The Effect of Using Webtoon Apps on Students' Vocabulary Mastery

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Abstrak

Penelitian ini dilakukan untuk mengidentifikasi pengaruh penggunaan aplikasi Webtoon dalam meningkatkan penguasaan kosakata siswa. Penelitian ini menggunakan desain quasi-eksperimen pada dua kelas X (MP 1 dan RPL 2) di SMK Swasta PAB 2 Helvetia dengan jumlah sampel 40 siswa yang dibagi menjadi kelompok eksperimen dan kelompok kontrol. Kelompok eksperimen mempelajari kosakata melalui aplikasi Webtoon, sedangkan kelompok kontrol menggunakan bahan ajar cetak konvensional. Tes kosakata diberikan sebagai pre-test dan post-test untuk mengukur perkembangan hasil belajar. Temuan penelitian menunjukkan bahwa kelompok eksperimen mengalami peningkatan yang lebih tinggi, dengan nilai rata-rata post-test 76,60 dibandingkan kelompok kontrol yang memperoleh 59,20. Uji paired sample menunjukkan nilai signifikansi 0,000 (p < 0,05) yang menandakan bahwa penggunaan Webtoon berdampak signifikan terhadap penguasaan kosakata siswa. Dengan demikian, Webtoon sebagai media komik digital mampu memberikan pengalaman belajar yang menarik dan kontekstual, sehingga mendukung pemahaman dan daya ingat kosakata secara efektif dalam pembelajaran Bahasa Inggris.

Kata Kunci: Penguasaan Kosakata, Webtoon, Media Digital, Pembelajaran Bahasa Inggris

Abstract

This research examines how the Webtoon application influences students' vocabulary mastery. A quasi-experimental design was applied to two tenth-grade classes (MP 1 and RPL 2) at SMK Swasta PAB 2 Helvetia, involving a total of 40 students who were separated into an experimental class and a control class. The experimental group learned vocabulary through the Webtoon application, while the control group received instruction using conventional printed materials. Vocabulary assessments were administered as pre-test and post-test to determine students' progress. The results demonstrated that the experimental group achieved a noticeably higher improvement, with an average post-test score of 76.60 compared to 59.20 in the control group. The paired sample test obtained a significance value of 0.000 (p < 0.05), indicating that the use of Webtoon had a meaningful and significant impact on students' vocabulary development. Therefore, Webtoon, as a digital comic-based learning medium, is considered effective in providing contextual vocabulary exposure and enhancing student engagement, making it a suitable digital tool to support English vocabulary learning.

Keywords: Vocabulary Mastery, Webtoon, Digital Media, EFL

Introduction

English has developed into an international language that links communication, education, technology, and various economic activities across countries. In the field of English

as a Foreign Language (EFL), vocabulary is a key element in language learning because it serves as the basis for communicative competence and supports the four core language skills: listening, speaking, reading, and writing. Learners who

have limited vocabulary knowledge often struggle to understand information, construct meaning, and express their ideas effectively. Nation (2001) emphasizes that vocabulary knowledge is strongly linked to language proficiency because learners need a sufficient range of words to interpret messages and participate in communication. Cameron (2001) also points out that vocabulary is not only about knowing individual words, but understanding how these words form meaningful concepts. In EFL contexts where students have minimal exposure to English beyond the classroom setting, mastering vocabulary becomes even more essential as it influences their ability to understand and process language input.

Despite its importance, vocabulary instruction in many EFL classrooms remains limited and often ineffective. Traditional vocabulary teaching tends to rely on memorization, dictionary use, and word translation, which frequently leads students to quickly forget newly learned words because they are not exposed to meaningful use. Thornbury (2002) argues that vocabulary learning should be connected to context and communicative use, rather than focusing solely on memorizing form and meaning. Conventional teacher-centered methods often reduce students' motivation and engagement, causing vocabulary learning to feel monotonous. Consequently, students might be able to identify specific terms but struggle to employ them effectively in real-world conversations. This situation can be observed in Indonesian EFL classrooms, including vocational schools, where vocabulary difficulties frequently hinder students' participation in reading and speaking tasks.

