

Using Digital Games & Grammar Achievement of EFL Learners



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Abstract

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One of the most significant subskills in language learning is the structure and grammar knowledge. This research project investigates the effect of using digital games on the grammar acquisition of EFL learners. In doing so, two intact groups of 30 Iranian EFL learners at pre-intermediate level at Parsian Language Center in Bardsir were selected. Fifteen students were selected as the experimental group (EG) who were exposed to digital games and 15 ones made up the control group (CG) who were exposed to traditional ways of teaching. The research was completed through a quasi-experimental design. The instruments used for the study were a Nelson Placement test to assess the English proficiency level of the students and to homogenize them, grammar-based tests for pre and posttests from American English File series, and an application named Quizizz as a form of digital game. The results of independent-samples t-test and paired samples t-test indicated a statistically significant difference in learners' scores from pre-test to post-test. It conclusion, using Quizizz digital game could enhance English grammar acquisition among EFL learners.

استفاده از بازی‌های دیجیتال و پیشرفت دستور زبان‌آموزان زبان انگلیسی به عنوان زبان خارجی یکی از مهم‌ترین زیرمهارت‌ها در یادگیری زبان، دانش ساختار و دستور زبان است. این پروژه تحقیقاتی به بررسی تأثیر استفاده از بازی‌های دیجیتال بر یادگیری دستور زبان‌آموزان زبان انگلیسی به عنوان زبان خارجی می‌پردازد. در این راستا، دو گروه 30 نفره از زبان‌آموزان ایرانی زبان خارجی به عنوان زبان خارجی در سطح پیش‌متوسط در مرکز زبان پارسیان در بردسیر انتخاب شدند. 15 دانش‌آموز به عنوان گروه آزمایش (EG) انتخاب شدند که در معرض بازی‌های دیجیتال قرار گرفتند و 15 نفر به عنوان گروه کنترل (CG) که در معرض روش‌های سنتی آموزش قرار گرفتند. این تحقیق از طریق یک طرح شبه‌آزمایشی انجام شد. ابزارهای مورد استفاده برای این مطالعه، آزمون تعیین سطح نلسون برای ارزیابی سطح مهارت انگلیسی دانش‌آموزان و همگن‌سازی آنها، آزمون‌های مبتنی بر دستور زبان برای پیش‌آزمون و پس‌آزمون از مجموعه American English File و برنامه‌ای به نام Quizizz به عنوان نوعی بازی دیجیتال بود. نتایج آزمون t مستقل و آزمون t زوجی نشان دهنده تفاوت آماری معناداری در نمرات زبان‌آموزان از پیش‌آزمون تا پس‌آزمون بود. نتیجه‌گیری: استفاده از بازی دیجیتال Quizizz می‌تواند یادگیری دستور زبان انگلیسی را در بین زبان‌آموزان EFL افزایش دهد. کلمات کلیدی: دستور زبان، زبان‌آموزان EFL، بازی‌های دیجیتال

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Introduction

There are many difficulties that students encounter in the second (L2) language learning. For instance, in traditional methods it is hard for students to memorize the rules without having the ability to know the function. And tools of learning were limited to board and a course book. Some teachers know that they ought to change their traditional way of teaching, but they do not have the tools, resources, or access to tools and resources that help in the change (Heimlich & Norland, 1994).

The most noticed problem about the traditional way of teaching grammar was that grammar presentation in the textbooks was evaluated as decontextualized and, therefore, not meaningful. As Nunan (1998) stated “learners were given isolated sentences, which they were expected to internalize through exercises involving repetition, manipulation, and grammatical transformation” (p. 102). It was observed by language instructors that students being taught the grammatical structures through traditional methods and techniques had a great amount of knowledge about the language usage, but they were not able to use this knowledge appropriately and correctly. This meant that the students were not able to convey their learnings to a real situation no matter how competent they had become through memorization and drilling. Education should be similar to learners’ habits, as you know most children are spending a lot of time on games, so we can teach them via games.

