

The Influence of Wordwall Learning Media and Learning Motivation on Fifth-Grade Students' Conceptual Understanding in Pancasila and Civic Education at SD Negeri 2 Sungai Belida

Andi Sutomo^{1*}, Joko Suliarto², Agus Sutono³

Universitas PGRI Semarang^{1,2,3}

*Email Korespodensi: ^{1*}andisutomo23@gmail.com, ²jokosulianto@upgris.ac.id,
³agussutono@upgris.ac.id

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ABSTRACT

Civic Education (PPKn) learning in elementary schools is still predominantly conducted using conventional teaching methods, resulting in limited student engagement and suboptimal conceptual understanding. This condition highlights the need for digital learning media capable of creating more interactive and meaningful learning experiences, one of which is the use of Wordwall. This study aimed to examine the effect of Wordwall as a learning medium on students' conceptual understanding in Civic Education and to describe students' learning motivation after participating in learning activities using the platform. The study employed a quantitative approach with a quasi-experimental method using a Nonequivalent Control Group Design. The participants were fifth-grade students of SD Negeri 2 Sungai Belida in the 2025/2026 academic year, consisting of an experimental group and a control group selected through total sampling. Data were collected through pretests and posttests, a learning motivation questionnaire, classroom observations, and documentation. The data were analyzed using descriptive statistics, normality and homogeneity tests, N-Gain analysis, and the Independent Samples t-test with the assistance of IBM SPSS Statistics. The findings revealed that students who learned using Wordwall achieved greater improvement in conceptual understanding than those who received conventional instruction. In addition, the implementation of Wordwall created a more engaging learning environment, encouraged active participation, and enhanced students' learning motivation throughout the instructional process. These results indicate that Wordwall is an effective digital learning medium for improving conceptual understanding while fostering higher learning motivation in Civic Education at the elementary school level and can serve as an innovative instructional alternative for teachers.

ABSTRAK

Pembelajaran Pendidikan Pancasila dan Kewarganegaraan (PPKn) di sekolah dasar masih didominasi oleh metode pengajaran konvensional, yang berdampak pada terbatasnya keterlibatan siswa dan pemahaman konsep yang kurang optimal. Kondisi ini

menunjukkan perlunya media pembelajaran digital yang mampu menciptakan pengalaman belajar yang lebih interaktif dan bermakna, salah satunya adalah penggunaan Wordwall. Penelitian ini bertujuan untuk mengkaji pengaruh Wordwall sebagai media pembelajaran terhadap pemahaman konsep siswa dalam mata pelajaran PPKn serta mendeskripsikan motivasi belajar siswa setelah mengikuti kegiatan pembelajaran menggunakan platform tersebut. Penelitian ini menggunakan pendekatan kuantitatif dengan metode kuasi-eksperimen dan desain *Nonequivalent Control Group Design*. Subjek penelitian adalah siswa kelas V SD Negeri 2 Sungai Belida tahun ajaran 2025/2026, yang terdiri dari kelompok eksperimen dan kelompok kontrol yang dipilih melalui teknik *total sampling*. Pengumpulan data dilakukan melalui *pretest* dan *posttest*, angket motivasi belajar, observasi kelas, dan dokumentasi. Data dianalisis menggunakan statistik deskriptif, uji normalitas dan homogenitas, analisis N-Gain, serta uji *Independent Samples t-test* dengan bantuan perangkat lunak IBM SPSS Statistics. Hasil penelitian menunjukkan bahwa siswa yang belajar menggunakan Wordwall mencapai peningkatan pemahaman konsep yang lebih tinggi dibandingkan dengan siswa yang menerima pembelajaran konvensional. Selain itu, penerapan Wordwall menciptakan lingkungan belajar yang lebih menarik, mendorong partisipasi aktif, dan meningkatkan motivasi belajar siswa selama proses pembelajaran berlangsung. Hasil ini mengindikasikan bahwa Wordwall merupakan media pembelajaran digital yang efektif untuk meningkatkan pemahaman konsep sekaligus menumbuhkan motivasi belajar yang lebih tinggi dalam pembelajaran PPKn di tingkat sekolah dasar, serta dapat menjadi alternatif pembelajaran yang inovatif bagi guru.

