

## THE IMPACT OF GAME-BASED LEARNING ON VOCABULARY DEVELOPMENT AMONG ESL UNDERGRADUATES

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**ABSTRACT:** In language learning, using games to teach vocabulary makes studying both fun and effective, creating an enjoyable learning experience for students. Thus, this research aims at investigating the impact of game-based learning on the development of vocabulary among undergraduates, specifically focusing on first-year law undergraduates at a university in Sri Lanka. The primary objective is to determine whether incorporating games into vocabulary teaching leads to improvements in language proficiency. The study employed a variety of instruments to assess the impact, including the APTIS test, a comprehensive vocabulary test, a pretest, a posttest, and interactive activities such as the Word-Wall activity and the Slap the Board game. The selection of these instruments provided a thorough evaluation of the students' vocabulary acquisition and retention through diverse assessment methods. The rationale for selecting first-year law undergraduates as participants stems from the limited research available on the impact of game-based learning in developing vocabulary among undergraduates within the Sri Lankan context. The participants first completed a pretest to establish their baseline vocabulary proficiency, followed by a series of game-based interventions, and finally, a posttest to measure the effectiveness of game-based learning. The results of the empirical study indicated a significant difference between the pretest and posttest data, indicating that incorporating games into the vocabulary teaching process positively impacts vocabulary development. The findings underscore the potential of game-based learning as an effective pedagogical tool for enhancing vocabulary acquisition in the ELT context. This paper contributes to the existing body of knowledge by shedding light on an underexplored area of game-based learning in the Sri Lankan context and advocates for the integration of such innovative methodologies to develop vocabulary among undergraduates.

*Keywords:* game-based learning, vocabulary development

### 1. INTRODUCTION

English Language Teaching (ELT) has undergone a significant transformation as educators adopt innovative methods to address diverse learner needs (Syafrizal & Haerudin, 2018). Game-based learning has gained prominence as an engaging alternative to traditional teaching approaches, combining entertainment with education to enhance language acquisition. Recognizing vocabulary as a cornerstone of effective communication (Decarrico, 2001), educators are increasingly leveraging the interactive nature of games to foster a deeper understanding and application of new words (Kolb, 1984). This approach transforms classrooms into dynamic, learner-centered environments that address challenges such as sustaining student interest and accommodating varied learning styles.

This research examines the impact of game-based learning on vocabulary development, specifically among first-year undergraduates in Sri Lanka. By comparing pre-test and post-test results, the study explores the effectiveness of two types of games: one implemented in classroom groups and another that incorporates technology through mobile devices or laptops. While previous studies have investigated game-based vocabulary improvement, research focusing on its application in Sri Lanka's ELT context remains limited. This study contributes to the understanding of how games enhance vocabulary retention and sustain learner interest, enabling educators to make informed decisions about integrating these strategies into their teaching practices.

### 2. METHODOLOGY

The research aimed to explore potential differences between in-class games and digital-based activities in teaching vocabulary to first-year undergraduates. Using a quantitative research design, the study sought to understand the influence of incorporating games in the vocabulary teaching process.

## 2.1 Participants

The study involved 48 first-year law undergraduates from a Sri Lankan university, aged between 18–25, with an intermediate level of English proficiency. The participants, both male and female, were equally divided into three groups: two experimental groups and one control group, with 16 participants in each group. Group allocation was based on their APTIS test marks. A convenience sampling strategy was employed, selecting participants who were readily available for the research.

## 2.2 Procedure

The research aimed to examine the effectiveness of game-based learning in enhancing vocabulary within ELT. First, the APTIS test was administered to identify 48 intermediate-level learners. A vocabulary test based on Paul Nation's framework established that participants fell within the 5k–7k range. A customized test consisting of 20 questions assessed both receptive and productive skills. Two game-based activities were implemented: a digital Word Wall activity and an in-class Slap the Board game.

During the Word Wall activity, participants matched words with meanings using mobile phones or computers, receiving immediate feedback on their responses. During the Slap the Board game, participants worked in teams to identify target words on a whiteboard based on meanings provided by the instructor. The game was repeated three times to reinforce learning. The control group completed only pre-tests and post-tests without additional activities. Data collection involved gathering pre-test and post-test scores from all groups. IBM SPSS Statistics was used for analysis to identify differences in vocabulary improvement.

## 2.3 Data Analysis

Data analysis was conducted to determine the impact of game-based learning on vocabulary development. Pre-test and post-test scores were analyzed using IBM SPSS Statistics. The paired samples t-test and its non-parametric counterpart, the Wilcoxon Signed Rank Test, were utilized to evaluate the statistical significance of vocabulary improvement among the experimental and control groups.