They must make what they learn part of themselves (Dolati & Mikaili, 2011; Miller, 1992; Newby, 2006). Through this technique, learning is more enjoyable and different in function. Engelen et al, (2011) suggest, for instance, that knowledge in administrative role representations can occur in divergent situations of usability depending on its step of stimulation. Qualified versions are fundamentals that have been newly considered or handled, or that are truly being linked into. The pragmatic outcomes of this study may impact language educators and even potential process directors in both the sense of state education and private sectors in Iran. To carry out this study, the researcher follows one main objective. It aims at exploring the effect of implementing digital games in the language class in order to develop the grammar knowledge of the learners.

In this study, the following main questions were explored to answer:

RQ. What is the impact of using digital games in grammar learning of Iranian EFL students in English language classroom?

This study is important to do because it will help EFL teachers to know about the effect of using digital games on improving English grammar acquisition. The results will also help EFL learners to know about the effect of digital games not only for entertainment but also for language learning. Furthermore, it will encourage parents to obtain a positive view towards the use of videos in school or at home. However, it should be noted that language learning is a challenging task requiring constant effort especially for young learners. Games encourage learners to direct their energy towards language learning by providing them with meaningful contexts (Wright et al.,

1984). Therefore, it is important that teachers should not see games as time fillers or tools designed for fun only, but integrate them into their foreign language teaching programs.

On the other hand, it is important to know that having fun plays an important role in learning and playing games can fulfill this goal. While having fun, the learners have production and indirectly correct their errors through different ways; as a result, learning becomes an enjoyable activity. This study is important to do since it makes clear for the teachers and learners how the use of digital games can influence their grammar learning.

Literature Review

Language learning is a hard task which can sometimes be frustrating. Constant effort is required to understand, produce and manipulate the target language. Well-chosen games are invaluable as they give students a break and at the same time allow students to practice language skills. Games are highly motivating since they are amusing and at the same time challenging. They also encourage and increase cooperation. Using games is one of the most important ways to teach efficiently in a language class. Nothing is more fun than playing games for children because they feel happy and free while playing. We adults even remember the games that we played in our childhood which seem to be the happiest moments in our life. We can't deny the importance of games. If students learn with games that provide fun, happiness and freedom, it means that the teacher have reached his goals. Games strengthen language skills. Also, learners develop social skills and good relationships while they interact with each other.

Every game that students play, is much more useful than tons of exercises and worksheets that give more positive results than anything else. Generally, group games are more useful. They are competitive and children come closer with each other. With the feeling of coming first they often have a look at their books or notebooks before a game. Giving small prizes and rewards motivates the children to a great extent. Sometimes it is necessary to mix the groups during a game so they can play with different ones. Using games is an efficient way to teach English in the classroom. It arises students' motivation. Games prepare young learners for life and they acquire positive social attitudes. So, this kind of learning is lasting (Ellis & Gates, 1999).

Grammar is the structural foundation of our ability to express ourselves. The more we are aware of how it works, the more we can monitor the meaning and effectiveness of the way we and others use the language. It can help foster precision, detect ambiguity, and exploit the richness of expression available in English. And it can help every teacher of English in making learning more effective and entertaining. But our students hesitate to learn English Grammar. Language Games are a welcome break from the usual routine of the language class. They are motivating and challenging. Learning grammar requires a great deal of effort. Games help students to make and sustain the effort of learning. Games encourage students to interact and communicate. They create a meaningful context for language use (Richards et al., 1998; Richards & Nunan, 1990).

Backlund and Hendrix (2013) studied American university students of French and compared digital games and text-based materials. An experiment was conducted in which the control group was taught with a text while "semi-authentic" videos were used to teach the

experimental group. These videos were an “on-going drama in which native speakers interact in authentic situations”. The “drama” was created specifically for language learners but the videos also included clips from French films and television advertisements which added a measure of authenticity. The experimental group’s scores in listening comprehension showed significant improvement over those of the control group.