INTRODUCTION

The rapid advancement of information and communication technology has significantly transformed educational practices, particularly in the integration of digital learning media into classroom instruction. The incorporation of technology is no longer viewed merely as a complementary component of teaching but has become an essential element in promoting student-centered, interactive, and meaningful learning experiences. At the elementary school level, digital learning media are expected to enhance students' engagement while facilitating a deeper understanding of subject matter. One of the digital platforms that has gained considerable attention is Wordwall, a game-based learning application that enables teachers to design interactive educational activities, including quizzes, matching exercises, random wheels, and puzzles, thereby creating a more engaging and enjoyable learning environment.

In Civic Education (PPKn), conceptual understanding represents a fundamental learning outcome, as students are expected not only to memorize factual information but also to interpret, explain, relate, and apply civic values and principles in authentic contexts.

Nevertheless, classroom practices in elementary schools continue to rely predominantly on conventional instructional approaches characterized by teacher-centered lectures and limited use of innovative learning media. Such practices often result in passive student participation, low learning motivation, and insufficient conceptual understanding. Consequently, the implementation of innovative digital learning media has become increasingly important to foster active participation and strengthen students' conceptual understanding.

Previous studies have consistently demonstrated that the implementation of Wordwall contributes positively to educational outcomes by improving students' academic achievement, learning motivation, classroom engagement, and participation across various subjects, including Mathematics, Science, and Integrated Science. However, most existing studies have primarily emphasized learning achievement as the principal indicator of instructional effectiveness or have focused on disciplines other than Civic Education. Research specifically investigating the influence of Wordwall on students' conceptual understanding in elementary Civic Education remains relatively limited. Furthermore, earlier studies have rarely examined conceptual understanding as a higher-order cognitive outcome, despite its critical role in enabling students to internalize and apply civic concepts in everyday life. This limitation indicates a significant research gap that warrants further empirical investigation.

Addressing this gap, the present study offers a distinctive contribution by focusing on the effect of Wordwall on students' conceptual understanding in elementary Civic Education while also describing students' learning motivation following the implementation of Wordwall-based instruction. Unlike previous studies that predominantly measured general learning achievement, this research emphasizes conceptual understanding as the primary outcome, thereby providing a more comprehensive perspective on the educational value of game-based digital learning media.

Therefore, this study aims to examine the effect of Wordwall as a digital learning medium on the conceptual understanding of fifth-grade students in Civic Education at SD Negeri 2 Sungai Belida and to describe students' learning motivation after participating in Wordwall-assisted instruction. The findings are expected to contribute theoretically to the growing body of knowledge on digital game-based learning in elementary education and practically to provide teachers with empirical evidence regarding the effectiveness of Wordwall as an innovative instructional medium for enhancing conceptual understanding and improving the quality of Civic Education learning.

Studi Literatur

Research on the use of digital learning media, particularly Wordwall, has grown considerably in recent years. Numerous studies have demonstrated that Wordwall enhances the quality of learning by providing interactive, engaging, and student-centered learning activities. Nevertheless, the focus of previous studies varies considerably, making it necessary to review existing literature in order to establish the position and contribution of the present study.

Puspitasari and Sukartono (2024) investigated the implementation of Wordwall in Civic Education (PPKn) learning at the elementary school level using a qualitative approach. Their findings revealed that Wordwall created a more engaging learning environment, increased students' participation, and facilitated students' understanding of learning materials through interactive activities. However, the study primarily focused on describing the implementation of Wordwall and did not quantitatively examine its effect on students' conceptual understanding.

Putri, Sastra, Adrias, and Alwi (2024) conducted a Systematic Literature Review (SLR) to examine the effectiveness of Wordwall in Civic Education learning at the elementary school level. The review consistently indicated that Wordwall contributes positively to students' learning outcomes by creating more interactive and enjoyable learning experiences. Nevertheless, as a literature review, the study did not provide empirical evidence regarding the influence of Wordwall on students' conceptual understanding in classroom settings.

Rahman, Asmahasanah, and Kosim (2025) carried out a quasi-experimental study employing a Nonequivalent Control Group Design to investigate the effect of Wordwall on third-grade students' learning outcomes in Civic Education. The results demonstrated that students who learned through Wordwall achieved significantly higher learning outcomes than those receiving conventional instruction. Although these findings confirmed the effectiveness of Wordwall in improving academic achievement, the study was limited to learning outcomes and did not specifically assess conceptual understanding as a higher-order cognitive achievement.

