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CALL in the Form of Simulation Games: Teaching English Vocabulary and Pronunciation through Sims

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ABSTRACT

When discussing the current state of art with regard to the use of new technologies in foreign and second language learning one thing is blinking sharply: Simulation Games. Simulator games have prepared a great pedagogical context for young sailors and mariners. The importance of creating pedagogical context for sailors and mariners to learn English as a second or foreign language is the essence of this study. Simulation games show potential not just for engaging and entertaining users, but also in promoting language learning. In this research we survey the effect of simulation Games on sailor and mariners' English vocabulary and pronunciation learning of Khoramshahr Navy University. The results clearly showed that these kinds of games have a significant impact of learners, especially when they learn English as ESP like the sailors and mariners.

Keywords: Simulation Game, English learning through game, sailor and mariner's English learning.

1. INTRODUCTION

In recent years, there has been a growing body of research on new language learning techniques. Using game has been the subject of many papers and discussions over the recent decades. A game can be defined as an activity that contains some or all of the following elements: rules, goals, challenges, fantasy, mystery, curiosity, competition, and skill (Garris, Ahlers, & Driskell, 2002; Randel, Morris, Wetzell, & Whitehill, 1992). Games that are adapted and used for educational purposes aim to have players achieve a specific learning outcome as the goal of the game (Garris et al., 2002). Over the past decade, educators have reported using games as instructional tools in a variety of disciplines.

Koether (2003) described the use of a "name game" to teach students chemical information; Gublo (2003) used a "trivia game" to teach laboratory safety methods. Gaming is a characteristic of human nature, hence it can be claimed that the history of gaming goes back to the beginning of the history of human being (Demirbilek, Yilmaz, & Tamer, 2010).

According to Juul (2003) a game is a rule based formal system with a variable and quantifiable outcome, where different outcomes are assigned different values, the player exerts effort in order to influence the outcome, the player feels attached to the outcome, and the consequences of the activity are optional and negotiable.

The game definition Juul proposed contains six parameters: 1) Rules: games are rule-based. 2) Outcome: games have variable, quantifiable outcomes. 3) Value: that the different potential outcomes of the game are assigned different values, some being positive, some being negative. 4) Effort: that the player invests effort in order to influence the outcome. 5) Player's attachment: that the players are attached to the outcomes of the game in the sense that a player will be the winner and happy if a positive outcome happens, and loser and unhappy if a negative outcome happens 6) Negotiable consequences: the same game can be played with or without real-life consequences (Ang & Zaphiris, 2008).

Educational games are activities that provide students with the opportunity to reinforce the previous knowledge by repeating it in a more comfortable environment. Educational games are software that helps students to learn the lesson subjects and to develop their problem solving skills by using their desire and enthusiasm to play (Donmus, 2010).

1. 1. Review of Literature

Using Simulation games has been a much thought about, yet rarely did work on in language learning. Educational software developers have struggled to present a substantial amount of content; context and feedback without sacrificing the degree of control game players (Buckingham & Scanlon, 2003). There are several instances of games used in language learning (Seay, 1997; Kirriemuir, 2002), as well as proponents of using computer games to educate (Prensky, 2002).

deHaan (2011) has investigated teaching and learning English through digital game projects. Two completed extracurricular projects, based on constructionist learning and media literacy theories and practices, are described in his paper: game design and game magazine creation. The action research projects aimed to guide students towards a better understanding of games' formal features and technologies through their active creation of games and game-related media, and to improve their spoken and written English language skills. In general, students learned and practiced a variety of language and technology skills with the design projects. The projects motivated the students, challenged the students, and provided many opportunities for authentic discussions in the foreign language.

deHaan, Reed and Kuwada (2010) have investigated the effect of interactivity with a music video game on second language vocabulary recall. Their experimental study investigated to what degree video game interactivity would help or hinder the noticing and recall of second language vocabulary. Eighty randomly-selected Japanese university undergraduates were paired based on similar English language and game proficiencies. One subject played an English-language music video game for 20 minutes while the paired subject watched the game simultaneously on another monitor. Following game play, a vocabulary recall test, a cognitive load measure, an experience questionnaire, and a two week delayed vocabulary recall test were administered.