Maneekul (2002) conducted a study on using authentic material and tasks to enhance grammar knowledge for undergraduate students majoring in English. The results revealed that students’ grammar skill increased to a higher level when using digital games and tasks after watching native speakers’ video games. Liu and Jackson (2011) focused on the strategies used by second language learners to comprehend visual materials. The sample consisted of 211 participants. They were required to take an English course in a public university in Taiwan. 63 students were involved in the pilot study in the first semester, and the remaining 148 joined the formal study during the second semester. A pilot study was conducted to ascertain video comprehension (VC) strategies in order to develop a VC strategy questionnaire. There were two dimensions to the VC strategies: verbal and nonverbal. Liu (2011) further divided the two dimensions into three subcategories: compensation, memory, and cognition. In the formal study, each participant viewed three video clips, completed self-reports, and the developed questionnaire.

Liu and Jackson (2011) conducted a quantitative analysis of questionnaire data to identify the most and least frequently employed verbal and nonverbal strategies and three subcategories. With regard to strategy category, participants employed certain types of learning strategies. Liu and Jackson (2011) discovered there was no significant difference in the application of the two kinds of strategies. Nevertheless, use of the memory category strategies outnumbered that of the compensation and cognitive category strategies. The self-report data were also analyzed qualitatively.

Based on the results of the study, Liu and Jackson (2011) came to certain conclusions. First of all, there was no significant difference between verbal and nonverbal strategy used by the participants. Second of all, with respect to verbal strategies, using video topics and the contextual verbal clues were both ranked as the most frequently used compensation strategies; replaying the video to re-read the captions the most widely favored memory strategy, and reading the captions carefully was the most prevalent cognitive strategy. Third of all, with respect to nonverbal strategies, using concrete situational referents was considered the most useful compensation strategy; analyzing the video theme was the favorite memory strategy, and catching the main ideas in the clip was the most widespread cognitive strategy. Fourth of all, with respect to verbal strategies separating words into smaller parts was the least used compensation strategy, listening for every word was the least used memory strategy, and looking up words in a dictionary was the least used cognitive strategy. Finally, with respect to nonverbal strategies, observing a speaker’s facial expression and body language was the least used compensation strategy, and using domain knowledge obtained in academic situations was the least utilized memory strategy; suggesting a question related to the clip was the least used cognitive strategy.

Arslanyilmaz and Pederson (2010) provided some suggestions. First, using task-based language teaching can help students be more productive. Second, subtitled task videos can help students improve their oral ability by exposing them to sensory input. Therefore, video-teaching strategies improved the modern language teaching within the context of Chinese EFL classrooms. Liu and Jackson (2011) and Arslanyilmaz and Pederson (2010) have a correlation to the theories used in this field project. Particularly, the second study focused on the task-based language teaching approach.

Based on the above studies, it was interesting that they shared great similarities in some way. First, they all explored the relationship between video-teaching and English proficiency. Visual materials, sensory input, and audio-lingual tools in video-focused teaching could help second language learners improve their language competence. Secondly, the three articles held the consensus that video-teaching strategies had an advantage over traditional learning. Second language learners could recall the settings, contexts and contents on the screen by exposure to sensory facilitation.

Method

The existing project has a quasi-experimental design, a quantitative type of the research that used grammar-based tests to collect the required data and discussed the given research questions. This study encompassed a dependent variable in terms of grammar learning considering the change in the students' learning grammatical structure. On the other hand, the independent variable is using digital games during the course. The research continued three months, 18 sessions altogether for both experimental and control groups. The population of the study was made up of 43 EFL learners at Parsian Language Center in Bardsir, Iran, where the researcher was teaching. The students belonged to pre-intermediate level both male and female ones, aged 14 to 18. To ensure the homogeneity of the subjects, Nelson Placement Test was used. After taking the test and drawing the result, 13 subjects whose scores were high above and below the average were excluded from the study. The remaining 30 ones in two distinct groups made up the subjects of the study.

