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## TEACHING EFL VOCABULARY TO YOUNG DIGITAL NATIVES THROUGH ONLINE GAMES: A STUDY WITH TURKISH 5TH GRADE EFL LEARNERS

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### Abstract

The current study aimed to examine the effect of online vocabulary games on teaching new words to young learners of EFL. For this aim, 46 Turkish 5<sup>th</sup> grade EFL students in a state school were assigned into control and experimental groups. Both groups studied 22 words in 6 instructional sessions conducted in 6 subsequent weeks in the second semester of 2016-2017 academic year. Throughout this period, the data were collected via recognition-production tests and semi-structured interviews. The results of the recognition and production tests showed that experimental group outperformed the control group in terms of vocabulary gains. The results of the semi-structured interviews also supported the quantitative results indicating that online vocabulary games increased students' motivation. Additionally, it was observed that young learners were amused by digital games and were willing to learn more via them.

*Keywords:* EFL, young learners, online vocabulary games, learning vocabulary

### 1. Theoretical Background

In recent years, teaching English to young learners (YLS) has attracted great attention since many countries have lowered the age of learning additional languages in pre-school or school education, which is now in its third wave (Johnstone, 2009). Johnstone (2009) argues that the first movement began in the 1960s, and was put into practice by many countries including the UK. The second wave began in the mid-1980s or early 1990s in several countries across the world, which was encouraged by the European Commission and the Council of Europe. Currently, as it has been just mentioned, lowering the age of learning additional languages is in its third wave. Many countries such as China, South Korea, Taiwan, India and Turkey have made some changes in their curricula for this aim. Having different characteristic features, YLS were generally defined as any individual below 18 (Ellis, 2013). In a more detailed perspective, Ersöz (2007) defines YLS as children at 5-12 years old. Considering the age difference and different characteristics they have, it is obvious that teaching English to YLS is different from teaching adults. Teachers should be aware of these differences to teach in the way suitable for their students. At this point, the characteristics of them also needs to be enlightened. In the light of Setyaningsih (2007), the characteristics of YLS could be listed as follows:

- Children have short attention span.
- Children have a lot of natural curiosity.
- Children need to have all five senses simulated.
- Children find it difficult to deal with abstract things and concepts.
- Children are sensitive.

YLs not only have these features but also they bring them into the classroom (Gürsoy, 2010; Halliwell, 1992). However, in addition to these characteristics, there are some other specific features of today's kids which make them different from previous generations. The main difference is the technology they can utilize and modern children are today described with some novel terms such as digital immigrants or digital natives. Today's children are digital natives who are the “native speakers” of the digital language of computers, video games and the Internet (Prensky, 2001). Hence, this description lead teachers and curriculum developers to be more precise in adjusting and integrating technology to language learning. Besides, teachers are also required to have a digital competence beside their pedagogical knowledge, beliefs, and their current practical implementations.

### **1.1. Teaching Vocabulary to YLs: How and What?**

Learners of a language mainly expand their vocabulary knowledge in two main ways: Incidental learning and intentional learning. Incidental learning refers to the process of learning without an observable intention of doing so; that is, learning one thing while intending to learn another (Richards & Schmidt, 2002). On the other hand, intentional learning requires direct attention to the input to be learned (Richards & Schmidt, 2002). From the definitions of the two terms, it can be concluded that incidental vocabulary learning occurs without learners' observable effort to learn while intentional learning includes explicit exposure to input. YLs were mostly exposed to explicit instruction (or intentional learning) in their early stages of language learning (Cellat, 2008; Nation, 1990). Thus, the current research focused incidental vocabulary acquisition among YLs via digital games and aimed to examine its effects on learning gains.

Teaching new words to young learners has some distinct rules. Due to their characteristics, YLs were more prone to learning words with concrete references in real world. Concrete words should be taught before the abstract ones since the general consensus confirms that concrete nouns are learned more readily and faster than abstract nouns, the reason of which may be that it is probably very difficult to deal with abstract things and concepts for a kid (Setyaningsih, 2007; Tomasello, 2014). For instance, learning 'pencilcase' is relatively easier than learning 'honour' because teacher can make YLs feel, touch and see it. Another principle was the function of the target word. Cellat (2008) noted that nouns were mostly recalled better than other word classes. Depending on these 2 main tenets, the current study has chosen “animals” as the target words.