Results were analyzed using paired samples t tests and various analyses of variance. Both the players and the watchers of the video game recalled vocabulary from the game, but the players recalled significantly less vocabulary than the watchers. This seems to be a result of the extraneous cognitive load induced by the interactivity of the game; the players perceived the game and its language to be significantly more difficult than the watchers did.

Players also reported difficulty simultaneously attending to game play and vocabulary. Both players and watchers forgot significant amounts of vocabulary over the course of the study.

Wang (2010) has studied the effect of using communicative language games in teaching and learning English in Taiwanese primary schools. The aim of his study was to examine the use of communicative language games for teaching and learning English in Taiwanese elementary schools. The participants were 150 teachers teaching in Taiwanese primary schools. The instrument used was a survey questionnaire about participants' perspectives on the use of communicative language games in English lessons.

The results of the study provided encouraging evidence to indicate that Taiwanese elementary school teachers generally appreciated the benefits and value of communicative game activities in the teaching of English language. The findings also suggested that when facing students with different backgrounds, learning styles, needs, and expectations, teachers should be aware to take learners' individual variations into account and be more flexible in their use of communicative games in order to maximize educational effect. It is hoped that communicative language games will attract more attention and will be applied more widely in the classroom with more positive attitudes on the part of language teachers.

Turgut and Irgin (2009) have studied young learners' language learning via computer games in Turkey. This qualitative research based on phenomenological theoretical framework investigates young learners' experiences of language learning while playing computer games in internet cafes. The data was collected through observations and semi-structured interviews and analyzed through phenomenological data analysis steps. The results indicated that young learners' playing online games promotes language learning and especially vocabulary skills.

1. 1. 1. Vocabulary

Vocabulary learning is often perceived as boring by learners, especially for those who grew up in the digital age. The Simulation Game has opened up a world of possibilities for improving the vocabularies of young learners. By using Simulation Game, teachers and parents can ensure that their young learners are prepared for the adventure of reading and writing. Our generation may not have had access to formal vocabulary instruction in our preschool and early elementary years, but vocabulary lessons for today's early learners are as close as the nearest computer. In playing computer games, young people are making use of vocabulary for their own purposes, in complex and pleasurable ways. Computer games are an important aspect of what Sefton-Green describes as 'a wider ecology of education where schools, home, playtime, the library and museum all play a part' (p.19).

1. 1. 2. Pronunciation

Learning another language can be very difficult and stressful, and having to use language in the "real-world" can often be very daunting for easily intimidated students. Role plays and games are used in the language classroom to let students practice language before they must use it in the "real world." Video games are another avenue for "experimentation in a safe 'virtual environment'" (Kirriemuir, 2002). Learners may be hesitant to participate in language classes because of not wanting to make a mistake in front of their peers, but may be more willing to interact with a Simulation Games in order to gain valuable linguistic feedback and practice with language before applying their knowledge in the "real world." As Simulation Games are interactive, they are able to immediately give valuable linguistic feedback. In The Sims, players control characters' actions and interactions by selecting text commands. If, for example, a player confuses "flirt" and "talk," it will become quickly

apparent to the player that his/her linguistic competency is lacking and the player will have to alter his/her knowledge of these words. A similar acquisition process occurs by using menus, selecting items, or following instructions in virtual pet, role-playing or action/adventure games. In Simulation Games, the player must vocally interact with the game via a microphone and use correct vocabulary, pronunciation or grammar, as well as speak appropriately in the game's context. If a player's utterance is incorrect, these games prompt the player to alter his/her utterance. This latter type of Simulation Game gives a learner numerous chances to improve his/her speaking ability and pronunciation through implicit feedback.

1. 2. Simulation Game Definition:

A simulation game attempts to copy various activities in "real life" in the form of games for various purposes: training, analysis, or prediction. Usually there are no strictly defined goals in the game, just running around, playing as a character. Well-known examples are war games, business games, and role play simulation.