## 3. RESULTS

The research instrument's reliability was assessed using Cronbach's Alpha, which yielded a value of 0.699 (rounded to 0.7) (Table 1). This meets the threshold for reliability ( $\geq 0.7$ ) recommended by Mishra et al. (2019) and Tavakol and Dennick (2011), confirming the instrument's reliability.

**Table 1.** Reliability Test

<i>Reliability Statistics</i>		
<b>Cronbach's Alpha</b>	<b>Cronbach's Alpha Based on Standardized Items</b>	<b>N of Items</b>
.699	.650	6

The Kolmogorov-Smirnov and Shapiro-Wilk tests revealed significant deviations from normality across most variables ( $p < 0.05$ ) (Table 2). Consequently, nonparametric tests were applied for further analysis.

The Kruskal-Wallis H test was conducted on GainR and GainP (Table 03) variables with three groups ( $df = 2$ ). The test statistics, 17.373 and 22.136, accompanied by extremely low p-values (.000), indicate significant differences between groups. This nonparametric test assesses whether there are statistically significant differences in medians among groups. The results reject the null hypothesis of equal medians, providing robust evidence that GainR and GainP vary significantly across the specified groups, as suggested by the Kruskal-Wallis test.

**Table 2.** Tests of Normality

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
PreR	.277	48	.000	.869	48	.000
GainR	.155	48	.005	.946	48	.028
PreP	.223	48	.000	.867	48	.000
PostR	.206	48	.000	.827	48	.000
PostP	.180	48	.000	.912	48	.002
GainP	.154	48	.006	.964	48	.153

Note: a = Lilliefors Significance Correction

**Table 3.** Comparative Analysis of Learning Gains in Receptive and Productive Skills Across ‘Word wall activity’ and ‘slap the board game’

*Test Statistics<sup>a,b</sup>*

	<b>GainR</b>	<b>GainP</b>
Kruskal-Wallis H	17.373	22.136
df	2	2
Asymp. Sig.	.000	.000

Note: a = Kruskal Wallis Test; b = Grouping Variable: Group

#### 4. DISCUSSION

The study investigated differences in pre-test and post-test scores focusing on receptive and productive skills, using Word Wall activities and the Slap the Board game. Data analysis revealed that all groups showed improvement, but the experimental groups outperformed the control group, indicating the effectiveness of game-based methods over traditional teaching approaches. Specifically, significant improvements were observed in receptive and productive skills for both experimental groups using the Word Wall activity and the Slap the Board game (Tables 03). While the control group showed some progress in receptive skills, no significant change was found in productive skills. This highlights that game-based learning is particularly effective in enhancing productive vocabulary skills.

The Word Wall activity demonstrated a substantial positive impact on vocabulary learning, as participants showed significant advancements in both receptive and productive skills, supported by the reliability test results (Cronbach's Alpha). Similarly, the Slap the Board game proved effective, with Wilcoxon Signed Rank Test results indicating significant improvements in both skill areas. Comparative analysis using the Kruskal-Wallis H test revealed that the learning gains from the two game types varied, emphasizing the importance of aligning game selection with instructional goals and student preferences. These findings underscore that incorporating game-based methods in ELT classrooms significantly enhances vocabulary acquisition compared to traditional methods.

Despite these positive results, there were challenges such as participant availability and initial unfamiliarity with the Slap the Board game. Engagement improved in later rounds, demonstrating the importance of adapting activities to learners' proficiency levels. Recommendations include selecting games based on learners' background, proficiency, and preferences—adult learners, for

instance, may prefer individual games. The study highlights the need for flexibility, continuous refinement of methods, and tailored game choices to maximize engagement and effectiveness in vocabulary learning.

## 5. CONCLUSION

This study provides evidence that incorporating games like Word Wall and Slap the Board into vocabulary instruction can be more effective than traditional methods, particularly for improving productive vocabulary skills. While traditional methods may lead to some receptive vocabulary gains, digital games appear to offer a significant advantage for both receptive and productive skills development.

In conclusion, the integration of games into ELT represents a dynamic and effective strategy for teaching vocabulary. The engagement, motivation, contextual learning, repetition, collaborative opportunities, and the incorporation of intrinsic and extrinsic rewards collectively contribute to a comprehensive approach that enhances vocabulary acquisition. As educators strive to create engaging and effective language learning experiences, games emerge as a valuable tool that not only makes the process enjoyable but also maximizes the potential for long-term retention and application of vocabulary in real-world contexts.

## 6. REFERENCES

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