Similarly, Desmita, Dwiyono, Sukriadi, and Wahyuningsih (2025) examined the effect of Wordwall on fourth-grade students' learning outcomes in Civic Education using a quantitative experimental approach. Their findings showed that Wordwall significantly improved students' learning outcomes compared with conventional teaching methods. These results suggest that integrating game-based digital media into classroom instruction can enhance learning effectiveness. However, the study focused exclusively on learning outcomes without examining students' conceptual understanding or learning motivation.

Furthermore, Idayani, Saputra, and Afkar (2025) investigated the effectiveness of Wordwall-based educational games in improving elementary students' conceptual understanding and critical thinking skills through a quasi-experimental design. Their findings indicated that students in the experimental group demonstrated greater improvement in conceptual understanding and critical thinking than those in the control group. Although this study provides evidence that Wordwall supports higher-order cognitive development, it was conducted in a subject area other than Civic Education, thereby limiting the direct applicability of its findings to PPKn instruction.

Overall, previous studies consistently indicate that Wordwall has positive effects on students' learning outcomes, motivation, participation, and classroom engagement. However, most studies have concentrated on general learning outcomes or have been conducted in

subjects other than Civic Education. Empirical research specifically examining the effect of Wordwall on students' conceptual understanding in elementary Civic Education remains limited. Therefore, the present study addresses this research gap by investigating the influence of Wordwall on students' conceptual understanding in Civic Education while also describing students' learning motivation following the implementation of Wordwall-based instruction. This study is expected to contribute to the growing body of knowledge regarding the effectiveness of digital game-based learning in elementary education.

RESEARCH METHODS

This study employed a quantitative approach using a quasi-experimental design, as the researcher was unable to randomly assign participants to experimental and control groups. According to Sugiyono (2022), a quantitative approach is appropriate for examining causal relationships among variables through statistical analysis, while a quasi-experimental design is suitable for educational settings where intact classrooms are maintained. Specifically, this study adopted the Nonequivalent Control Group Design, which involved an experimental group receiving instruction using the Wordwall learning media and a control group receiving conventional instruction. Both groups completed a pretest before the intervention and a posttest after the instructional treatment to measure changes in students' conceptual understanding.

The study was conducted during the 2025/2026 academic year at SD Negeri 2 Sungai Belida. The research participants consisted of fifth-grade students from two existing classes selected using total sampling, in which all members of the population were included as research participants. Class V-A served as the experimental group, whereas Class V-B functioned as the control group. This sampling technique was selected because the population consisted of only two intact classes with relatively similar academic characteristics.

Data were collected using four research instruments. First, a pretest and posttest consisting of multiple-choice questions were administered to measure students' conceptual understanding before and after the intervention. Second, a learning motivation questionnaire was distributed to students in the experimental group to describe their motivation following the implementation of Wordwall. Third, classroom observations were conducted throughout the instructional process to evaluate the implementation of Wordwall and students' classroom engagement. Finally, documentation, including students' achievement records, attendance lists, learning materials, and classroom photographs, was collected to support and validate the research findings.

The research procedure was carried out sequentially. The first stage involved preparing research instruments, lesson plans, and learning materials, followed by instrument validation prior to implementation. The second stage consisted of administering the pretest to both groups to determine students' initial conceptual understanding. During the third stage, the experimental group received instruction using Wordwall, while the control group was taught through conventional teaching methods covering the same learning objectives and content.

Upon completion of the instructional intervention, both groups completed the posttest, and the learning motivation questionnaire was administered to the experimental group. Observation and documentation activities were conducted throughout the implementation process.

The collected data were analyzed using IBM SPSS Statistics. Descriptive statistics were first employed to summarize students' scores and learning motivation. Subsequently, normality and homogeneity tests were conducted to verify that the data met the assumptions required for parametric statistical analysis. Improvement in students' conceptual understanding was determined using the Normalized Gain (N-Gain) score, while differences between the experimental and control groups were examined using the Independent Samples t-test at a significance level of 0.05. The effectiveness of Wordwall was evaluated based on statistically significant differences in posttest scores and N-Gain values between the two groups, complemented by descriptive findings from the learning motivation questionnaire and classroom observations.

