the experimental group were conducted with the help of technology, that is to say two computers were used for playing the game.

3.5. Instrumentation

The quantitative data was collected through**:**

- **Pre -test**
- **Post- test**

The two groups of the learners were given a pretest during the first week of the research. It should be mentioned that taking into consideration the age of the learners it was obligatory for

the researcher to spend a week with the kids in the kindergarten before giving a test not to be a stranger for the kids. After a week a pre- test was given based on the topics the students had covered during their previous course (See Appendix A). It should be mentioned that English as a foreign language is taught in the chosen kindergarten starting from the preschool age (the age of 4-5) and lasts for a year. After the six – week instruction the learners were given a post test (See Appendix B). The aim of the test was to determine the students' English language achievement after the instruction.

3.6. Procedures of the Experiment

Pretest- At the beginning of the course the students of both experimental and control groups were given a pretest consisting of one –word picture vocabulary test (Appendix A). The students were asked to do the task, where they had to look at the flashcard and name the objects they could identify in the picture. The picture of the task showed a number of colorful objects focusing on the topics they had covered. For this purpose before choosing the picture for the test the teacher got familiar with the topics the kids had covered during their English classes previously. During the pre- test the students were asked some questions. Here is the list of the questions that were given to the students to answer:

1. What is it?
2. How many balls are there in the picture?
3. What color is it?
4. Have you got a doll?

Since there is a need to be sure that the scores obtained for data analysis are consistent measures of the ability which is intended to be measured, two raters graded the participants. Both during

the pre- test and the post test the students were tested at different hours so that the factor of listening to each other's answer was excluded. Later, the results were discussed in general terms.

Both the pretest and post- test were rated taking into account Scoring Rubric for Assessing Speaking (Second Language Elementary, Oregon Department of Education, February,1995) as a model to grade the students' answers (See Appendix C) .

Treatment- after having the results identified, the learners of the experimental group received the treatment. As it was already mentioned, the course lasted for 8 weeks (6 weeks for instruction, 2 weeks for pre and post - tests). During the six weeks the experimental group had various activities. During each session the students had the chance of playing one educational casual computer game (See Appendix D). It has been mentioned above that the classes of the experimental group were conducted with the help of modern technology. Two computers were placed in the classroom; each one was for the group of 4 kids. The teacher introduced to them the instructions of the particular game using one computer. The instructions were given in the students' first language (Armenian). Later the teacher divided the class into two groups, each consisted of four students. The group took their place in front of each computer and played the game in turn. While playing the teacher was walking among the students and had them repeat the words and phrases they heard while playing. The students were willing to listen, play and repeat simultaneously. It should be noted that because of the technology failure   sometimes the game was interrupted in order to calm the students as they were impatient to take their turns and monitor the game. However, due to the nature of each digital game the students got into cooperation and interacted with each other in the process of gaming. The duration of each game was 10 – 15 minutes and each game was introduced within the class depended on the structure of the lesson. The duration of each lesson in the experimental group was the same as that of the

27

focus group. As it has been mentioned above, the topics were introduced with the implementation of the particular digital game (See Appendix D).

It should be noted that the students of the control group did the same activities designed for the lesson but without the implementation of the casual computer games. It is worth emphasizing that though the control group did not have a chance to use computer games while learning, the utilization of various traditional language games was a magnificent factor to motivate and encourage them during the whole process of instructions (See Appendix D).

Posttest- At the end of the treatment a posttest was administered in both groups (experimental and control) to determine the results. It attempted to investigate whether a series of casual computer games promoted the learners' language achievement to statistically significant extent or not (See Appendix B). The post test   was conducted according to the same principles as the pre- test.

Chapter 4: Results of the study

This chapter presents the results of the statistically analyzed data regarding the impact of the implementation of the educational casual games into the EFL settings. The results of the quantitative data   aim at answering the following research question guiding the study:

- "Do educational casual computer games have an impact on preschool learners' English language achievement?"

  In order to answer this research question quantitative data were collected via pre and post- tests, conducted at the beginning and at the end of the course, respectively.

4.1. Analysis of the Quantitative Data

The quantitative data for the research question were collected through the pre and post-tests. For the statistical analysis of the pre and post test data, Mann- Whitney and Wilcoxon tests were utilized to compare the average ranks of test scores of both experimental and control groups. The reason for using non- parametric Mann- Whitney and Wilcoxon tests was the small number of the participants.