Three instruments were used to collect the required data of the study. The first instrument was using Nelson Placement Test. It contained 100 multiple choice tests of grammar. It was used to homogenize the participants. The other tests were pre and posttests of grammar which were constructed by the authors of the book on the basis of the syllabus of the course. It was a 50-item test of grammar focusing on tenses and tense agreement with each item having 2 scores. The total score a learner could get ranged between zero (0) to 100. The third and the main instrument is an application named Quizizz, which is a student engagement platform that allows teachers to conduct interactive lessons and quizzes with their students. It is an online assessment tool that allows teachers and students to create and use one another's quizzes and exercises, it can engage them effectively since it contains visual exercises with sounds, texts, photos that can activate learners' different parts of the brain and as the result they can learn and produce the language better.

The pre-test was taken before the experiment begins to determine the initial level of the subjects. The test was a combination of multiple-choice items, completion forms, and fill-in-the

blank tests of grammar. The source of the pre and posttest was the teachers' resource book which was provided by the institute as an additional source of grammar. To ensure the reliability of the grammar test using SPSS software, Cronbach's Alfa was run and as a result the reliability index was estimated to be 0.88 that was high enough for this study. In order to examine the research hypotheses, the researcher used both descriptive and inferential statistics. To analyze the statistics of the grammar tests, the investigator calculated the means of the pre and posttests in which the difference between the means could be discovered. She used independent T-Test, paired-sample T-Test, and the effect size in the inferential statistics section to estimate the difference between the means of the two groups regarding their score on the pre and posttests.

Table 1*Paired Samples Statistics*

Experiment		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	post-test	66.9	15	2.34	0.46
	pre-test	46.7	15	5.57	1.09

Table 2*Paired Samples Test*

Paired Differences		t		Df					
		Mean	Std. Deviation	Std. Error Mean	Difference	95% Confidence Interval of the		Sig. (2-tailed)	
						upper	lower		
Pair 1	post-test	20.16	7.07	1.29	16.71	22.56	15.94	1	20.16
	pre-test								

To reply the research question, exploring the impact of using digital games in teaching procedure on EFL learners' grammar performance in a course of language learning, a paired-sample t-test was run. Results in Table 3 showed that process positively affected the English learners' grammar learning and improved their performance in learning course.

Table 3*Group Descriptive Statistics*

Group	N	Mean	Std. Deviation	Std. Error Mean
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Post-test	EG	15	66.9	2.3	18.72
	CG	15	45.1	15.9	14.86

With regards to the statistics in Table 3, the results in group descriptive statistics discovered that there was very strong evidence of positive effect of gamification strategy on learning grammar due to usage of the current strategy in language learning and teaching from control group (Mean=45.1, SD= 15.9, df =14, $p \leq .05$) to experimental one (Mean =66.9, SD=2.3, df =14, $p \leq .05$).

The difference on the pre-test and post-test of the pupils in CG was computed using a paired-samples t-test. Conferring to Tables 4, the statistical results indicated a statistically insignificant growth in their scores from pre-test (M=46.7, SD=8.6) to post-test (M= 45.1, SD=5.7), $t(15) = .103$, $p = .811$ ($p > 0.05$) (two-tailed).

Table 4

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	post-test	45.1	15	5.7	14.86
	pre-test	46.7	15	8.6	16.21

Discussion

The results showed that students favored having digital games rather than merely traditional teaching in the classrooms without any entertainment or anything like that makes the learners motivated. Students' performance discovered gamification technique assisted them to have more opportunities to participate in learning grammatical rules.

This outcome was in line with Sungurtekin et al. (2009) research which showed that the impact of the hobbies and game playing roles among the students presented enough time to take part in the class activities, acquire different structures in materials and resources, reply and give the right feedback. The first research question of the study specified the influence of digital games in teaching procedure on EFL learners' syntax and grammar, the results of the statistically significant difference in grammar performance of the learners between the pretests and post-tests of experimental and control groups confirmed the positive role of digital games (Topkaya & Küçük, 2010).

