

ENHANCING FIFTH-GRADE STUDENTS' LEARNING OUTCOMES ON THE WATER CYCLE THROUGH CANVA-BASED LEARNING MEDIA

Afifatul Maula Zahro¹, Hafizah Ghany Hayudinna²
^{1,2} Universitas Islam Negeri K.H. Abdurrahman Wahid Pekalongan
afifatul.maula.zahro@mhs.uingusdur.ac.id

ABSTRAK

Rendahnya hasil belajar peserta didik kelas V pada materi Siklus Air salah satunya disebabkan oleh kurang optimalnya penggunaan media pembelajaran. Aplikasi Canva dapat dimanfaatkan sebagai solusi media dengan visual menarik dan interaktif guna meningkatkan perhatian, motivasi, serta keterlibatan peserta didik. Penelitian ini bertujuan untuk mengetahui hasil belajar siswa yang menggunakan maupun tidak menggunakan Canva, serta menganalisis pengaruh aplikasi tersebut terhadap hasil belajar IPAS materi Siklus Air. Penelitian ini merupakan penelitian kuantitatif dengan metode eksperimen berdesain *Pre-test – Post-test Control Group Design*. Pengambilan sampel menggunakan teknik *sampling* jenuh, yaitu melibatkan seluruh populasi sebagai sampel yang terdiri dari kelas V A sebagai kelas eksperimen (20 siswa) dan kelas V B sebagai kelas kontrol (20 siswa) di SDN Subah 01. Hasil penelitian menunjukkan bahwa nilai kelas eksperimen lebih tinggi dibandingkan kelas kontrol. Berdasarkan hasil uji-t, diperoleh nilai t -hitung = 2,802 dan t -tabel = 2,024 (t -hitung > t -tabel). Dengan demikian, H_0 ditolak dan H_a diterima. Dapat disimpulkan bahwa terdapat pengaruh yang signifikan dari penggunaan aplikasi Canva sebagai media pembelajaran terhadap hasil belajar peserta didik kelas V SDN Subah 01 pada materi Siklus Air.

Kata kunci: Aplikasi Canva; Hasil Belajar; Media Pembelajaran; Siklus Air

ABSTRACT

The low learning outcomes of fifth-grade students on the Water Cycle material are partly caused by the suboptimal use of learning media. The Canva application can be used as a media solution with attractive and interactive visuals to increase student attention, motivation, and involvement. This study aims to determine the learning outcomes of students who use or do not use Canva, and to analyze the effect of the application on the learning outcomes of the Water Cycle material. This study is a quantitative study with an experimental method with a Pre-test - Post-test Control Group Design. Sampling uses a saturated sampling technique, which involves the entire population as a sample

consisting of class V A as the experimental class (20 students) and class V B as the control class (20 students) at SDN Subah 01. The results showed that the experimental class's score was higher than the control class. Based on the t-test results, the t-count value = 2.802 and t-table = 2.024 (t-count > t-table). Thus, H_0 is rejected and H_a is accepted. It can be concluded that there is a significant influence of the use of the Canva application as a learning medium on the learning outcomes of class V students at SDN Subah 01 on the Water Cycle material.

Keywords: *Canva Application; Learning Outcomes; Learning Media; Water Cycle*

INTRODUCTION

In the 21st-century education sector, technology is systematically integrated to assist in planning, solving, and assessing learning activities, ultimately resulting in more effective educational outcomes. Efforts to continuously improve student learning outcomes are inseparable from the use of innovative technology, methods, models, and learning strategies (Utami & Atmojo, 2021). Within the elementary school context, the science subject is a crucial learning program aimed at developing curiosity, positive attitudes, and an awareness of the interplay between science, the environment, technology, and society. Science subjects are expected to bring students closer to learning about themselves and the natural world (Wicaksono & Rahman, 2022).

Despite its importance, students often struggle to understand abstract science concepts, such as the water cycle, changes in state, or forces. Because these concepts are difficult to observe directly, students tend to rely on memorization without grasping their essence (Nugraheny et al., 2024). Furthermore, the abundance of specialized scientific vocabulary acts as a barrier, and students' varying cognitive abilities influence their in-depth conceptual understanding (Triwahyuni et al., 2025). To address these challenges, interactive technology like Canva has emerged as a prominent solution. Previous studies indicate that Canva significantly simplifies the design of learning media, facilitating technology-based learning that fosters creativity and increases student interest and motivation through engaging presentations (Triningsih et al., 2021). One important factor in learning media is the attractiveness of systematically designed structures (Maritsa et al.,

2021). Canva is not only a visual aid but also a medium that facilitates effective conceptual understanding, allowing learning messages from teachers to be conveyed more clearly (Hidayatullah et al., 2023).

