

Effectiveness of Canva as a Learning Medium in Improving Senior High School Students' Outcomes

Putri Nuraini¹, Agung Setiawan², Fauzi Erwis³

^{1,2,3} Universitas Rokania, Indonesia; putrinuraini429@gmail.com

* Corresponding author: putrinuraini429@gmail.com

Article history

Submitted: 2026/05/15; Revised: 2026/06/11; Accepted: 2026/07/21

Abstract

Digital transformation in education requires innovative instructional media that can improve student learning outcomes, including Canva as an interactive visual platform. This study examined the effectiveness of Canva in improving the learning outcomes of Grade XI students in Information and Communication Technology (ICT) at SMA Negeri 1 Hutaraja Tinggi. A quantitative approach with a pretest-posttest control group design was employed. The sample comprised 40 students, with 20 students in the experimental class and 20 in the control class. Data were analyzed using normalized gain (N-Gain). The findings revealed a clear difference between the two groups. The experimental class achieved a mean N-Gain of 85.38%, categorized as high, whereas the control class achieved 69.81%, categorized as moderate. These findings indicate that Canva is effective in improving students' learning outcomes. The study provides practical implications for teachers seeking to develop more interactive and engaging digital instructional media, particularly for ICT instruction at the senior high school level.

Keywords

Canva; Experiment; ICT; Instructional Media; Learning Outcomes



© 2026 by the authors. This is an open-access publication under the terms and conditions of the Creative Commons Attribution 4.0 International (CC BY SA) license <https://creativecommons.org/licenses/by-sa/4.0/>.

INTRODUCTION

The rapid development of information and communication technology in the twenty-first century has transformed education. Teaching and learning can no longer rely solely on conventional methods; digital technology must be used as an innovative instructional medium. Romadhoni (2024) argues that integrating digital technology into instruction is unavoidable if education is to keep pace with contemporary developments and improve learning quality. Along with this transformation, the instructional paradigm has shifted from teacher-centered to student-centered learning. In practice, however, many lessons remain monotonous because teachers use a limited range of instructional media. Rahma (2024) reports that insufficiently interactive media can make students passive and contribute to low learning outcomes.

In contemporary education, Canva, instructional media, and learning outcomes are closely interconnected and mutually influential (Huda & Djono, 2025). Learning outcomes are important indicators for evaluating the success of the instructional process. According to Darwis et al. (2024), students' learning outcomes are strongly influenced by the instructional media used by teachers. Media that are engaging and suited to students' characteristics can improve content comprehension, student engagement, and learning outcomes.

Digital instructional media provide one solution to these problems. Romadhoni (2024) states that using digital media can create a more engaging and interactive learning environment, thereby encouraging students to participate more actively in learning activities. Digital media also help teachers present learning content more effectively.

Canva is one digital platform that can be used as an instructional medium. Romadhoni (2024) explains that Canva is a digital design application that provides a wide range of attractive and user-friendly visual templates for producing presentations, posters, and infographics. It enables teachers to present material visually and interactively, helping students understand the content more easily.

Darwis et al. (2024) found that using Canva as an instructional medium was effective in improving students' learning outcomes compared with conventional media. Similarly, Zhafira et al. (2025) reported that Canva-based media increased student participation and positively affected learning outcomes.

Based on the researchers' experience during Professional Training Program (PLP) I, instruction was still largely one-directional and dominated by lectures. This approach made lessons monotonous and insufficiently interactive and failed to create an enjoyable learning environment. Consequently, students tended to be passive, participated minimally, and experienced difficulty understanding the learning material.

In contrast, during PLP II, the researchers introduced instructional innovations by using Canva. The material was presented through visually appealing templates and combined with interactive activities, including multiple-choice quizzes, picture-guessing activities related to ICT components, and true-or-false games aligned with the lesson. These media increased students' participation, enthusiasm, and understanding of the material.

The learning evaluation showed that many students' scores in Information and Communication Technology (ICT) had not yet reached the school's Minimum Mastery Criterion (Kriteria Ketuntasan Minimal/KKM) of 75. This finding indicated that students' understanding of the material remained relatively low. The low achievement also suggested that the instructional process had not been fully effective, particularly because the media used were insufficiently engaging and interactive. Therefore, innovation in instructional media is required to increase student involvement and help students achieve or exceed the established mastery criterion.