The comparisons of the merits of Simulation Games versus other teaching techniques have been carried out by many researchers and a number of comprehensive reviews have been published. Simulations generally come in three styles: live, virtual and constructive. A simulation also may be a combination of two or more styles.

Live simulations typically involve humans and/or equipment and activity in a setting where they would operate for real. Think *war games* with soldiers out in the field or manning command posts. Time is continuous, as in the real world. Another example of live simulation is testing a car battery using an electrical tester.

Virtual simulations typically involve humans and/or equipment in a computer-controlled setting. Time is in discrete steps, allowing users to concentrate on the important stuff, so to speak. A flight simulator falls into this category.

Constructive simulations typically do not involve humans or equipment as participants. Rather than by time, they are driven more by the proper sequencing of events. The anticipated path of a hurricane might be "constructed" through application of temperatures, pressures, wind currents and other weather factors. Science-based simulations are typically constructive in nature.

1. 3. Hypothesis

Navy Simulation Game has effect on better English vocabulary and pronunciation learning of sailors and marines of Khoramshahr Navy University.

2. METHOD

2. 1. Participants

A total of 88 mariner students of Khoramshahr Navy University all male and with age range of 22 to 24 years participated in this experimental study. All of these participants were originally Iranian and English was a foreign language for them and Persian was the first language. The participants were recruited to voluntarily participate in an English language program by the use of Navy Simulator Games in Khoramshahr Navy University.

Prior to the program, the mariner students took an English proficiency test in vocabulary and pronunciation. According to the scores 60 students were ranked as low intermediate, 22 were ranked as intermediate, and 6 were ranked as high intermediate. For the need of this study the 60 participants ranked as low intermediate were held in the program. In the next steps they were asked in a questionnaire about their current program of studying English and it became clear that just four of them participate in other English learning program at the moment.

As a requirement of the research the four mentioned students were eliminated in the program and the rest, 56 students, entered the Navy Simulator Game English Learning Program (NSGELP). In the other steps, to divide students randomly in two class, they were ordered alphabetically and then every odd numbers were placed in class A, and every even numbers in class B. It is worth mentioning that class A was taught in Navy Simulator Game English Learning Program while class B was taught in an ordinary method.

2. 2. Materials

For the purpose of this research, a commonly accepted definition of Navy Simulator Game materials was used. To consider all aspects of the games there have been some interactions with Institute for Simulation and Training (IST). They consulted some Navy Simulator Games that were suitable for students with low intermediate English proficiency.

Finally they nominated Ship Simulation Extreme Collection. A 2013 published game that owned lots of situation and contexts and appropriated for students with low intermediate proficiency. For the class A, there were prepared a laboratory with 28 computers, all equipped with Navy Simulation Game. At last for analyzing data gathered SPSS version 16 was used. As the requirement of the research an Independent t test was used.

2. 3. Procedure

The study was conducted in a 45 day term period in two classes, A and B, offered by Navy University of Khoramshahr. Class A students were placed in a laboratory equipped with Navy simulator Game and the other group, Class B, was placed in an ordinary English language class. The important thing here to mention is: before the starting to teach English vocabulary and pronunciation, the vocabulary and pronunciation of Ship Simulation Extreme was given to teachers to just work on them in order to eliminate some interfering factors. By so doing, there were one collection of words, expression, and pronunciation for both groups.

When the facilities for both group prepared, the instruction started. In the class A students learned technical vocabulary, expression, and pronunciation through Simulator Games and in the other class students were learned those technical vocabulary, expression, and pronunciation in an ordinary way through the teacher pamphlet and instructions. In the class A after students played with Simulation Games they were asked to use the language they learned in the game. For instance, in one of the series of Ship Simulation Collection, students played on a stormy situation and context.

Then they were asked to use it in front of the class. It had much interest when they were divided into several groups and each group was responsible for role playing a specific part. In the other class the same procedure was run with just the difference of instruction. At the end of 45 days a proficiency test was conducted on both groups. The test was based on the standard of English in vocabulary and pronunciation. The exam result then analyzed by Independent t test. Findings are discussed in result section.