However, a significant gap remains between ideal technology integration and actual classroom practices. At SDN Subah 01 Batang, science learning is still dominated by traditional, teacher-centered methods such as lectures and chalkboard writing, lacking the support of contextual and engaging media. Initial observations and evaluation data reveal that approximately 40% of fifth-grade students have not achieved the Minimum Passing Criteria (KKM) in understanding the water cycle. Many students perceive science as a difficult subject requiring extensive memorization, a problem directly exacerbated by the absence of visual or interactive media to explain abstract materials.

While previous studies have highlighted the general benefits of Canva in education, there is limited empirical research specifically measuring its quantitative impact as an intervention to overcome high failure rates in understanding specific abstract science topics like the water cycle among elementary students. The novelty of this research lies in its targeted approach to transforming a localized, heavily traditional, and lecture-based classroom into a technology-enhanced learning environment, specifically evaluating Canva's visual and interactive capabilities as a direct solution to clarify abstract water cycle concepts for fifth graders.

Based on the identified problems and the potential of interactive media, this study aims to investigate the effectiveness of this technological intervention in addressing learning challenges. Specifically, this research focuses on enhancing fifth-grade students' learning outcomes on the water cycle through Canva-based learning media. By evaluating this approach, the study seeks to provide empirical evidence on how visually engaging platforms can facilitate a deeper understanding of abstract science concepts.

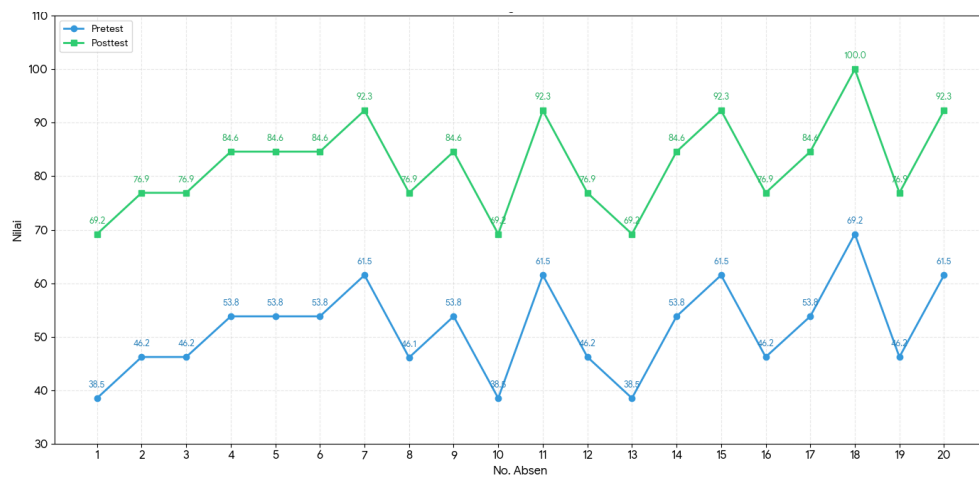
METHOD

This study applies a quantitative approach with an experimental method with a Pre-test – Post-test Control Group Design (Fatmawati, 2013; Nurjannah, 2017). The study was conducted at SDN Subah 01 Batang involving 40 fifth-grade

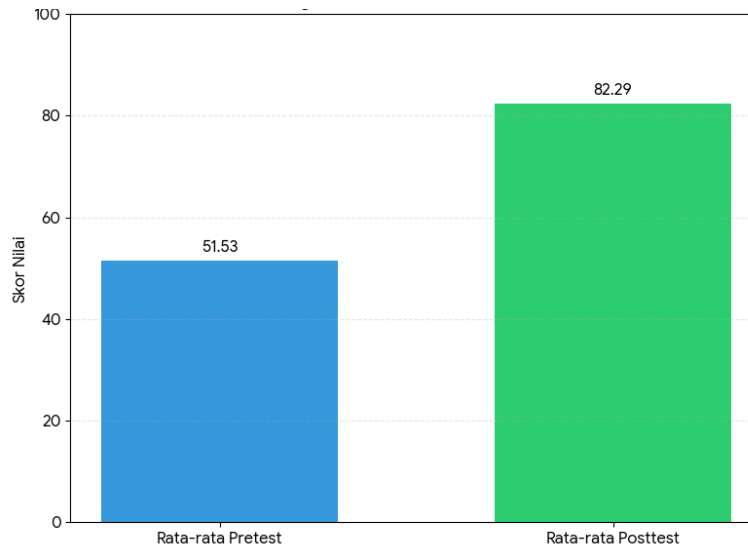
students selected using a saturated sampling technique, divided into class V A (20 students) as the experimental group and class V B (20 students) as the control group. Data collection was carried out through learning outcome test instruments (pre-test and post-test) on the Water Cycle material to measure students' abilities before and after treatment, where the experimental class used Canva media while the control class used conventional methods. Furthermore, the quantitative data were analyzed using inferential statistics through the t-test (Independent Sample t-test) to prove the significance of the influence of the use of the Canva application on improving student learning outcomes comprehensively.