According to Pallant, 2007 the Mann- Whitney U Test and W tests are used when the distribution of scores does not meet the normality assumption of the parametric tests. These tests convert the scores to ranks across two groups. Mann- Whitney test compares the average ranks of scores between the groups, i.e. pretest with pretest, and posttest with posttest. As for the Wilcoxon test, it is used when the same subjects are measured on two occasions, or under two different conditions.

It is worth mentioning that pre and post Oral Vocabulary Tests were graded by the teacher and the co- rater. To check the reliability and consistency of the teacher and co- rater grading, Cronbach's reliability Scale was used.

4.1.1Cronbach's Alpha Reliability Scale

In order to establish inter – rater reliability of the scores of both pre and post-tests, Cronbach's Alpha reliability scale was employed to measure the consistency of the scores.

Table 1

Reliability Statistics for Pre

Test

Cronbach's Alpha	N of Items
.921	2

As can be seen in Table 1, the reliability is checked for 2 items (pretest by the teacher and pretest by the co-rater). The Cronbach's Alpha is 0.921 which shows very high internal consistency reliability for the scale.

Table 2

Reliability Statistics for Post Test

Cronbach's Alpha	N of Items
.903	2

As can be seen in Table 2, the reliability is checked for 2 items (post-test by the teacher and post-test by the co- rater). The Cronbach's Alpha is 0.903 that shows very high internal consistency reliability for the scale. Taking into account the fact of higher reliabilities, the average pretest scores and the average posttest scores have been calculated and further analysis is done for average pre and post test scores of the teacher and the co- rater.

It is worth to introduce mean scores and standard deviations for pre- tests and post- tests of both groups to see both groups' progress from pretest to posttest in terms of average scores instead of average ranks.(See the Table 9 for experimental and Table 10 for the control group).

Table 9

Descriptive Statistics[a]

	N	Mean	Std. Deviation
Pretest	8	1.5000	1.17260
Posttest	8	2.4688	.94904
Valid N (listwise)	8		

a.group=1

Table 10

Descriptive Statistics[a]

	N	Mean	Std. Deviation
Pretest	8	1.3125	1.03294
Posttest	8	2.4375	1.05855
Valid N (listwise)	8		

a. group = 2

4.1.2. Mann Whitney U Test for Between Group Comparisons

In order to perform analysis of between group comparison, Mann Whitney U Test was used in this study since the sample sizes were small (8- experimental, 8 – control).

Table 3

Mann Whitney U Test statistics

Ranks

	group	N	Mean Rank	Sum of Ranks
Pretest	1	8	8.75	70.00
	2	8	8.25	66.00
	Total	16		
posttest	1	8	8.44	67.50
	2	8	8.56	68.50
	Total	16		

Table 4

Test Statistics[b]

	pretest	posttest
Mann-Whitney U	30.000	31.500
Z	-.212	-.053
Asymp. Sig. (2-tailed)	.832	.958
Exact Sig. [2*(1-tailed Sig.)]	.878[a]	.959[a]

Table 3 presents the results of the comparison of the pre- test with pre- test and posttest with post- test of both groups.

Looking at Table 4, Mann Whitney U test for comparison of pretests has a probability p=0.878 which is   not less than the significant level of 0.05. It indicates that there is no significant difference between the two group pretests. Referring back to Table 4, Mann Whitney U test for comparison of posttests has a probability p=0.959 which is   not less than the significant level of 0.05. It also indicates that there is no significant difference between the two group posttests. Accordingly, both the experimental and the control groups had nearly the same performance during the pretest and the posttest.

4.1.3. Wilcoxon Signed Ranks Test for within Group Comparison

In order to perform analysis of within group comparisons and explore to what extent the participants improved their language proficiency, a Wilcoxon test was employed, where the average ranks of scores in the pretests and the posttests were compared with each other for each group separately. The results can be seen in Table 5 and 6 for the experimental group, respectively.

Table 5

Wilcoxon Signed Ranks Test for experimental group

		N	Mean Rank	Sum of Ranks
posttest - pretest	Negative Ranks	1[a]	1.50	1.50
	Positive Ranks	7[b]	4.93	34.50
	Ties	0[c]		
	Total	8		

Table 6

Wilcoxon Test Statistics for experimental group

	posttest – pretest
Z	-2.313[a]
Asymp. Sig. (2-tailed)	.021

In close line with the results represented in the table above, for Wilcoxon test of comparison of pre and post-tests results in the experimental group, the Z value is 2.313 with the probability value of p=0.021.Since this probability is less than 0.05 it can be concluded that there is a significant difference between the learners' performance of Oral Vocabulary pre and post-tests in the experimental group in favor of post- test (see table 5).