### **1.2. Online Gaming and ELT**

As one of the most enjoyable way of learning a foreign language, online games can be used while teaching vocabulary (Dudeny & Hockly, 2012; Henry, 2013). Korkmaz (2012) enlists several advantages of integrating games in young learners' classes:

- Games are useful because they encourage learners to make an effort and sustain their interest and work when learning a language.
- Games help learners experience language with several opportunities to negotiate meaning rather than only study it, which enables them to develop language skills more rapidly when compared to the students who do not play games.
- Learners learn English subjects better through games and learners absorb the language better if language items are used repeatedly within games.
- Games are useful ways of eliciting social interaction, particularly icebreakers and warmer games help learners be creative, risk-takers, thoughtful, communicative, and happy to work together with other learners.

- Games increase motivation of the learners. On the other hand, they lower the students' anxiety.

With the help of the Internet, various types of games including digital games are accessible today. They all can be used effectively to teach English, and specifically to make teaching and learning environment suitable for digital natives. However, teachers should think over which games to play, how to play, and when to play since selection of games is extremely important, which will be explained in detail under the following subtitle.

### **1.3. Selection of Online Games**

Many studies have revealed that use of online games while teaching English has a facilitating effect on learners' acquisition of L2 (Peterson, 2010; Ranalli, 2008; Sahrir & Yusri, 2012), which will possibly encourage teachers to use such games in their classes but they should take some criteria into consideration while choosing appropriate ones for their students. Wood (2001) developed five criteria to evaluate the nature of the vocabulary instruction in the selected web sites or a software:

- Does it relate the new to the known?
- Does it promote active, in-depth processing? This includes (a) association processing, (b) comprehension processing, and (c) generation processing.
- Does it provide multiple exposures of new words?
- Does it teach students to be strategic readers?
- Does it promote additional reading?

These five criteria can serve as a guide for selection of games. However, as they are on educational features of online games, some other criteria are needed to evaluate the web sites or software in terms of technical features. According to the study of Wood (2001), a vocabulary web site or software should include the following technical features to contribute to vocabulary instruction:

- animations,
- video clips of related information,
- sound components,
- hyperlinks to related information,
- ability to create one's own pathway through information,
- the ability to pause, repeat information, or replay video clips,
- hints or clues related to word meaning,
- multimodal presentation of information,
- online definitions, glossaries, or thesauruses.

Teachers can get benefit of all the criteria given above while deciding what to play. However, most importantly, the teachers should consider what is required for children's intellectual growth and other individual differences such as personality, language level, background knowledge, attention span, attitudes towards playing games, learning styles and intelligence types before choosing a game.

### **1.4. Previous Research**

There are numerous studies on the issue of whether online vocabulary games have an effect on learning vocabulary (Aghlara & Tamjid, 2011; Alias & Sahrir, 2011; Cellat, 2008; Chou, 2014; Jang, 2014; Hong, Cheng, Hwang, Lee, & Chang, 2009; Sahrir & Yusri, 2012; Sylvén & Sundqvist, 2012; Yip & Kwan, 2006). However, only are few researchers conducted a study on this issue in Turkish EFL context (Cellat, 2008; Turgut & İrgin, 2009),

and a relatively small number of studies were conducted on young learners' learning vocabulary through online vocabulary games (Aghlara & Tamjid, 2011). However, they all revealed that digital games and online vocabulary games have facilitating effect on learning an additional language.

Yip and Kwan (2006) conducted an experimental study on using online vocabulary as a tool for teaching and learning English vocabulary with 3 teachers and 100 engineering students. The primary aim of the study was to investigate how useful online vocabulary games were to teach and learn English vocabulary. The instruction period was 9 weeks. The quantitative results indicated that the experimental group outperformed the control group. Furthermore, the findings obtained from the qualitative data collection instruments revealed that the participants in the experimental group preferred online courses to face-to-face lessons.