DISCUSSION

This study compared student learning outcomes on the water cycle between a control class using conventional methods and an experimental class using the Canva application. Data showed that both groups improved, but by a significant margin. In the control class, the average pre-test score of 51.91 increased by 22.68 points to 74.59 in the post-test. Meanwhile, the experimental class, which started with an average pre-test score of 51.53, experienced a rapid increase of 30.76 points to 82.29 in the post-test.



Picture 1. 2. Graph Comparison of Pretest and Posttest between Two Classes



Picture 1. 3. Mean difference

Inferential analysis using the Independent Sample t-Test confirmed the visual differences in the graph. The calculated t-value was 2.802 with a significance level of 0.008 (<0.05), which exceeded the t-table value (2.024) at a significance level of 0.05 ($df=38$). This finding firmly rejects H_0 and accepts H_a , empirically proving that the intervention of using the Canva application has a significant influence on improving the learning outcomes of fifth-grade students at SDN Subah 01.

The significant disparity in learning outcomes between the experimental and control classes raises an interesting phenomenon that warrants further analysis. In the control class, reliance on one-way lectures and the lack of visual representations trigger cognitive overload when students are confronted with abstract scientific concepts. The water cycle involves natural phenomena invisible to the naked eye on a classroom scale, such as evaporation, condensation, precipitation, and infiltration. The lack of bridging media forces students to rely solely on verbal memorization without addressing its conceptual essence (Nugraheny et al., 2024; Triwahyuni et al., 2025).

The Canva media intervention in the experimental class successfully addressed this issue. The Canva app facilitated educators in transforming water cycle material into concrete, structured, and dynamic visual simulations. An illustration of how this process was presented in the classroom can be seen in the image below.



Picture 1. 1. Canva's media – Presentation about transforming water cycle

The success of this visual media phenomenon can be scientifically explained through Paivio's Dual Coding Theory. This theory states that information processed simultaneously through two cognitive channels: the verbal channel (narrative text and teacher explanations) and the visual channel (Canva illustrations and animations), will be much more internalized into long-term memory (Resekiani et al., 2025). When students observe the stages of precipitation or infiltration visually on the Canva screen, they are no longer simply imagining but constructing an understanding from concrete stimuli.

This intervention also reconstructs the classroom environment into a meaningful learning space, in accordance with Ausubel's ideas (Khanal, 2023). The interactive media design sparks a direct connection between theoretical concepts and real-life ecological phenomena (Alawiyah et al., 2024; Indriani, 2024). A comprehensive understanding of water movement through this visualization, in turn, not only fulfills academic requirements but also serves as a crucial foundation for environmental education and ecosystem sustainability in elementary schools. When students understand how groundwater is formed and processed, this simultaneously sparks their ecological awareness.

Therefore, the use of Canva proved to be more than just an aesthetic presentation tool, but also acted as a cognitive scaffolding that demonstrated the complexity of natural phenomena. This intervention effectively accelerated students' academic achievement beyond the Minimum Competency (KKM) while successfully transforming them from passive recipients of information into engaged and motivated science learners.

CONCLUSION

The conclusion provides the answers of the research questions. This part must be written in paragraphs. In a field research-based article, conclusion contains the brief elaboration of the answers of the research questions based on the findings. While in the library research-based article, conclusion is the result of the analysis of problem solving. At the end of the conclusion, the writer needs to add the weakness and contributi The implementation of science learning without the Canva app (control class) showed a moderate improvement in learning outcomes, with an average score increase of 22.68 points (from a pre-test of 51.91 to a post-test of 74.59). Conversely, the application of the Canva app as an interactive learning medium in the experimental class resulted in a much more optimal acceleration in understanding. This was evidenced by a higher average increase in student scores of 30.76 points (from a pre-test of 51.53 to a post-test of 82.29).