RESULTS AND DISCUSSION

Results

This study involved 32 fifth-grade students from SD Negeri 2 Sungai Belida, consisting of 17 students in the experimental group and 15 students in the control group. Before the intervention, both groups completed a pretest to determine their initial level of conceptual understanding. The experimental group then received instruction using Wordwall as the primary learning medium, whereas the control group was taught using conventional instructional methods. Upon completion of the instructional intervention, both groups completed the same posttest to measure improvements in conceptual understanding.

Descriptive Analysis of Learning Outcomes

The descriptive analysis indicated that both groups had comparable initial abilities. The experimental group obtained a mean pretest score of 63.14 (SD = 4.16), while the control group achieved a mean score of 63.11 (SD = 4.27). Following the instructional intervention, the mean posttest score of the experimental group increased to 89.41 (SD = 4.75), whereas the control group achieved a mean score of 73.78 (SD = 4.52). These findings demonstrate that students who learned through Wordwall achieved substantially higher learning outcomes than those who received conventional instruction.

Table 1. Descriptive Statistics of Learning Outcomes

Variable	Experimental Group	Control Group
Number of Students	17	15
Mean Pretest Score	63.14	63.11
Mean Posttest Score	89.41	73.78
Posttest Standard Deviation	4.75	4.52

Improvement in Learning Outcomes

Students' learning improvement was measured using the Normalized Gain (N-Gain) score. The experimental group obtained a mean N-Gain score of 0.723, which falls within the high category, whereas the control group obtained a mean score of 0.293, categorized as low. These results indicate that the use of Wordwall was more effective in improving students' conceptual understanding than conventional teaching methods.

Table 2. N-Gain Analysis Results

Group	Mean N-Gain	Category
Experimental	0.723	High
Control	0.293	Low

Students' Responses and Learning Motivation

The questionnaire results revealed that the majority of students expressed positive perceptions of the use of Wordwall as a learning medium. Most responses were classified as Agree and Strongly Agree, particularly regarding the ease of use, attractive interface, and the effectiveness of Wordwall in facilitating the understanding of Civic Education materials. Furthermore, students reported being more actively engaged, more confident in answering questions, and more enthusiastic about participating in game-based learning activities.

The learning motivation questionnaire also demonstrated positive outcomes. Most students indicated a strong commitment to learning, greater interest in Civic Education, a stronger desire to achieve higher academic performance, and more active participation throughout the learning process. These findings suggest that Wordwall not only enhanced students' conceptual understanding but also fostered a more motivating and engaging learning environment.

Assumption Testing

Before hypothesis testing, the data were examined using the Shapiro-Wilk normality test and Levene's test for homogeneity of variance. The significance values for the pretest, posttest, and N-Gain data were all greater than 0.05, indicating that the data were normally distributed. In addition, Levene's test yielded a significance value of 0.842, confirming that the variances of the two groups were homogeneous. Therefore, the data satisfied the assumptions required for conducting the Independent Samples t-test.

Hypothesis Testing

The results of the Independent Samples t-test showed a t-value of 9.505 with a significance value (Sig. 2-tailed) of 0.000, which is lower than the significance level of 0.05. The mean difference between the posttest scores of the experimental and control groups was 15.634 points. These findings indicate a statistically significant difference in conceptual understanding between students who learned using Wordwall and those who received conventional instruction. Accordingly, the research hypothesis was accepted, confirming that the implementation of Wordwall had a significant positive effect on students' conceptual understanding in Civic Education (PPKn).

Discussion

This study aimed to examine the effect of using Wordwall as a digital learning medium on students' conceptual understanding in Civic Education (PPKn). The findings revealed that students in the experimental group achieved higher posttest scores and Normalized Gain (N-Gain) values than those in the control group. Furthermore, the results of the Independent Samples t-test indicated a statistically significant difference between the two groups, demonstrating that the implementation of Wordwall had a positive effect on improving students' conceptual understanding. These findings suggest that the integration of game-based digital learning media creates a more effective learning process than conventional teacher-centered instructional approaches.

The improvement in conceptual understanding observed in the experimental group can be attributed to the instructional characteristics of Wordwall, which incorporates the principles of game-based learning into classroom instruction. Interactive activities such as quizzes, matching exercises, and immediate feedback enabled students to engage actively in the learning process. Unlike conventional instruction, which often positions students as passive recipients of information, Wordwall encourages learners to interact directly with learning materials, collaborate with peers, and continuously evaluate their own understanding through engaging learning activities. Such experiences promote higher levels of cognitive engagement, allowing students to construct a deeper understanding of Civic Education concepts. These findings are further supported by classroom observations and questionnaire responses, which indicated that students became more enthusiastic, actively participated in classroom activities, and demonstrated greater confidence during Wordwall-assisted instruction.