Similarly, Ashraf, Motlagh, and Salami (2014) investigated the usefulness of online games in vocabulary learning of Iranian EFL students. The study had an experimental design and was carried out with 24 lower intermediate learners. After determining the participants, the instructor chose new words with a vast application domain in online games, and a pre-test, including 5 fill-in-blank items and 15 multiple choice items, was utilized. The results of the pre-test yielded non-significant results, that is, both groups were at the same level with regards to the target words. The experimental group was allowed to learn the target words by playing online vocabulary games whereas the students in the control group learnt the target words through the conventional method, paper and pencil technique, that is, they learnt new words in sentences, texts and passages. At the end of fifteen weeks, both groups took a post-test, the same as the pre-test, and the results of the post-test indicated that the participants in the experimental group scored better. So, it can be suggested that online vocabulary games can be helpful in the process of teaching and learning vocabulary.

However, unlike the study of Yip and Kwan (2006), and the study of Ashraf et al. (2014), Turgut and İrgin (2009) conducted a study with young learners in a Turkish EFL context. As it was mentioned before, there are relatively a small number of studies conducted on this issue in Turkey with young learners. For this reason, the study of Turgut and İrgin (2009) is highly worthwhile. The researchers collected data through observations and semi-structured interviews because the participants were 10 children spending long hours playing computer games in Internet cafes. So, the aim of collecting data qualitatively through observation and semi-structured interviews was to investigate young learners' experiences of language learning while playing computer games in Internet cafes. The findings revealed three major meanings of young learners' experiences of language learning through the games: transfer, motivation and awareness. The participants practiced the unknown words and transferred them in different tasks and steps during the game. Regarding motivation, they were extremely interested in computer games. Lastly, in respect of awareness, the findings indicated that the participants were aware of the pros and cons of the game.

Another study carried out with young learners in Turkey EFL setting is the study of Cellat (2008). The study was carried out with sixty-eight 4<sup>th</sup> grade Turkish EFL learners who enrolled in a primary school in Turkey. The study of Cellat (2008) was very similar to the current study but there are, of course, differences. For instance, Cellat (2008) used immediate and delayed tests to collect data, so the researcher examined retention of English vocabulary, too. Moreover, Cellat (2008) investigated whether Computer Assisted Language Learning (CALL), more specifically Computer Assisted Vocabulary Instruction (CAVI) would be helpful or not. That's why, there were two groups of participants: the CAVI group and the teacher-led group. For two weeks, the participants studied 40 words. The CAVI group

studied the words with software while the teacher-led group studied the same words through flashcards and the materials prepared by the researcher. After each implementation, both groups took a recognition and a production test. They also sat for the same tests two weeks and one month after each implementation session to determine retention of vocabulary. The results revealed that the CAVI group outperformed significantly in the immediate and delayed recognition tests, and in the immediate production test whereas in the delayed production test there was no statistically significant difference between the CAVI and the teacher-led group. Besides the quantitative data instruments, the researcher also administrated a semi-structured interview with the participants in the CAVI group to clear the perceptions of the participants about applications. The findings of the interviews supported the findings of the previous studies (Turgut & İrgin, 2009; Yip & Kwan, 2006), and provided an evidence for facilitating effect of digital games on young learners' vocabulary learning.

Bearing this in mind and noticing that there are a small number of studies carried out with young learners in Turkish EFL setting, the current study was conducted to investigate whether learning EFL vocabulary by integrating online vocabulary games into the ordinary lessons would prove to be beneficial when compared to learning vocabulary without using such games. For this aim, the following research questions were addressed:

- 1) Is there an effect of digital games on learning EFL vocabulary for young learners?
- 2) What are the opinions of the students on the use of online vocabulary games while teaching EFL vocabulary?

## **2. Methodology**

### **2.1. Research Design**

This study employs a mixed-method research design consisting of both qualitative and quantitative procedures. Quantitative aspect is quasi-experimental with pre- and post-tests. Qualitative part includes semi-structured interviews with some of the participants.

### **2.2. Participants**

The participants were assigned into 2 groups as experimental and control groups. The groups were already assigned as two different classes, so a convenience sampling was applied to determine the experimental and the control group. 46 students participated in the study: 25 students in the experimental group and 21 students in the control group. They are 5<sup>th</sup> grade students who enrolled at a secondary state school in Turkey in age range of 11 to 13, (M=11,32, SD=,63). Their L1 is Turkish, and they all have the same educational background. Weekly they study English for 5 hours: 3 hours as a compulsory course, 2 hours as an elective course. Their socio-economic status is nearly the same with each other.