Although previous studies have shown that Canva can improve students' learning outcomes, most have used it primarily as a presentation medium and have not fully utilized interactive features such as games. Moreover, research specifically examining the use of Canva

in ICT instruction at SMA Negeri 1 Hutaraja Tinggi remains limited.

This study aims to determine the extent to which Canva affects students' learning outcomes, identify students' perceptions of its use in learning, and examine the relationship between digital media use and improvements in understanding and academic achievement. The study is expected to provide a reference for future research on Canva-based instructional media and to support investigations involving different variables or contexts.

METHODS

This study employed a quantitative approach using an experimental method. The quantitative approach was selected because the study objectively measured and analyzed the effect of Canva as an instructional medium on students' learning outcomes using numerical data and statistical analysis. Quantitative research is grounded in positivism and is used to examine a particular population or sample through research instruments and statistical data analysis.

The study used an experimental method with a pretest-posttest control group design. This method was selected to determine the effectiveness of Canva as an instructional medium in improving students' learning outcomes. Two groups were involved: an experimental class that received instruction using Canva and a control class that received conventional instruction. Before the treatment, both classes completed a pretest to determine their initial ability. After the instructional sessions, both classes completed a posttest to measure learning outcomes following the treatment.

The study was conducted at SMA Negeri 1 Hutaraja Tinggi in Padang Lawas Regency, North Sumatra. The population comprised all Grade XI students enrolled at the school in the 2025/2026 academic year. Class XI-1 served as the experimental group and Class XI-2 as the control group. Each class consisted of 20 students, resulting in a total sample of 40 students.

The N-Gain formula used in this study refers to Arikunto (2020):

$$g = (1/N) \sum_{i=1}^N [(S_{post,i} - S_{pre,i}) / (S_{maks} - S_{pre,i})]$$

Notes:

g = mean N-Gain score

Σ = summation for all students

$S_{post,i}$ = posttest score of the i -th student

$S_{pre,i}$ = pretest score of the i -th student

S_{maks} = maximum possible score

N = total number of students

The calculated N-Gain scores were classified as follows:

N-Gain Score	Category
$g > 0.70$	High
$0.30 \leq g \leq 0.70$	Moderate
$g < 0.30$	Low

Source: Adapted from Arikunto (2020)

N-Gain was used to determine the degree of improvement in students' learning outcomes after instruction. A higher N-Gain score indicates a greater improvement in learning outcomes.

FINDINGS AND DISCUSSION

The study was conducted at SMA Negeri 1 Hutaraja Tinggi and involved two groups: an experimental class and a control class. The experimental class consisted of 20 students who received instruction using Canva, whereas the control class consisted of 20 students who received conventional instruction. Pretest and posttest scores were collected to measure improvements in learning outcomes.

The mean learning outcome of the experimental class was higher than that of the control class. This difference indicates that the groups achieved different learning outcomes after receiving different instructional treatments.

The sample comprised two equally sized groups: 20 students in the experimental class and 20 in the control class. No data were missing, allowing all observations to be included in the analysis. The balanced group sizes provided an adequate basis for comparing the effectiveness of the treatments. The experimental class received Canva-assisted instruction, whereas the control class received conventional instruction. This composition enabled the descriptive analysis to portray differences in learning outcomes associated with the two treatments.

Table 1. Experimental Class Data

Student	Pretest	Posttest	Posttest– Pretest	Maximum– Pretest	N-Gain
Student 1	55	99	28	36	77.78%
Student 2	64	92	44	45	97.78%
Student 3	45	96	51	55	92.73%
Student 4	60	88	28	40	70.00%
Student 5	64	92	28	36	77.78%
Student 6	68	100	32	32	100.00%
Student 7	60	92	32	40	80.00%
Student 8	55	96	44	45	97.78%
Student 9	68	100	32	32	100.00%
Student 10	32	88	56	68	82.35%
Student 11	64	92	28	36	77.78%
Student 12	68	96	28	32	87.50%
Student 13	43	92	49	57	85.96%
Student 14	64	96	32	36	88.89%
Student 15	32	96	64	68	94.12%
Student 16	60	92	32	40	80.00%
Student 17	64	88	24	36	66.67%
Student 18	68	92	24	32	75.00%