In response to envolving educational demands in digital age, language instruction has gradually transitioned toward utilizing technology-integrated instructional tools to accommodate students' needs and preferred ways of learning. The widespread presence of smartphones and digital content among adolescents has created new opportunities to design vocabulary instruction that is more engaging and relevant. Prensky (2010) notes that today's learners are "digital natives" who respond more positively to visual and interactive forms of input. From a cognitive perspective, Mayer's (2009) Multimedia Learning Theory explains that learners process information more effectively when visual and verbal input are presented together, because dual-channel processing helps reduce cognitive load and improves retention. Likewise, Krashen's (1982) Input Hypothesis highlights the necessity of providing comprehensible and meaningful input to support language acquisition. These perspectives suggest that digital learning media can enhance vocabulary learning by combining visual support, contextual meaning, and repeated exposure.

One digital medium that aligns with these principles is Webtoon, a visual narrative platform that presents stories through sequential images and dialogue. Webtoon has become highly popular among adolescents and is easily accessible through mobile applications, making it familiar and relatable to students. Kim (2018) states that visual narratives help learners infer meaning because images provide contextual cues that support comprehension. The episodic nature of Webtoon allows vocabulary to reappear across panels and chapters, increasing the likelihood of incidental vocabulary acquisition. In addition, Webtoon can reduce learners' anxiety by presenting language in entertaining storylines, allowing students to focus on meaning rather than memorization. For vocational high school students, who often prefer visual and practical learning materials, Webtoon offers a motivational advantage and can transform vocabulary learning into a more enjoyable experience.

Empirical studies have also highlighted the potential of Webtoon and other visual media for enhancing vocabulary learning. Rahmatinnisa (2023) reported that Webtoon helped students improve their vocabulary through contextual support in visual stories. Aqsa (2022) found that Webtoon increased student motivation and made classroom interaction more active. Wahid (2021) similarly concluded that digital comics improved vocabulary retention because visual storytelling strengthened memory through repeated exposure. These studies indicate that visual digital media can support vocabulary learning by combining engagement and contextual input. However, most previous research focused on motivation or reading comprehension, and only a few studies examined vocabulary mastery as the primary learning outcome, particularly in vocational school (SMK) settings.

This situation reveals a research gap concerning the use of Webtoon for improving vocabulary mastery in the Indonesian EFL context, especially at SMK level. In addition, many earlier studies used descriptive or

qualitative approaches, leaving limited experimental evidence that measures the effectiveness of Webtoon through controlled comparison. As a result, a more thorough design of research is required to examine how Webtoon affects students' vocabulary development. The current study intends to fill this knowledge vacuum by offering empirical proof of Webtoon's potential as a vocabulary teaching tool.

Based on this justification, the goal of this study is to investigate the efficacy of Webtoon works as a learning tool to enhance the vocabulary knowledge of tenth-grade vocational high school (SMK) students. The findings are expected to offer pedagogical implications for EFL teachers, particularly in designing engaging and meaningful vocabulary learning experiences in the digital era.

Method

This study employed a quantitative approach using a quasi-experimental design with a non-equivalent control group. This design was chosen because the classes could not be randomly assigned, yet both groups were compared to examine the effect of the treatment (Creswell, 2014). Two intact classes of tenth-grade students at SMK Swasta PAB 2 Helvetia were selected through purposive sampling based on their similar English proficiency levels and learning characteristics. A total of 40 students took part in the study, with 20 students assigned to the experimental group (MP 1) and the remaining 20 students placed in the control group (RPL 2).

While the control group was instructed using traditional techniques, such as printed English textbooks and dictionaries, the experimental group was instructed utilizing the Webtoon program as a digital medium. Both groups completed a vocabulary pretest and posttest to assess their vocabulary mastery prior to and following the intervention. The treatment was conducted over eight meetings, where students in the experimental group read selected episodes of a Webtoon series (The Dog Diaries) and identified unfamiliar vocabulary supported by visual and contextual cues. Meanwhile, the control group practiced vocabulary through teacher explanation, reading passages, and dictionary-based exercises.