The findings of this study are consistent with those reported by Zulfa, Roshayanti, and Purnamasari (2023), who found that the implementation of Wordwall significantly improved elementary students' learning outcomes in Civic Education. Similarly, Rahman, Asmahasanah, and Kosim (2025) reported that students taught using Wordwall achieved significantly higher academic performance than those receiving conventional instruction. In addition, the literature review conducted by Annur et al. (2025) concluded that Wordwall is an effective digital learning medium capable of enhancing students' engagement through interactive and enjoyable learning activities. The consistency of these findings reinforces the conclusion that Wordwall is an effective instructional medium for improving learning quality in elementary education.

Nevertheless, the present study provides a distinct contribution compared with previous research. Most earlier studies primarily focused on students' general learning outcomes or learning motivation. In contrast, this study specifically examined conceptual understanding as the primary learning outcome in Civic Education. Therefore, this research provides empirical evidence that Wordwall not only improves students' academic achievement but also facilitates the development of deeper conceptual understanding of Civic Education content. This contribution extends the existing literature on digital learning media by emphasizing

conceptual understanding, an aspect that has received relatively limited attention in previous studies.

The questionnaire results further support the quantitative findings. Most students expressed positive perceptions regarding the use of Wordwall, indicating that the platform was easy to use, visually appealing, and helpful in understanding the learning materials. Furthermore, students demonstrated higher learning motivation after participating in Wordwall-assisted instruction. Although learning motivation was not statistically analyzed as an independent variable, these findings suggest that motivation served as an important supporting factor contributing to the effectiveness of Wordwall. Increased motivation encouraged students to participate more actively, maintain greater concentration, and engage more enthusiastically throughout the learning process, thereby indirectly contributing to improved conceptual understanding.

Despite these positive findings, several limitations should be considered when interpreting the results. First, the study was conducted in only one elementary school with a relatively small sample size, limiting the generalizability of the findings to broader educational contexts. Second, the instructional intervention was implemented over a relatively short period; therefore, the study was unable to examine the long-term effects of Wordwall on students' knowledge retention. Third, the study focused exclusively on conceptual understanding as the dependent variable, while other important educational outcomes, such as critical thinking, creativity, collaboration, and problem-solving skills, were not investigated. Furthermore, the use of a quasi-experimental design involving intact classrooms may have introduced threats to internal validity because participants were not randomly assigned to experimental conditions. However, these potential threats were minimized by providing identical learning objectives, instructional content, teaching duration, and assessment instruments for both groups, as well as conducting statistical assumption tests prior to hypothesis testing.

Based on these findings, Wordwall can be recommended as an effective digital learning medium for Civic Education instruction at the elementary school level. Future research is encouraged to involve larger and more diverse samples, include schools with different educational contexts, and investigate the effects of Wordwall on additional variables, such as critical thinking skills, problem-solving abilities, creativity, collaboration, and long-term learning retention. Such studies would provide a more comprehensive understanding of the effectiveness of Wordwall in enhancing elementary education.

CONCLUSION

This study concludes that the implementation of Wordwall as a digital game-based learning medium has a significant positive effect on fifth-grade students' conceptual understanding in Civic Education (PPKn) at SD Negeri 2 Sungai Belida (State Elementary School 2 Sungai Belida). Students who participated in Wordwall-assisted instruction

demonstrated significantly higher posttest scores and greater learning improvement than those who received conventional instruction, indicating that Wordwall effectively enhances students' conceptual understanding. In addition, students exhibited positive learning motivation and engagement throughout the learning process, suggesting that the interactive features of Wordwall foster active participation and meaningful learning experiences. These findings answer the research objective by providing empirical evidence that integrating Wordwall into Civic Education instruction improves conceptual understanding while creating a more engaging learning environment. The study contributes to the growing body of knowledge on digital game-based learning by extending previous research that primarily emphasized learning outcomes, highlighting instead the role of Wordwall in strengthening conceptual understanding in elementary Civic Education. Therefore, Wordwall can be considered an effective alternative instructional medium for teachers seeking to improve the quality of classroom learning and promote active student participation in elementary schools.

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