The teacher of the classes was also a participant. However, no data was gathered from the teacher, that is, the teacher only helped during the procedure.

### **2.3. Materials**

22 words were determined as the target words (Table 1).

Table 1. *Target words*

<b>Farm Animals</b>	<b>Wild &amp; Zoo Animals</b>
Cow	Rhino
Sheep	Wolf
Goose	Tiger
Rabbit	Camel
Pig	Crocodile
Duck	Snake
Chick	Lion
Horse	Fox
Goat	Ostrich
Fish	Bear
Roaster	Squirrel

The words were determined in accordance with the official syllabus and the coursebook. Before determining the target words, opinion of the teacher was asked. The aim was not to drop behind the syllabus since it might be time-consuming for the teacher to implement such a study. In the end, they decided to use these words as the target words because both classes were in the ninth unit, the Animal Shelter. The target words of the current unit were not the same as the target words used, yet there were some words overlapping. So, it would not be time-consuming for the teacher to implement such a study.

#### 2.4. Procedure

The instructional period lasted six weeks for each group. The groups were started instruction in the same schedule and four weekly instructional sessions were carried out for each group. The sessions were carried out during the students' regular class hours. Each group took 2 weeks of instructional sessions for farm animals and sat for recognition and production post-test in the following week. Recognition post-test was conducted at the beginning of the 3rd week and production post-test was given at the end of the same week. The following 2 weeks were allocated for instruction for zoo animals. Same procedures were maintained. The detailed schedule was given below:

Table 2. *Instructional and assessment sessions schedule*

<b>Time</b>	<b>Procedure</b>
1 week before the instructional period	Recognition pre-test for zoo and farm animals Production pre-test for zoo and farm animals
1 <sup>st</sup> and 2 <sup>nd</sup> weeks	Instruction for farm animals
3 <sup>rd</sup> week	Recognition and production post-tests for farm animals
4 <sup>th</sup> and 5 <sup>th</sup> week	Instruction for zoo animals
6 <sup>th</sup> week	Recognition and production post-test for zoo animals

The experimental group studied the words of farm animals for two weeks through online vocabulary games. In the following third week, the teacher conducted the post-tests. In the beginning of the third week, the recognition post-test of farm animals was administered, and at the end of the week the production post-test was utilized. After that, in the fourth week, the

words of wild and zoo animals were studied, and the post-tests were utilized in the same way the post-tests of farm animals were conducted.

Different from the experimental group, the control group received ordinary classroom applications during each implementation session. Flashcards and reading comprehension activities were used to teach the target words. The teacher first presented the words of farm animals by using flashcards, and then the students practiced the target words within the activities prepared by the teacher. The control group studied the words of farm animals for two weeks. After the implementations, the post-tests were utilized in the same way the experimental group were tested. The procedure was the same when the students in the control group studied the words of wild and zoo animals.

Lastly, the teacher interviewed five students from the experimental group to explore perceptions of the students on the use of online vocabulary games to learn English vocabulary.

## 2.5. Instruments

**Online vocabulary games** (<http://www.eslgamesworld.com/>). The criteria mentioned before to choose the web site was used. The selection was, to some extent, a convenience one because the web site includes the target words. The following games were used respectively: matching game, word search, crossword puzzle, spelling game, two board games – crocodile board game, pirate board game, and Canon Volley Sea Battle Game which can be played with two players or teams.

**Flashcards and reading texts for the control group.** The teacher taught the vocabulary items in the way she usually does. She preferred to use reading comprehension activities and flashcards.

**Testing materials.** There were two pre-tests and two post-tests. Before the implementations, the pre-tests were utilized with the aim of examining to what extent the instruction would be profitable with regards to learning the target words. For this aim, two recognition pre-tests, one for “farm animals” and one for “wild & zoo animals”, and two production pre-tests one for “farm animals” and one for “wild & zoo animals” were prepared. The design of the tests prepared by Cellat (2008) was adopted, yet some changes were made since both the target words of the current study and Cellat’s (2008) study and the way the tests were used were different. In the recognition pre-test, the participants were to match the words with the pictures. In the production pre-test, there were pictures of the words, the participants wrote the word for each picture.

The post-tests were the same with the pre-tests but the words and pictures were displayed in different orders to minimize the effect of test familiarity.