Figure 1. Webtoon Application and The Dog Diaries Webtoon Series

(PRETEST → WEBTOON (TREATMENT) → POSTTEST)

Multiple-choice objective vocabulary assessments were used as the research tool to evaluate students' contextual vocabulary recognition and interpretation skills. The instrument's accuracy in measuring the intended construct was confirmed by expert opinion and reliability testing. The tests were administered under similar conditions for both groups to maintain consistency.

Comparing the pretest and posttest results for both groups allowed for a quantitative analysis of the data. The mean scores were calculated using descriptive statistics, and the statistical significance of the difference between the two groups was examined using an inferential test (paired sample test). Hypothesis testing was conducted using a significance threshold of 0.05. If the Sig. value was lower than 0.05, it indicated that the Webtoon application had a significant effect on students' vocabulary mastery.

Result and Discussion

According to the study's findings, students who were taught by Webtoon and those who received traditional education significantly differed in their vocabulary comprehension. Descriptive statistics reveal that the experimental class, which was taught by using Webtoons, outperformed the control group in terms of post-test mean score. The control group scored just 59.2 on the post-test, but the experimental group had a mean score of 76.6. These results indicate that students who were exposed to Webtoon demonstrated greater improvement in vocabulary mastery.

Descriptive Statistics

Group	N	Mean (Pre-test)	Mean (Post-test)	Std. Deviation
Experimental	20	45.8	76.60	9.992
Control	20	40	59.20	9.232

Interpretation:
According to the descriptive statistics, the experimental group outperformed the control group in terms of post-test mean score, achieving 76.60 as opposed to 59.20. This indicates that students who were taught using Webtoon demonstrated better vocabulary mastery than those who received conventional instruction.

Normality Test (Shapiro–Wilk)

Group	Sig.	Interpretation
Experimental	0.127	Normal (Sig > 0.05)
Control	0.136	Normal (Sig > 0.05)

Interpretation:
Since both significance values are above 0.05, the data are normally distributed. This confirms that a parametric test is appropriate.

Homogeneity Test (Levene's Test)

Test	Sig.	Interpretation
Equality of Variances	0.686	Homogeneous (Sig > 0.05)

Interpretation:
The homogeneity value of 0.686 (> 0.05) indicates that both groups have equal variances. Therefore, the assumption of homogeneity is fulfilled.

Paired Sample t-Test

Paired Comparison	Mean Difference	Std. Deviation	t	df	Sig. (2-tailed)
Pretest - Posttest (Control)	-19.20	6.98	-9.82	19	0.000
Pretest - Posttest (Experimental)	-30.80	7.05	-14.67	19	0.000

Interpretation:
Following the treatments, students' vocabulary mastery significantly improved, according to the findings of the paired sample t-test for both groups. With a mean difference of 30.80 points,

the experimental group's mean score significantly improved from 45.8 on the pre-test to 76.6 on the post-test. At a significance level of 0.000 (< 0.05), the resultant t-value was −14.67, indicating that students' vocabulary mastery improved statistically significantly as a result of using the Webtoon application. This demonstrates that integrating Webtoon as a digital comic-based learning medium effectively enhanced students' vocabulary learning through contextualized and visual exposure to language.

Meanwhile, the mean score in the control group improved from 40.0 to 59.2, with a mean difference of 19.20 points and a t-value of −9.82, also significant at p = 0.000 (< 0.05). Although students in the control group showed improvement after receiving conventional instruction, their progress was notably lower than that of the experimental group.

These findings indicate that both teaching methods contributed to vocabulary growth; however, students taught using the Webtoon Application achieved a greater and more significant improvement compared to those who were taught through traditional methods. The contextual and visual nature of Webtoon texts appears to support deeper word comprehension and retention, making vocabulary learning more engaging and effective.

Independent Samples t-Test

Test	Sig. (2-tailed)	Conclusion
Post-test	0.000	Significant

Interpretation:
The Sig. (2-tailed) value of 0.000 is lower than 0.05, which means there is a significant difference between the experimental and control groups. Thus, the use of Webtoon had a significant effect on students' vocabulary mastery, and the alternative hypothesis (Ha) is accepted.