This significant gap in learning outcomes was confirmed through hypothesis testing, where the calculated t-value (2.802) exceeded the t-table (2.024). These results provide a definitive answer to the research question: there is a positive and significant effect of the use of Canva-based learning media on student learning outcomes. This application has been empirically proven to overcome the limitations of conventional methods and bridge fifth-grade students' understanding of abstract science concepts, such as the water cycle, through concrete and interactive visualizations.

Despite its positive results, this study has weaknesses, namely its scope, which is limited to one specific material in one elementary school, and its evaluation instrument that is more focused on the cognitive domain. Nevertheless, this study makes an important contribution to the literature and empirical reference for educators and schools in integrating 21st-century digital design platforms to transform teacher-centered classrooms into student-centered learning environments. For future research, it is recommended to expand the implementation of Canva media in various subjects and different grade levels, and investigate its impact more comprehensively on students' intrinsic motivation, psychomotor skills, and long-term memory retention.on of his research along with the possibility for the further research.

REFERENCES

- Alawiyah, N. N., Puspitasari, W. D., & Cahyaningsih, U. (2024). *Pengaruh Media Pembelajaran Audio Visual Berbasis Canva Terhadap Hasil Belajar Siswa Pada Mata Pelajaran IPS*. 3(2), 65–71.
- Fatmawati. (2013). Metode Penelitian. *Pendidikan Dan Kebudayaan* Fatmawati. "Metode Penelitian." *Pendidikan Dan Kebudayaan* 5 (2013): 27–42.
- Hidayatullah, A., Artharina, F. P., Sumarno, S., & Rumiarc, E. (2023). Penggunaan Aplikasi Canva pada Pembelajaran di Sekolah Dasar. *Jurnal Educatio FKIP UNMA*, 9(2), 943–947. <https://doi.org/10.31949/educatio.v9i2.4823>
- Indriani, C. (2024). Pengaruh Penggunaan Aplikasi Canva dalam Media Pembelajaran IPA di Sekolah Dasar. *Jurnal Inovasi, Evaluasi Dan Pengembangan Pembelajaran (JIEPP)*, 4(2), 330–339. <https://doi.org/10.54371/jiepp.v4i2.505>
- Khanal, H. R. (2023). *Freirean Strategies in Meaningful Learning : A Critical Pedagogy of Contextualized Classroom*. 4(1), 42–53.
- Maritsa, A., Hanifah Salsabila, U., Wafiq, M., Rahma Anindya, P., & Azhar Ma'shum, M. (2021). Pengaruh Teknologi Dalam Dunia Pendidikan. *Al-Mutharahah: Jurnal Penelitian Dan Kajian Sosial Keagamaan*, 18(2), 91–100. <https://doi.org/10.46781/al-mutharahah.v18i2.303>
- Nugraheny, D. C., Dwiprabowo, R., Rahmad, I. N., Widyaningsih, S., & Ivana, F. (2024). Analisis Kesulitan Belajar Siswa dalam Pemahaman Konsep Pembelajaran IPA. *SIPENDAS: Jurnal Kreasi Dan Inovasi Pendidikan Dasar*, 1(1), 48–60.
- Nurjannah, N. (2017). Efektivitas Bentuk Penilaian Formatif Disesuaikan Dengan Media Pembelajaran. *PARAMETER: Jurnal Pendidikan Universitas Negeri Jakarta*, 29(1), 75–90. <https://doi.org/10.21009/parameter.291.08>
- Resekiani, M. B., Nurul, A., Rahma, A., & Ghaita, R. J. (2025). *Efektivitas Dual Coding dalam Meningkatkan Long-Term Memory*. 5(2), 1525–1536.
- Triningsih, D. E., Karangploso, S. M. P. N., & Malang, K. (2021). *Canva's Applications*. 15(1), 128–144. <https://doi.org/10.30957/cendekia.v15i1.667>. Selama
- Triwahyuni, I. G. A., Astuti, N. P. E., & Numertayasa, I. W. (2025). Analisis Kesulitan Belajar Siswa Jenis Learning Disorder Dalam Pembelajaran Ipa Kelas V Sekolah Dasar. *EDUPROXIMA : Jurnal Ilmiah Pendidikan IPA*, 7(1), 464–474. <https://doi.org/10.29100/.v7i1.5682>
- Utami, N., & Atmojo, I. R. W. (2021). Analisis Kebutuhan Bahan Ajar Digital dalam Pembelajaran IPA di Sekolah Dasar. *Jurnal Basicedu*, 5(6), 6300–6306. <https://doi.org/10.31004/basicedu.v5i6.1716>
- Wicaksono, A. G., & Rahman, I. H. (2022). *Philosophy of integrated natural science learning*. 9(2).