The similar Wilcoxon Signed Ranks test was applied to compare the control group scores of pretest and post (tables 7 and 8).

Table 7

Wilcoxon Signed Ranks Test for control group

		N	Mean Rank	Sum of Ranks
posttest - pretest	Negative Ranks	0[a]	.00	.00
	Positive Ranks	8[b]	4.50	36.00
	Ties	0[c]		
	Total	8		

Table 8

Wilcoxon Test Statistics for control group

	posttest − pretest
Z	-2.527[a]
Asymp. Sig. (2-tailed)	.012

The results illustrated in table 8 reveal that the Z value is2.527with probability value of p=0.012.Since the probability p is less than 0.05 there is a significant difference between the

learners' language proficiency of Oral Vocabulary tests in the control group in favor of the post test.(see table 7).

Exploring the results of the Wilcoxon Signed Rank test for both the experimental and control groups, it becomes obvious that the learners in both groups performed better on the post test, and thus, there was observed progress in both groups no matter whether they employed computer games or not. Hence, this may mean that the instruction in both groups were effective and had the positive impact on the learners' language achievement. However, to reveal what effect the instructions had on the learners' language proficiency in both groups, effect size was also calculated.

4.1.4. Effect Size for Wilcoxon Test

Effect size is calculated according to the following formula **r=Z**/square root of N where N= total number of cases.

Accordingly, the effect size for Wilcoxon test for the experimental group is 0.578 or 57.8%. Meanwhile, the effect size of the control group is 0.632 or 63.2%.

According to Cohen's (1998), 0.1 means small effect, 0.3 means moderate effect, and 0.5 means large effect. The calculations showed effect size for Wilcoxon within group comparison is larger than 0.5 which indicates large effect. Thus, it could be concluded that the methods implemented for both the experimental and control groups were beneficial for the learners and, therefore, had a positive impact on their language proficiency.

Chapter 5: **Discussions and Conclusion**

This chapter presents the summary of the findings and results of the statistical analysis of the quantitative data. It also discusses the limitations faced while conducting the study and provides pedagogical applications. Last, but not least, it suggests recommendations for further research.

This study was set out to address the following research question

- *Do educational casual computer games have an impact on preschool learners' English language achievement?*

5.1. Discussions on the Findings Related to the Research Question

From the findings presented in the preceding sections via the pre and post-tests it could be inferred that both the experimental and the focus groups performed similarly during the pre and post-tests. That means the treatment with the implementation of educational casual computer games did not give a significant improvement in learners' language achievement. Thus, both groups performed on average similarly in pre and post tests on the basis of teacher and co-rater grading.

Carrying out statistical analysis of within group comparison, the results of the Wilcoxon Signed Rank test revealed that in the experimental group both the teacher and the co-rater came up with the same results which shows that there is a significant improvement of learners' language proficiency from the pretest to posttest in favor of the posttest in the experimental group. Hence, the same results revealed in the control group indicate a significant improvement of learners' language proficiency from the pretest to posttest in favor of posttest. The effect size

of Wilcoxon Signed Rank test illustrates   that the instructions in experimental and non-experimental groups had large effect.

5.2. Pedagogical implications and applications

According to the findings of the present research study, the implementation of educational games did not give any significant results as compared to the control group which did not get any treatment. However, Armenian EFL teachers may consider results of the study if they want to enhance their learners language skills using technological tools designed for language teaching and learning. They may apply the findings with the aim to fill in the gap existing in the EFL settings, where the learners have no opportunity to transfer their language learning experience into language using experience. However, if any language teacher decides to use educational casual computer games in his/her course there are several factors that should be taken into account, such as the length of the game, the nature of the game, the topic, the content, vocabulary appropriateness, the level of the students, the age group, the purpose and the objectives of the course. Another application of the study may be the following: since the current research study is the first one related to the implementation of educational casual computer games in EFL preschool settings, it may be applied as an exploratory study on which further research studies can be conducted. Finally, language teachers could apply the findings of the study for better understanding of the impact of computer games on children's cognitive development and behavior.