According to the statistical findings, Webtoon made a substantial contribution to pupils' increased vocabulary knowledge. The greater mean score of the experimental group indicates that contextual visual input, story-based exposure, and multimodal learning helped students comprehend, recall, and retain vocabulary more effectively. In contrast, the control group, which learned through conventional materials, showed lower vocabulary gains, likely due to limited contextual support and lower motivation. These findings

support previous studies and strengthen the argument that digital narrative media can enhance vocabulary learning outcomes.

Based on the study's findings, students vocabulary knowledge was greatly improved by the Webtoon application. Due to the post-test results, students who learnt through Webtoon scored better than those who got traditional instruction, with the experimental group achieving a significantly higher mean score (76.60) compare to the control group (59.20). The Independent Samples t-test further supports this result, as the significance value of 0.000 ($p < 0.05$) verifies that the difference between both groups was statistically significant. Since the data were also confirmed to be normal and homogeneous, the use of a parametric test is valid, and The conclusion that Webtoon significantly impacted students' vocabulary mastery is supported by actual evidence.

The improvement in the experimental group can be attributed to Webtoon's visual and narrative features, which strengthened students' understanding and memory of new vocabulary. Visual context, images, and situational clues enabled students to infer meaning more intuitively, allowing deeper processing of words. This aligns with Nation (2001), who asserts that vocabulary learning becomes more effective when learners encounter words in meaningful and repeated contexts. Likewise, Krashen's Input Hypothesis supports the idea that comprehensible and engaging input facilitates better language acquisition, which explains why students exposed to Webtoon showed greater vocabulary retention.

Motivation also played a key role in the experimental group's improvement. Webtoon created an enjoyable learning atmosphere, transforming vocabulary learning from a monotonous task into an interactive and engaging experience. This result is consistent with previous studies by Rahmatinnisa (2023) and Aqsa (2022), who reported that digital comics increase learners' participation and motivation. In contrast, the control group, which relied on printed materials and dictionary-based exercises, received limited contextual support and generated lower enthusiasm, resulting in slower vocabulary growth.

Overall, the findings validate the pedagogical potential of Webtoon as a digital medium for vocabulary learning. Webtoon supports both cognitive and affective learning factors: it helps students process vocabulary more efficiently while simultaneously increasing engagement during the learning process. Therefore, Webtoon can be considered an effective instructional alternative for enhancing vocabulary mastery, particularly in learning environments that require student-centered and technology-integrated approaches.

Conclusion

The result of this study confirm that using of Webtoon significantly improved students' vocabulary mastery compared to conventional teaching. The significant disparity between the experimental group's (76.60) and control group's (59.20) post-test results, supported by a significance value below 0.05, proves that Webtoon provided meaningful contributions to students' learning outcomes. The visual narratives, contextual clues, and engaging storyline helped students comprehend and retain new vocabulary more effectively.

In addition, the improvement in students' motivation and participation also played an important role in enhancing vocabulary learning. Webtoon created an enjoyable learning atmosphere, reducing students' boredom and increasing their attention during the learning process. This suggests that vocabulary instruction should not rely solely on printed media or rote memorization, but must integrate meaningful, contextual, and visually-supported learning input.

Therefore, for teaching vocabulary in English classes, Webtoon is a viable substitute. Teachers are encouraged to incorporate similar digital learning tools to maximize students' vocabulary growth. Future research may apply Webtoon to different language skills, longer treatment periods, or broader learner populations to strengthen the evidence regarding its pedagogical impact.

Based on the results, several pedagogical implications can be drawn. First, English teachers are encouraged to incorporate Webtoon as an alternative digital medium to create engaging and student-centered vocabulary learning. Its visual and narrative features can help students connect word meanings with contextual cues, increasing the effectiveness and enjoyment of the learning experience. Second, schools and institutions should provide technological support and allow the integration of digital learning platforms to optimize vocabulary instruction. Finally, future

researchers are advised to explore Webtoon with different language skills, longer treatment durations, or diverse learner populations to provide broader insights into its effectiveness in EFL settings.

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Curriculum Vitae

Lala Dini Arsika was born in Medan, Indonesia. She earned her Bachelor's degree in English Education from Universitas Potensi Utama. Her academic focus includes English teaching methodology, students' language development, and the use of digital learning media. Her current research explores the effectiveness of Webtoon apps in improving students' vocabulary learning. She hopes to contribute to educational innovation through technology-assisted learning.