Student	Pretest	Posttest	Posttest– Pretest	Maximum– Pretest	N-Gain
Student 19	40	96	56	60	93.33%
Student 20	55	92	37	45	82.22%

Source: Research data, 2026

Table 2. Experimental Class N-Gain Summary

Category	Value
Mean	85.38
Minimum	66.67
Maximum	100.00

Source: Research data processing, 2026

The experimental class achieved a mean N-Gain of 85.38%, with a minimum of 66.67% and a maximum of 100.00%.

Table 3. Control Class Data

Student	Pretest	Posttest	Posttest– Pretest	Maximum– Pretest	N-Gain
Student 1	35	60	25	65	53.85%
Student 2	56	65	9	44	80.00%
Student 3	32	70	38	68	42.67%
Student 4	50	75	25	50	83.33%
Student 5	53	60	7	47	69.74%
Student 6	56	76	20	44	66.67%
Student 7	64	84	20	36	77.11%
Student 8	68	83	15	32	87.18%
Student 9	35	78	43	65	43.75%
Student 10	56	80	24	44	63.64%
Student 11	64	88	24	36	72.73%
Student 12	68	88	20	32	85.00%
Student 13	60	80	20	40	78.95%
Student 14	56	76	20	44	67.47%
Student 15	64	83	19	36	72.73%
Student 16	55	88	33	45	67.07%
Student 17	55	82	27	45	68.75%
Student 18	56	80	24	44	66.67%
Student 19	64	84	20	36	85.33%
Student 20	45	75	30	55	63.64%

Source: Research data, 2026

Table 4. Control Class N-Gain Summary

Category	Value
Mean	69.81

Category	Value
Minimum	42.67
Maximum	87.18

Source: Research data processing, 2026

The control class achieved a mean N-Gain of 69.81%, with a minimum of 42.67% and a maximum of 87.18%. This difference indicates a gap in learning improvement between the two groups.

Discussion

The findings show that Canva had a positive effect on students' learning outcomes in Information and Communication Technology (ICT) at SMA Negeri 1 Hutaraja Tinggi. The experimental class achieved a mean N-Gain of 85.38%, categorized as high, whereas the control class achieved 69.81%, categorized as moderate. This difference indicates that Canva-assisted instruction was more effective than conventional instruction in helping students understand the material.

According to Budiman et al. (2021), the improvement in the experimental class can be attributed to Canva's ability to present material in a visual, engaging, and interactive manner. Combining images, icons, colors, animations, quizzes, and simple games increased students' attention and involvement during the learning process. These conditions helped students understand concepts more easily, participate more actively, and retain the material better than when instruction relied only on lectures.

The findings are also consistent with relevant previous studies. Darwis et al. (2024), for example, reported that Canva improved learning outcomes, with N-Gain scores ranging from moderate to high. Zhafira et al. (2025) similarly found that Canva-based media increased student participation and learning outcomes through an interactive approach. The present study extends these findings by directly comparing an experimental class with a control class, thereby providing stronger empirical evidence of Canva's effectiveness. It consequently reinforces previous research while addressing the limited evidence concerning Canva in senior high school ICT instruction.

Muh Arief Abdillah Ali and Akbar (2025) suggest that Canva affects not only academic scores but also the overall quality of the learning process. In practical terms, teachers are encouraged to integrate Canva into instruction as an innovative alternative for increasing student engagement and motivation. Academically, this study contributes to the development of digital learning theory, particularly regarding the effectiveness of interactive visual media. Nevertheless, the results may also have been influenced by students' initial ability, teachers' proficiency in using Canva, and the learning environment. Future studies should therefore examine additional variables, such as learning motivation and student interaction, to develop a more comprehensive understanding of digital instructional media.

CONCLUSION

Based on the findings, Canva was effective in improving the learning outcomes of Grade XI students in Information and Communication Technology (ICT) at SMA Negeri 1 Hutaraja Tinggi. The analysis demonstrated a difference between the experimental class, which used Canva, and the control class, which received conventional instruction.