5.3. Delimitations and Limitations and of the Study

Delimitations of the study are related to the problem of narrowing down the study to a more specific area. The research only refers to EFL settings as the participants of the study were Armenian EFL learners. The second delimitation of the study is the level of the students. However, in spite of this delimitation the study may help to illuminate the issues of implementing educational computer games in other settings.

There are several limitations of the study that need to be addressed. The first limitation worth mentioning is the length of the study. It lasted for only eight weeks and the time the participants were exposed to computer products could be longer. Moreover, only part of the lesson (10 minutes) was devoted to the research which was not enough for thorough observation of learners' performance. Secondly, the number of the participants was only 16 people. The third limitation of the study was the lack of the necessary technology, i.e. the number of the computers was not sufficient for the learners' individual use. Finally, another limitation of the research was that the teacher of both groups (experimental and control groups) was both the teacher and the research

5.4. Suggestions for Further Research

Several areas are suggested for future research. Taking into account the above mentioned limitations, it is suggested further research being carried by involving a large number of participants with a longer period of time to have more generalized results.

For further research it is suggested the following areas be investigated:

- The impact of educational casual computer games on literacy

- The impact of educational casual computer games on speaking skills

- The impact of educational casual computer games on listening skills

- The impact of educational casual computer games on learners' social skills

- The impact of casual computer games on cooperative and collaborative skills

- The impact of casual computer games on learners' language achievement in other Armenian settings

- The second delimitation of the study is the level of the students

REFERENCES

Aldrich, C. (2005). *Learning by doing: A comprehensive guide to simulations,*

computer games, and pedagogy in e-learning and other educational experiences.

San Francisco: Jossey Bass.

Anderson, J. R. (2005, November-December). The relationship between students'

perceptions of team dynamics and simulation game outcomes: An individual level

analysis. *Journal of Education for Business, 81*(*2*), 11-18.

Byrne, D. (1986) *Teaching Oral English* (New Edition), Longman

Brown, G. And Yule, G. (1983) *Teaching Spoken English*, Cambridge Press

Celce-Murcia (Ed.), *Teaching English as a second or foreign language* (pp. 251-266). Boston,
MA: Heinle&Heinle

Harmer, J. (1999).*The Practice of English Language Teaching*,

Ne Harmer, J. (1999). *The Practice of English Language Teaching*, New York Longman

Hadfield, J. (1979). *Intermediate Communication Games,* Oxford: Oxford University Press

Gee, J.P. (2003). *What digital games have to teach us about learning and literacy.* New York:

Palgrave Macmillan.

Gros, B. (2007). Digital games in education: The design of games-based learning

environments. *Journal of Research on Technology in Education, 40*(1), 23–38.

Lee, W.R. (1979). *Language Teaching Games and Contests,* Oxford: Oxford University Press

Lenhart, A., Kahne, J., Middaugh, E., Macgill, A., Evans, C., & Vitak, J. (2008). *Teens'*

video games, and civics. Pew Internet & American Life Project. Retrieved October 6,

2008, from http://www.pewinternet.org/pdfs/PIP_Teens_Games_and_Civics_Report.

FINAL.pdf

Papert, S. (1998). Does easy do it? Children, games, and learning.*Game Developer magazine*,
Retrieved from http://www.papert.org

Savignon, S. J. (2000). *Communicative language teaching.* In M. Byram (Ed.) Routledge
Encylopaedia of Language Teaching and Learning (124- 129). London: Routledge.

Schultz, M. and Fisher, A. (1988). *Games for all Reasons*. U.S.A.: Addison-Wesley Publishing
Company.

Sacricoban, A. and E. Metin (2002). Songs, Verse, Games for Teaching Grammar. Retrieved
from http://itesl.org.

Stern, H. H.(1990). Analysis and experience as variables in second language pedagogy In B.
Harley, P. Allen, J. Cummins & M. Swain (Eds.). *The development of second language*
proficiency (93-109). Cambridge University Press.

Swain, M. (1985). Communicative competence: Some rules of comprehensible input and comprehensible output in its development**.** In S. Gass & C. Madden (Eds.). *Input in second language acquisition* (235–253). Rowley, MA: Newbury House.

Truscott, J. (1998). Noticing in second language acquisition: A critical review. *Second Language Research,* 14, 103–135.