**Semi-structured interviews.** Five students from the experimental group were interviewed to shed light on opinions of the participants about the use of online vocabulary games while teaching vocabulary. The students interviewed were chosen on a voluntary basis. The following questions were addressed:

- Did you like studying vocabulary through online vocabulary games? Why/Why not?
- Would you like to study any other vocabulary items through online vocabulary games?

The aim of conducting semi-structured interviews was to triangulate the data since Nunan (1992) points out that perhaps the best way of guarding against threats to the reliability and validity of studies is to obtain data from more than one source. So, the results



obtained from the interviews were used to provide an insight to the process from the participants' point of view.

## 2.6. Data Analysis

To analyze the quantitative data, recognition post-tests were averaged as a single dependent variable (total recognition post-test) and same procedure was applied for production post-test (total production post-test). Two ANCOVAs was conducted (recognition and production) with the aim of investigating whether use of online vocabulary games has an effect on learners' vocabulary learning in terms of recognition and production.

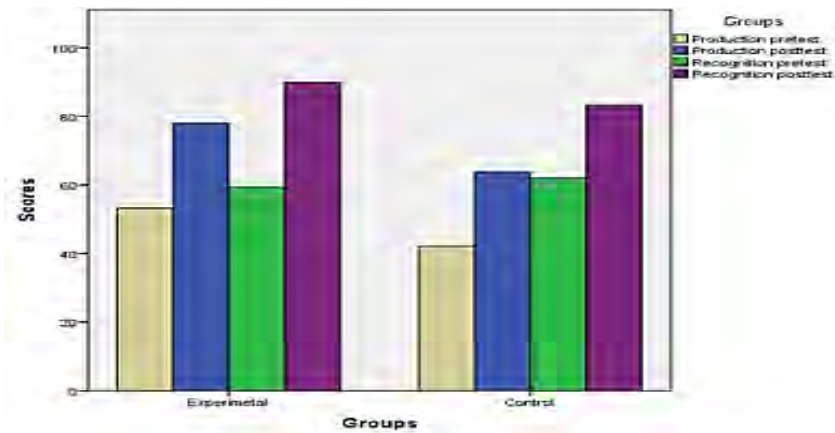
With respect to the qualitative analysis, the Constant Comparative Method (Glaser & Strauss, 1967) was utilized. Glaser and Strauss (1967) defines the Constant Comparative Method as “an approach which combines explicit coding and generating theoretical ideas by constantly redesigning and reintegrating theoretical notions”. The Constant Comparative Method is designed to help the analyst to generate a theory that is integrated, consistent, plausible, close to the data and at the same time is in a form clear enough to be readily operationalized for testing in quantitative research (Glaser & Strauss, 1967).

## 3. Findings

The data were collected both quantitatively and qualitatively in the current study. The quantitative data was obtained from the pre-tests and the post-tests, and the qualitative data were collected through the semi-structured interviews. The aim of conducting the interview was to support the quantitative data by triangulating the data.

### 3.1. The Effect of Instruction on 6-Week Development

For the quantitative analysis, two ANCOVAs were conducted to reveal instructional effects on performance as ANCOVA can enable controlling of the desired variable within between subjects procedure. In current research, pre-tests were controlled to see if instruction type had any effect on ultimate learning gains. By controlling production pre-test scores, an ANCOVA was conducted with production post-test as the dependent variable, group type as the factor and production pre-test as the covariate to see the effect of instruction type on production test scores. The results showed that experimental group significantly outperformed ( $M= 76.01$ ,  $SE=2.37$ ,  $CI:95\%$ ) control group ( $M= 66.2$ ,  $SE= 2.60$ ,  $CI:95\%$ );  $F(1,44) = 7.620$ ,  $p= .008$ ,  $d=.97$ . Similarly, by controlling recognition pre-test scores, an ANCOVA was conducted with recognition post-test as the dependent variable, group type as the factor and recognition pre-test as the covariate to see the effect of instruction type on recognition performance. The results showed that experimental group significantly scored better than ( $M= 90.50$ ,  $SE=2.50$ ,  $CI:95\%$ ) the control group ( $M= 82.59$ ,  $SE= 2.74$ ,  $CI:95\%$ );  $F(1,44) = 4.485$ ,  $p= .040$ ,  $d=.41$ . Regarding both recognition and production performance, experimental group scored more than control group did. Clustered bar graph indicating descriptives were as follows:



