# Using digital educational comics for learning EFL vocabulary

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**ABSTRACT**: The purpose of this study was to analyze the effect of using digital comics by means of ToonDoo for enhancing English as a Foreign Language (EFL) vocabulary learning. A quasi–experimental approach was applied, and the participants included 189 private high school students, who were divided into control (105) and experimental (84) group. The data for this research was gathered through pre and post–tests, a post–questionnaire, and an observation sheet. This data was analyzed quantitatively and qualitatively and demonstrated that students had a positive perception on the use of ToonDoo for learning EFL vocabulary, resulting in an improvement of their academic performance.

Vocabulary is a fundamental element when learning English as a Foreign Language. In fact, vocabulary learning plays an essential role in the four language skills – listening, speaking, reading, and writing (Nation 2011). Certainly, the knowledge of vocabulary allows comprehensible communication. Thus, Walters (2004) acknowledges that it is not possible to learn a language without words. It is undeniable that vocabulary constitutes an indispensable element when learning a second language; for that reason, Schmitt (2010) states that it is evident that there are high correlations between vocabulary size and language proficiency.

In this context, the learning of EFL vocabulary can be enhanced through the use of different technological resources. One of them is ToonDoo, which is a software that offers students the possibility to create comics, promote their e–collaborative learning, and share their ideas online without stress since it allows students to express their thoughts easily and confidently (Robles 2017).

Several research studies have been conducted in order to analyze the use of digital comics for students' learning. Robles (2017) conducted a study aimed at evaluating the use of ToonDoo as a tool for collaborative e–learning and identifying its influence on students' learning. The study utilized a mixed–method research design relying on the observations, experiences, and focus group discussions of selected key respondents. Results showed that students exhibited positive attitudes towards the use of this digital comic. It was also evident that this resource significantly influenced students' performance, albeit they differ according to their attitudes concerning its use.

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Marianthi, Boulodakis and Retalis (2016) studied the concept of hypermedia comic books and their added value in education; their research had the purpose of analyzing the effectiveness of digital comics, as an innovative tool for teaching and learning, in the development of an effective lesson plan. Their study involved using comics in a postgraduate e–learning course of 22 students. The results confirmed the strengths of comics in education and the added value of digital hypermedia comics; also, the participants had a favorable view about the use of comics.

Although previous studies have investigated the use of comics, none of them have focused on the use of ToonDoo for learning EFL vocabulary. Therefore, the contribution of our research is to provide insights into this issue, which will benefit students who have not had the opportunity to learn new words in an innovative way through the use of technological resources. Thus, the advantages of this software, involving easy access, friendly interface, entertaining activities, and flexible design, will allow students who are learning English as a foreign language to improve and increase their vocabulary knowledge. Because of the aforementioned reasons, the following research questions have been addressed:

How effective is the use of ToonDoo to learn EFL vocabulary?

What are the students´ perceptions on the use of ToonDoo to enhance EFL vocabulary learning?

The research was conducted in Loja, a city in the Southern region of Ecuador. The participants included 189 private high school students (102 male and 87 female participants) whose ages varied between 12 and 13 years. They were taking seven classes per week of EFL regular classes. The participants were divided into experimental (84 students) and control (105 students) group. A quasi–experimental design was used in this study, which involved pre and post–tests, a post–questionnaire, and an observation sheet; these instruments were validated before their administration. The data gathered was analyzed quantitatively (by using SPSS software) and qualitatively so that conclusions were drawn.

At the beginning of the research, the pretest was administered to both groups in order to determine students' level of vocabulary knowledge. During the five months of intervention, the students did different activities in order to enhance their EFL vocabulary. The experimental group received an initial training for using the tool and continuous guidance for solving difficulties they faced during the process. This group had English classes that included vocabulary activities with ToonDoo; meanwhile, the control group did not receive classes using this tool. In this period, five observations were performed by the researchers in order to determine students' attitudes regarding the use of this resource. Finally, the post test was applied to all the participants to know if there were significant differences between the results of both control and experimental group in relation to vocabulary learning. Furthermore, a post–questionnaire was administered to the participants in the experimental group to know their perceptions with respect to their experience using ToonDoo for learning EFL vocabulary.

Regarding the effectiveness of the use of ToonDoo to learn EFL vocabulary, the results show that pre–test and post–test scores evidenced statistical differences, which was determined through the use of the student's t–test. In fact, the pre–test scores show a slight difference between control and experimental groups (0.16); however, the post–test scores demonstrated a significant improvement for the experimental group with 1.5 points of difference, which implies that the tool used was effective for EFL vocabulary learning.

| Group | Pre–test (Means) | Post–test (Means) |
|---|---|---|
| Experimental | 6.84 | 8.53 |
| Control | 6.68 | 7.03 |
| | | $p = 0.032$ |

**Table 1.** Means of pre–test and post–test results

In relation to the students' perceptions on the use of ToonDoo for enhancing EFL vocabulary, most of the them (89.76%) perceived it as a motivating tool for this purpose. With respect to quality and image resolution and the use of vocabulary in context, most of the students (80 % – 74.53 % respectively) consider that these characteristics have a positive influence on their vocabulary learning. Furthermore, they (85.06 %) affirm that they would like to continue using this resource in the future with the same purpose. It is important to highlight that these remarkable results might be due to the previous training and the continuous guidance researchers offered for using this tool and solving difficulties students faced during the process.

In conclusion, ToonDoo is an effective tool for learning English as a Foreign Language vocabulary since the post–test scores revealed a significant improvement in the experimental group. In addition, the students' perceptions on the use of these digital comics to enhance EFL vocabulary learning were highly positive because this tool motivates students due to its characteristics; therefore, they will continue using it for improving their knowledge.

Based on the aforementioned conclusions, we consider that there are plenty of practical applications for the results of this study and the possibilities that this technological tool offers educators and researchers. Thus, our future research will focus on new activities that enhance English skills and subskills.

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