Toth, M. (1998). *Children's Games.* Oxford: Macmillan Heinemann English Language Teaching.

Ur, P. (1996). *A Course in Language Teaching.* Cambridge: Cambridge University Press.

Ur,P. (1988). *Grammar practice activities: A practical guide for teachers*. Cambridge: Cambridge University Press.

Ur,P. (1999). *A course in language teaching: Practice and Theory.* Cambridge: Cambridge University Press.in the input: An experiment in Consciousness. *Studies in Second language Acquisition,* 12(3), 287-301.

Willes M J (1983). *Children into pupils: a study of language in early schooling.* London: Routledge & Kegan Paul.

Wright et al (1984). *Games for language learning*. Cambridge: Cambridge University Press.

Appendices

Appendix A

Speaking Pre- Test

(!0 minutes)

Task 1 : Questions

1. What is it?

2. How many balls are there in the picture?

3. What color is it?
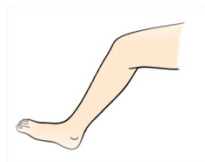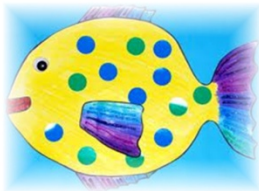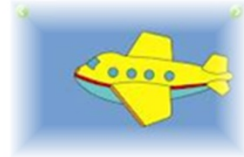
4. Have you got a doll?
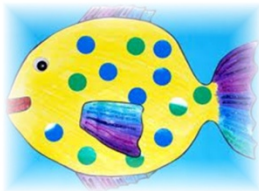
Appendix B

Speaking Post –Test

(10 minutes)
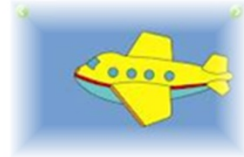
Task 1 : Questions

1. What is it?

2. How many balls are there in the picture?

3. What color is it?

4. Have you got a doll?
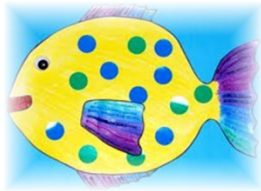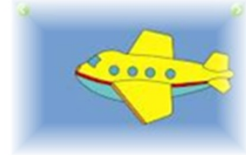
Appendix C

	Message is	Pronunciation	Vocabulary
Scoring Rubric for Assessing Speaking			
4	easily understood in its entirety	approximates native speech	is used accurately
3	comprehensible in its entirety with a few minor flaws	is mostly correct with only minor flaws	is appropriate
2	Somewhat comprehensible	is dominated by first language	is limited or incorrect
1	difficult to understand	difficult to understand	is very poor or inaccurate for topic; first language words may be used

Appendix D

Treatment Schedule

Experimental Group Treatment	Control Group Placebo

	Topics for Implementing Digital Games	Topics for Language Games
1	**Me and you** http://teacher.scholastic.com/activities/bll/nina/restaurant/ learnenglishkids.britishcouncil.org/...whats-your-news-picnic	**Me and you** **"Who is the winner"** (match the items with the numbers)
2	**Playtime** http://learnenglishkids.britishcouncil.org/en/language-games/paint-it/playground learnenglishkids.britishcouncil.org/...whats-your-news-picnic	**Playtime** **"Paint me right"** (listen and color the picture)
3	**At the kindergarten**	**At the kindergarten**

	http://www.sheppardsoftware.com/preschool/ngames/colors.htm http://www.ehow.com/video_4468205_bean-bag-toss_-preschool	**Crossword puzzle (At the playground)**
4	**Let's go to the party** learnenglishkids.britishcouncil.org/...whats-your-news-picnic http://www.kongoroo.com/#11	**Let's go to the party** **Bingo** (li*sten and cover the items*)

Appendix E

Syllabus

American University of Armenia

Experimental English Classes

Pre- school Kindergarten Group

Summer, 2011

Course Syllabus

Teacher	Luiza Grigoryan
Email	Luizagrigoryan79@mail.ru
Tel	091897771
Class meets	Wednesday/Friday : 10- 10.30
	Kindergarten room

Course Description:

This course is communicative and focuses on communicative language teaching method. This course is designed for pre- school children and focuses on engaging children in basic oral communication. The materials used in the course aim to present authentic language use.