Graph 1. Descriptives of pre- and post-test results

### 3.2. Learner Opinions

The teacher interviewed five students from the experimental group to examine learners' opinions about the use of online vocabulary games while studying vocabulary. The Constant Comparative Method (Glaser & Strauss, 1967) was conducted to analyze the qualitative data collected through the semi-structured interviews. The findings revealed that online vocabulary games are very profitable to teach vocabulary in an environment appropriate to digital natives. All five participants stated that they liked studying vocabulary through online vocabulary games. Moreover, they all indicated that they had fun while studying vocabulary via online vocabulary games, which can easily be understood from the following extracts taken from the interviews:

I love English very much but sometimes I get bored with the book. However, these games are very fun. I want to play them all the time because I don't get bored when I play such kind of games. (Participant 1)

I was not very good at English before playing these games, but now I think I am better. Studying vocabulary with these games is very fun and easy. (Participant 3)

The teacher herself also stated that these games helped her to make her teaching more effective and attention-grabbing since even the low-level students, who normally deal with something else instead of the material used during the lessons, were very willing to participate in all the activities. She told the students always asked when they would play these games again, and whether there were any other games for the other units. The findings, analysis of the second interview question revealed, supported the teacher's statement, too. All five participants agreed on the fact that they would like to study any other vocabulary items through online vocabulary games. The following extracts clearly indicate willingness of the students:

Thank you so much teacher for letting us play the games. They are very fun. I hope we will play them again. I want to learn the words with these games. (Participant 2)

I liked the games so much. They are very enjoyable and easy to play. I didn't get bored during the lessons. I think we should play these games while studying other words, too. (Participant 4)

Getting such pleasing results from the interviews can encourage teachers who have reluctant students. The teachers can easily get an access to the web sites and make use of them. If they do so, they can both have more willing students and decrease the boredom

caused by use of the coursebooks all the time. Moreover, the students may develop a positive attitude towards learning a foreign language thanks to the online games.

#### 4. Discussion

The results of the study showed that online games could facilitate EFL vocabulary learning and retention while they also provided a motivating learning atmosphere. These results confirmed the recent study by Sylvén and Sundqvist (2012) conducted in Swedish context with 86 young learners in an age range of 11-12. Through questionnaires, diary entries and proficiency tests, they found out a correlation between L2 proficiency and online games playing frequency and defined playing online games as an extramural activity (learning activity outside the classroom). Their findings showed that playing multiplayer games (MMORPGs) at an early age could be important for L2 acquisition. The findings of the current study were also consistent with the results of Smith et al. (2013) who investigated how Chinese undergraduate college students studying EFL learned new vocabulary with inference-based computer games embedded in eBooks. In their experimental design, they used a database which recorded students' game playing behaviors in the log file. Students were also pre- and post-tested on new vocabulary words with the Vocabulary Knowledge Scale. Similar to our results, they also observed that participants in computer game condition learned significantly more vocabulary than control group did.

Different from the current research, Peterson (2012) analyzed the effect of online games in a sociocultural perspective. This exploratory study examined the linguistic and social interaction of four intermediate EFL learners during game play in a MMORPG. Qualitative analysis showed that interactional features embedded in these games could elevate sociocultural competence. It was observed that players engaged interaction through dialogue boxes and made appropriate use of politeness involving greetings, informal language, small talk, humor etc.

In terms of motivational effect of online games, the current research supported the study by Chien (2015) which investigated the perceptions of and attitudes toward three online vocabulary flashcard websites, Quizlet, Study Stack, and Flashcard Exchange in Taiwanese context. Data collection tools were classroom observations, participants' online flashcards and learning records and interviews. The results were similar to the qualitative findings of the current research, learners held positive attitudes toward learning and improving their vocabulary abilities via online games.