3. RESULT

The scores are based on 100 questions in vocabulary (and expression), and pronunciation. The marks were given from 100 with 0 being the lowest and 100 being the highest mark. The score results of the final test in the class A and class B are presented in Table 1.

Table 1. Final Test Result in the Both Classes.

Number	Class A		Class B	
	Vocabulary	Pronunciation	Vocabulary	Pronunciation
1	85	80	70	65
2	75	72	66	70
3	65	73	32	30
4	64	63	54	24
5	72	91	67	41
6	50	82	80	50
7	40	71	71	34
8	43	65	52	67
9	82	88	47	62
10	81	53	32	45
11	59	82	90	80
12	45	87	44	35
13	90	78	64	48
14	80	63	63	71
15	62	90	57	65
16	53	40	42	52
17	43	53	25	42
18	53	64	16	40
19	20	50	43	34
20	55	42	18	46
21	89	38	60	58
22	80	40	40	68
23	70	45	15	62
24	15	68	52	67
25	76	81	41	70
26	64	60	37	76
27	55	52	45	34
28	43	45	74	84

Table 2 shows that class A was significantly different from class B on both English vocabulary and pronunciation learning through Navy Simulation Games ($p = .037$ & $p = .02$).

Table 2. Comparison of Class A&B in English vocabulary and pronunciation learning.

Variable	Mean	SD	t	df	p
Vocabulary			2.1	54	.037
Class A	61.03	19.44			
Class B	49.89	19.44			
Pronunciation			2.35	54	.02
Class A	64.85	16.91			
Class B	54.28	16.28			

Inspection of two classes means indicates that the average vocabulary learning score for class A (61.03) is significantly higher than the score of class B(49.89).

The difference between the mean in class A&B for vocabulary scores is 11.14 that clearly indicate the significance of teaching vocabulary by Simulation games, so the hypothesis is confirmed. The same interpretation is true about pronunciation. Class A pronunciation average describes 64.85 is significantly higher than Class B 54.28 with the difference of 10.57. On the comparison of class A&B $p = .037$ for vocabulary and $p = .02$ for pronunciation it is crystal clear that Simulation Game has effect on English vocabulary and pronunciation learning of Khoramshahr Navy University and the hypothesis is well accepted.

The surprising thing in the result section is the equal SD for both classes in both vocabulary and pronunciation which indicates the success of division of students in both classes. It shows that participants in both classes have the same language proficiency.

4. CONCLUSION

The result of the present study support the hypothesis that Game and specifically Simulation Game have a significant effect on English vocabulary and pronunciation learning of sailor and mariners, thus it is supporting the finding of previous investigations (Prensky, 2002, Seay, 1997; Kirriemuir, 2002). It was found that gains in knowledge of vocabulary and pronunciation tended to be larger with the use of Navy Simulation Games. In one encounter, the participants demonstrated large gains in knowledge of vocabulary and pronunciation in association with Simulation Games. To survey the result it can be seen in several aspects. First and maybe the most important one is psychological aspect. The investigation of what makes Simulation Games fun offer interesting new light on what will motivate a language student to learn language (Armando Baltra, 2012).

Educational material that is fun is also intrinsically motivating and should thus pave the way to successful learning. Intrinsic motivation is one of the foremost factors in second and foreign language learning and according to the result of this paper and other researches Simulation games can bring intrinsic motivation and facilitate second and foreign language learning(Brown 2007). The next thing to be consider is the emerging of new technologies.

Young language learners in today's life are doing lots of their activities through new technologies and learning new language isn't an exception for them. So it is very boring for young learners to learn by the traditional ways. The last thing to mention that is more specifically in relation with our research topic is using this Simulation games will prepare pedagogical contexts for young sailors and mariners and in this way helps them to experience the real situation in a virtual environment. The thought of their work in sailing makes language learning an inductive and unconscious process. When the attention of the learner is taken away from the language it helps the learner to work on it in an unconscious way and learn language as ESP (English for Specific Purposes). What should be considered by language planners is to plan using this kind of games in ESP teaching to help learners to take advantage of both learning language and the pedagogical context of them.

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