Sheen (2003) claimed that students should follow some principles for designing interactive techniques, such as: do not overlook the importance of specific instruction in skills (balance extensive strategies), use techniques that are motivating, balance authentic texts, encourage the development of understanding strategies, include both gamification in addition to textual techniques, and subdivide the techniques into pre-activation, during-activation and after-activation segments. It also allied with Tuan and Doan (2010), who supposed that game-teaching provided learners with more occasions to respond and join.

As a result, the null hypothesis of the study suggesting significant difference in the results of grammar achievement of the learners between the pretests and post-tests of experimental and control groups and the effectiveness of using digital games on the grammatical competence of EFL learners was rejected in a learning course for the ultimate outcome of the pre-tests and post-tests in both the experimental and control group displayed the encouraging effects of the existing course strategy. The investigator determined that gamification was an appropriate strategy for enlightening the grammar proficiency of L2 learners because it included the most appropriate essentials for pupils and teachers that permitted them to learn and teach successfully

The investigation showed that the performance of the students was hopeful and the approach of using games in teaching had a considerable impact on improving their performance and subsequently heightened their stimulation. The results exhibited that pupils in their classes favored the usage of games in instructional process. It has to be noticed that the leading model of learning language skills in the second language classrooms has so far been the teacher-based learning model which is associated with traditional second language instruction (Barnard & Scampton, 2008). Teaching English has some improvement recently in the light of student-centered approach in which students are involved in the learning process and become committed to improving their English and in a student-centered classroom, as Borg (2003a) indicated. The finding was also in line with Barnard and Scampton (2008) who supposed the traditional teaching methods, the role and basic qualities of the learners are ignored and the teacher's role is emphasized over the learners.

Based on the achieved results, regarding the goal of the study, the required focus was given to the active role of the learners in order to activate their cognitive mental abilities to learn the L2 more feasibly rather than the traditional methods (Newby, 2006). The individual learning model, sometimes termed self-directed or autonomous learning, is one of the most widely implemented models in second language instruction, and remained relatively unchallenged until the work of social psychologists in the mid-20th century (Laal & Ghodsi, 2012). Based on the achieved results, regarding the goal of the study, using digital games, was given to the independency of the learners in order to use their cognitive mental abilities to learn the grammar items and their rules more feasibly than the traditional teacher-based methods.

Conclusion

Based on the achieved results, it was proved that using digital games with different content can lead to a more successful learning by the use of extracurricular activities. Regarding the goal of the study, enough emphasis was given to the role of the learners by exposing them to individual and independent learning. The results revealed more improvement in learning among the learners in the EG who experienced a new approach to learning. Regarding the goal of the study, using digital games, leads to the independency of the learners in order to use their cognitive mental abilities to learn the grammar items and their rules more feasibly than the traditional teacher-based methods. It's vital to find effective methods and approaches for teaching the students acceptable structures

and grammatical elements. As a result, language pedagogy instructors should look for the most effective ways for making grammar and language skills acquisition easier i.e. the methods that are appropriate for the era that we are in and based the learners interests e.g. digital games. Learning grammar is an essential need of the EFL learners. The ability to learn via digital games successfully enables an EFL learner to establish and achieve successful communication which is the main goal of any foreign language teaching and learning. The achieved skill in this way can lead to independence in other aspects of language such as speaking, writing and better understanding of listening. According to the conclusions of this study, gamification, the framework of typical components of game playing (e.g., competing with others, principles of play) to other fields to stimulate engagement with a product, was found to be the effective strategy in this inquiry, notably in terms of shortest ways and methods. It is to be noted gamification is attractive because it attempts to make even the most difficult aspects of life enjoyable (Fit, 2003).

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