THE EFFICACY OF WEB-BASED GAMES IN FOSTERING ENGLISH COMMUNICATION SKILLS AMONG MIDDLE SCHOOL STUDENTS

Research Paper

ABSTRACT

This study examined the impact of web-based games on the development of English communication skills among middle school students. Using a quasi-experimental design with 120 participants, researchers compared an experimental group that used digital English games with a control group that received traditional instruction. Over 12 weeks, pre- and post-tests, questionnaires, and focus group interviews were administered. Consequently, students in the experimental group improved significantly in fluency, vocabulary, and listening comprehension. Moreover, they reported higher engagement and reduced anxiety. The results suggested that web-based games serve as effective supplementary tools for enhancing communication skills and motivation.

Keywords: *Web-based games, Communication Skills and Middle School Students.*

Introduction

English communication skills have become essential for academic success, employment, and global participation. Nevertheless, traditional classrooms often provide limited opportunities for authentic practice, reducing learner confidence (Wang & Sun, 2018). In contrast, digital games offer interactive, low-pressure environments that promote engagement and sustained motivation (Gee, 2003; Prensky, 2001). Research indicated that digital game settings foster meaningful language use and collaboration. Not with standing these benefits, few studies have examined the combined effects of web-based games on speaking, listening, and writing among Indian middle school learners. Accordingly, this study addressed this gap.

Background of the Study

Computer-Assisted Language Learning (CALL) has evolved from repetitive drills to interactive digital platforms (Chapelle, 2001; Levy & Stockwell, 2006). Game-based learning integrates goals, challenges, rewards, and feedback, which motivates learners (Malone & Lepper, 1987). Moreover, research showed digital games reduce anxiety, support autonomy, and enhance communicative competence (Arnold & Fonseca, 2004; Peterson, 2013). Furthermore, game-based environments increase learners' willingness to communicate and promote active language use (Reinders & Wattana, 2014). Nevertheless, empirical studies on Indian middle school students remain limited.

Rationale

Although students frequently use technology outside school, classrooms often remain teacher-centered, limiting interaction and increasing speaking anxiety. Web-based games provide interactive, low-stress activities with immediate feedback, enhancing motivation and reducing inhibitions, making them effective for improving communication skills (Aghlara & Tamjid, 2011).

Objectives

1. To find out the impact of web-based games on speaking, listening, and writing skills.
2. To compare post-test performance between experimental and control groups.
3. To analyze students' perceptions of web-based English games.

Hypotheses

No significant difference exists between pre-test and post-test scores (speaking, listening, writing) of the experimental group and control group.

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Methodology

Research Design

The researchers employed a quasi-experimental pre-test–post-test control group design. Ordinarily, such designs allow comparison while maintaining classroom integrity.

Participants and Sampling Procedure

The study included 120 Grade VII students (ages 12–13) from Mount Carmel Matric Higher Secondary School, Kolvel, Tamil Nadu. Using Purposive sampling, the school was selected, and intact classes were assigned as experimental (n = 60) or control (n = 60). Consequently, baseline equivalence was confirmed via pre-tests.

Materials

Five web-based platforms were used to support language learning: ESL Games Plus for speaking and vocabulary activities; BBC Learning English for listening and pronunciation practice; Quill.org for writing and grammar tasks; Vocabulary.com for vocabulary development; and Baam boozle for collaborative speaking and listening. Students accessed these platforms in supervised computer lab sessions. Lessons were aligned with the Grade VII Tamil Nadu syllabus and included warm-up activities, guided game-based practice, reinforcement, and reflection.

Procedure

Both groups completed pre-tests before the 12-week intervention. The experimental group used web-based platforms, while the control group received traditional instruction. The teacher facilitated game-based activities by guiding participation and providing language support. Post-tests, questionnaires, and focus group interviews assessed learning gains and student perceptions, and data were analyzed using descriptive statistics and paired and independent-samples t-tests.

Data Analysis

Descriptive statistics summarize participants' performance. Paired and independent-samples t-tests assessed within-within and between-group differences. Effect sizes were calculated using Cohen's d (0.20 = small, 0.50 = medium, 0.80 = large). Qualitative data were analyzed thematically (Braun & Clarke, 2006) by two independent raters (Cohen's Kappa = 0.84–0.87 for speaking). Reliability: KR-20 = 0.82 for listening; Cronbach's a = 0.85–0.89 for writing and perception questionnaire. Assessment instruments included a speaking rubric (Fluency, Vocabulary, Grammar; total = 15, reported as mean out of 5), a 20-item listening test, and a 4-component writing assessment (max = 20). All quantitative analyses were conducted using SPSS version 26.

Findings

Baseline Equivalence

Pre-test analysis showed no significant differences ($p > .05$), confirming comparable starting levels.

Null Hypothesis

No significant difference exists between pre-test and post-test scores (speaking, listening, writing) of the experimental group and the control group.

Table 1

Comparison of Pre-test and Post-test Scores in Speaking, Listening, and Writing Skills

Skill	Group	N	Pre-test Mean (SD)	Post-test Mean (SD)	Mean Gain	*t*	*p*	Cohen's *d*
Speaking (Max = 5)	Experimental	60	2.85 (0.52)	3.78 (0.48)	0.93	11.23	< .001	1.81
	Control	60	2.82 (0.50)	2.95 (0.51)	0.13	1.87	0.066	0.25
Listening (Max = 20)	Experimental	60	6.21 (1.20)	8.55 (0.95)	2.34	10.58	< .001	2.05
	Control	60	6.18 (1.15)	6.42 (1.10)	0.24	1.55	0.126	0.21
Writing (Max = 20)*	Experimental	60	10.50 (1.80)	13.80 (1.55)	3.3	12.11	< .001	1.83
	Control	60	10.42 (1.75)	10.88 (1.70)	0.46	1.69	0.096	0.22

Speaking was assessed using a rubric with three components (Fluency, Vocabulary, Grammar; maximum score = 15) and reported as mean scores out of five. Listening was measured using a 20-item objective test, and writing was assessed across four components (Content, Organization, Vocabulary, Grammar; maximum score = 20). t-values represent paired-samples t-tests for within-group comparisons. Effect sizes were calculated using Cohen's d. Pre-test scores showed no significant differences between groups ($p > .05$), confirming baseline equivalence.

Student Perceptions

Focus group feedback revealed higher confidence, expanded vocabulary, and improved pronunciation. Moreover, students appreciated immediate feedback and enjoyed the game-based learning environment.

Interpretation

Interactive digital game-based activities significantly enhanced communication skills. Furthermore, these results align with prior studies demonstrating increased engagement and reduced anxiety (Arnold & Fonseca, 2004; Reinders, 2012). Accordingly, web-based games serve as practical supplementary tools.

Educational Implications

The findings support integrating web-based games into English instruction. Moreover, strengthening technological infrastructure and providing teacher training may further improve outcomes. Curriculum designers may also embed structured game-based modules to enhance communicative competence.

Conclusion

This study confirms that web-based games effectively enhance speaking, listening, and writing skills among middle school learners. Consequently, improvements were accompanied by increased motivation and reduced anxiety. Moreover, digital game-based learning offers a modernized alternative to traditional methods, producing stronger learning outcomes.

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