Target Audience

- **Age**: 4-5

- **Level:** Beginners

  Course length: 8 weeks (2 sessions per week with 30 – minute duration)

  Required Materials

  CD, Computer, Internet, additional materials, posters, flashcards

Scope and Sequence

Unit	Theme	Communicative Objectives	Language objectives	Target Vocabulary	T:
1.Hello Me and you	" My name is Tom"	• to introduce oneself • to give personal details • to ask politely • to answer politely	• to use nouns to describe kitchen equipment • to use numerals • to use personal pronouns • to identify the names of some kitchen equipment	hello, good bye, how are you, I am fine, thank you, my name is, sit down, stand up, drink, eat, let's go, give me ,please, , water, candy, cake, plate, cup, I	N 5)

				want, help yourself	
2.Playtime	" I can jump"	• to make statements about abilities • to construct questions • to make interactions	• to use the modal verb to describe ability • to use numerals • to use interrogative/negative forms of the modal verb to discuss abilities	playground, bike, football, skipping rope, slide, I can/I can't/Can you, ride a bike, play football, skip, count, clap, stamp your feet, Are you fine?, How old are you?	M in fo 1(

| 3.At the kindergarten | "Let's play" | • to use daily instructions

• to make interactions

• to express preferences and wants

• to talk about what one wants and doesn't want | • to use negative statements

• to use expressions with adjectives and nouns

• to use expressions with plural nouns

• to construct statements of possession | we, chair, door, table, open, close, bed, toys, doll, teddy bear, car, computer games ,like/don't like, Do you like, I don't want, Here it is, come here, go there, put on, take off, your hands, go to bed | Pl po |

| 4. Let's go to the party | "Happy Birthday Tom" | • to express wishes and congratulations

• to use offers and requests

• to make interactions

• to give personal information | • to make statements of possessions

• to make statements with the construction "I have got"

• to constructs commands

• to construct requests | Balloons, candles, party, family, father, mother, sister, brother, friend, gift, happy birthday, my birthday, birthday card, I have got, let's go to the party, have fun, dance, sing, open presents, I invite you to my | C

g

in

fo |

				birthday party

Course Outline

	Days	Units
	Days	**Units**
Week 1	**Day 1**	Post Test
	Day 2	Post Test
Week 2	**Day 1**	Unit 1: Me and you art project (coloring), singing "What is your name?", games,
	Day 2	Unit 1: Me and you TRP, games, craft project (postcard)
Week 3	**Day 1**	Unit 1: Me and you (revision) Storytelling "Old Mackdonald had a farm"

		,poem "Ten little Indians", games
	Day 2	Unit 2: Playtime outdoor activities, games, singing " One, and two, and three, and four"
Week 4	**Day 1**	Unit 2: Playtime Poem "I can do this" , storytelling " Three bears', TRP, games
	Day 2	Unit 3: At the kindergarten Watching a cartoon " Three bears", games, craft project (coloring)
Week 5	**Day 1**	Unit 3 : At the kindergarten games, art project, singing "The Hokey Cokey" poem " My friend"
	Day 2	Unit 3 : At the kindergarten games ,storytelling "Little Red Riding Hood" ,
Week 6	**Day 1**	Unit 4: Let's go to the party Singing " Head and shoulders", games, craft project (greeting card)
	Day 2	Unit 4: Let's go to the party role playing, watching cartoon ",Little Red Riding Hood", games
Week 7	**Day 1**	Unit 4: Let's go to the party

		Games, singing " Happy Birthday to you", poem " It's my birthday today"
	Day 2	Revision games, singing, poems
Week 8	**Day 1**	Post Test
	Day 2	Post Test

Appendix F

Examples of the Learners' Educational

Casual **Games**

Week	Topic	Links of **Educational** Casual **Games**
1	Me and You	http://teacher.scholastic.com/activities/bll/nina/restaurant/ learnenglishkids.britishcouncil.org/...whats-your-news-picnic
2	Playtime	http://learnenglishkids.britishcouncil.org/en/language-games/paint-it/playground learnenglishkids.britishcouncil.org/...whats-your-news-picnic
3	At the kindergarten	http://www.sheppardsoftware.com/preschool/ngames/colors.htm http://www.ehow.com/video_4468205_bean-bag-toss_-preschool
4	Let's go to the	learnenglishkids.britishcouncil.org/...whats-your-news-picnic

	party	
5	Let's go to the party	http://www.kongoroo.com/#11