The experimental class obtained higher posttest results than the control class. Its mean N-Gain was 85.38%, categorized as high, whereas the control class obtained 69.81%, categorized as moderate. These findings indicate that Canva produced greater improvement in learning outcomes than conventional instruction.

This study nevertheless has several limitations. It was conducted at only one school with a limited sample, so the findings cannot be broadly generalized. The analysis also focused on the cognitive domain and did not examine the effects of Canva on students' affective and psychomotor development. Other factors, including learning motivation, initial ability, and teachers' digital-media proficiency, may also have influenced the results.

Future studies should involve larger samples across different schools or educational levels to obtain broader and more robust evidence. Researchers should also investigate a wider range of interactive Canva features, including educational games, digital quizzes, and project-based learning.

Further research is also recommended to examine Canva's effects on learning motivation, creativity, critical-thinking skills, and collaboration so that the effectiveness of digital instructional media can be understood more comprehensively.

REFERENCES

- Arikunto, S. (2020). *Research procedures: A practical approach*. Rineka Cipta.
- Arisanti, D., Suriswo, S., & Maufur, M. (2025). The use of Canva-based interactive media, teachers' digital skills, and learning motivation in relation to learning outcomes. *Jurnal Papeda: Jurnal Publikasi Pendidikan Dasar*, 7(2), 206–215. <https://doi.org/10.36232/jurnalpendidikandasar.v7i2.2008>
- Darwis, Darwis, Atmono, D., Ratumbusang, M. F. N. G., & Hasanah, M. (2024). The effectiveness of Canva learning media in improving students' learning outcomes at MA Ibitidaussalam. *Jurnal Pendidikan Ekonomi (JUPE)*, 12(1), 85–91. <https://doi.org/10.26740/jupe.v12n1.p85-91>.
- Huda, K., & Djono, D. (2025). Integrating meaningful learning theory and constructivism into history education in the digital era. *Jurnal Artefak*, 12(1), 137. <https://doi.org/10.25157/ja.v12i1.18462>
- Listya, A., & Widodo, D. (2023). The role of instructional media in increasing students' learning motivation. *Open Science Framework*, 1–7.
- Muh Arief Abdillah Ali, & Akbar, M. (2025). Implementing Canva as instructional media to improve students' learning outcomes in informatics. *Jurnal MediaTIK*, 8(1), 36–41. <https://doi.org/10.59562/mediatik.vi.6094>
- Qiftiyah, Hidayati, & Rahman. (2024). Applying Canva in learning to improve students' creativity and conceptual understanding. *Jurnal Pendidikan*.

- Rahma, D. (2024). The effect of digital media as interactive instructional media on students' learning motivation. 4(2), 12–21.
- Riyadi. (2021). The effectiveness of Canva media on senior high school students' economics learning outcomes. *Jurnal Pendidikan Ekonomi*.
- Rizqiyana, S. A. (2026). The use of Canva-based learning media to support elementary school students' learning concentration.
- Romadhoni, A. M. (2024). Using Canva as a learning tool to increase students' learning motivation. *Jurnal Citra Pendidikan*, 4(1), 1561–1569. <https://jurnalilmiahcitrabakti.ac.id/jil/index.php/jcp/article/view/3094/872>
- Rukminingsih. (2021). Educational research methods. In *Angewandte Chemie International Edition*, 6(11), 951–952.
- Sari, R., & Rahman, A. (2022). Implementing Canva as instructional media to improve students' learning outcomes in informatics. *Media TIK: Jurnal Pendidikan Teknologi Informasi dan Komunikasi*. <https://doi.org/10.59562/mediatik.vi.6094>
- Zhafira, S., Caska, C., & Mujiono, M. (2025). Implementing the PjBL model with Canva-based scrapbook media to improve students' learning outcomes at SMA Negeri 1 Pekanbaru. *JIIIP - Jurnal Ilmiah Ilmu Pendidikan*, 8(8), 9767–9774. <https://doi.org/10.54371/jiip.v8i8.9332>