The related literature clearly emphasized the facilitating effect of learning through online games in EFL context and the results of the current study supported this proposal. However, a distinction should be made among online games as MMORPGs and educational online games. MMORPGs are massively multiplayer online games played by large numbers of gamers simultaneously via the internet. Today millions of people, especially young digital natives, play these online games as they provide a wide array of social interaction and fun. As it was mentioned above, MMORPGs were also highly motivating among online games as they can provide unique digital social experience; however, they were found to be seriously addictive (e.g., Billieux, Deleuze, Griffiths, & Kuss, 2015; Kuss, Louws, & Wiers, 2012; Kuss & Griffiths, 2012). A study by Hussain, Griffiths and Baguley (2012) conducted a study with 1420 gamers between age range of 12 to 62 via online questionnaire. The results showed that nearly half of the gamers (44,5%) were classified as addicted. Besides, the study by Kim, Namkoong, Ku and Kim (2008) aimed to reveal the relationship between MMORPG addiction and personality traits through an online survey. The results obtained from 1471 gamers showed that certain psychological characteristics such as aggression, self-control and narcissistic personality traits may predispose some individuals to become addicted to

MMORPGs. Thus, in language classroom, even if it was emphasized as motivating, online games should be handled with care and be selected carefully especially for young digital natives.

## **5. Conclusion**

This study was conducted to investigate whether learning foreign language vocabulary would prove to be profitable for young digital natives who study vocabulary through online vocabulary games when compared to students who study the same vocabulary items through materials prepared by the teacher. For this aim, two groups of 5<sup>th</sup> grade Turkish EFL learners, the experimental group and the control group, participated in the study. For one and a half months, the researchers carried out the study with the help of a teacher. Data were collected both quantitatively and qualitatively, through recognition and production pre-tests and post-tests, and through semi-structured interviews. The results of the quantitative data revealed that the experimental group outperformed the control group. Moreover, the findings obtained from the interviews indicated that the participants in the experimental group was highly willing to participate in the online vocabulary games. The teacher also stated that the online games increased students' motivation and helped them actively take part in the lessons.

In the light of the results of the current study, and the studies discussed previously, it can be noted that bringing such kind of fun materials to the teaching and learning environment can be highly beneficial and motivating for both the students and the teachers. If teachers of English want to make the teaching and learning process suitable for “digital natives”, they should get benefit of technology and the Internet.

## **6. Implications for Teaching and Learning**

The teachers, especially the teachers in Turkey, are bound to use the coursebooks, and sometimes they may overuse them without bringing any additional materials to the class. However, it is quite likely that use of the coursebook all the time will create an undesirable teaching and learning environment. On the other hand, it is now very easy to make use of technology and the Internet to create a teaching environment in which learners will enjoy learning a language, feel confident and motivated, and will be able to find additional materials to learn on their own. Online vocabulary games can be given as example of integrating technology and the Internet into the teaching and learning environment. So, regarding teachers, online vocabulary games can be used as an aid to the coursebook to increase the students' motivation, to decrease level of anxiety, and to suit the teaching and learning process to “today's world”. With respect to learners, they can be used as a self-guided learning tool out of the classroom, too.

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## Appendices

### Appendix A

#### Sample Lesson Plan for the Experimental Group

<p><b>Week 1 – Lesson 1</b></p> <p><b>Duration:</b> 40 minutes</p>	
<p><b>Aim:</b> The students will name and write the words of farm animals.</p>	
<p><b>Objectives:</b> By the end of the lesson, the students will be able to;</p> <ol style="list-style-type: none"> <li>1. recognize the words of farm animals in an online matching game.</li> <li>2. identify the words of farm animals in an online word-search game.</li> <li>3. relate the words of farm animals to their spelling via an online crossword puzzle game.</li> </ol>	
<p><b>Procedure:</b></p> <p><b>1. Lead-in:</b> The teacher starts a conversation on his/her favorite animals and asks questions to the students on whether they like animals and their favorite animals.</p>	<p><b>5 mins.</b></p>
<p><b>2. Online matching game:</b> The teacher presents the words of farm animals and shows how to play the game. Then, he/she lets students play the game one by one or in pairs.</p>	<p><b>10 mins.</b></p>
<p><b>3. Online word-search game:</b> The teacher introduces the game and shows how to play the game. Then, he/she lets students play the game one by one or in pairs.</p>	<p><b>10 mins.</b></p>
<p><b>4. Online crossword puzzle game:</b> The teacher introduces the game and shows how to play the game. Then, he/she lets students play the game one by one or in pairs.</p>	<p><b>15 mins.</b></p>



## Appendix B

### Online Game screenshots

