DEVELOPMENT OF INTERACTIVE E-WORKSHEET (E-LKPD) USING CANVA APPLICATION BASED ON RADEC MODEL IN FOURTH GRADE OF ELEMENTARY SCHOOL

Atiara Nurul Azizah[1], Yanti Fitria[2]

[1,2]*Universitas Negeri Padang*
E-mail : [1]atiaranurulazizah@gmail.com, [2]yanti_fitria@fip.unp.ac.id

ABSTRACT

This study aimed to develop an interactive electronic student worksheet using the Canva application and the RADEC learning model for Pancasila instruction in fourth-grade elementary school. The research used a development method following the ADDIE model, which includes five stages: analysis, design, development, implementation, and evaluation. The product was validated by experts in content, media, and language. Practicality was tested through teacher and student responses, and effectiveness was evaluated through student learning outcomes using pretest and posttest scores. The results showed that the product achieved a high level of validity with an average score of 91.9%. The practicality test showed very positive responses from teachers and students, with percentages ranging from 90% to 95%. The effectiveness test revealed a significant improvement in students' learning outcomes, with an N-Gain score of 0.70 (high) at SDN 14 Koto Lalang and 0.53 (moderate) at SDN 38 Kampung Baru. These results indicated that the developed interactive worksheet was valid, practical, and effective for enhancing students' understanding of Pancasila.

Keywords : *Interactive Worksheet, Canva, RADEC, Pancasila Learning, Elementary Education*

INTRODUCTION

The rapid advancement of information and communication technology has significantly impacted the educational sector, particularly in the learning process. One prominent innovation is the utilization of digital graphic design applications such as Canva to create interactive and engaging learning media. Canva offers several key features including ready-to-use templates, a collection of illustrations and icons, and a PDF editor, facilitating teachers and students in producing creative and effective instructional materials (Suharto et al., 2022; Junaedi et al., 2021). With easy accessibility across various devices, Canva has become a popular choice in education (Kharissidqi & Firmansyah, 2022).

Furthermore, effective learning models are essential to support high-quality teaching and learning. The RADEC model (Read, Answer, Discuss, Explain, Create) is a structured approach designed to enhance student engagement and understanding within a relatively short time frame. This model fosters student creativity and motivates them to develop ideas and critical thinking skills (Anggraeni & Badarudin, 2024; Suriani & Yanti, 2024). The implementation of the RADEC model aligns with the Merdeka Curriculum concept, which emphasizes student-centered learning and provides flexibility for teachers in selecting appropriate teaching methods (Warsidah et al., 2022).

In the context of primary education, integrating Pancasila values is crucial as a foundation for character and moral development. Pancasila education aims to shape future generations with noble character and personalities aligned with Indonesia's national values (Amelia et al., 2023; Bhughe, 2022). Therefore, the development of creative, effective, and technology-based learning media such as electronic student worksheets (E-LKPD) created using Canva, alongside the application of the RADEC learning model, is expected to improve the quality of learning and character education in elementary schools.

Based on the above considerations, this study aims to explore the utilization of Canva in developing effective and attractive E-LKPD, as well as the implementation of the RADEC learning model in supporting the Merdeka Curriculum and character education based on Pancasila in primary education.

METHOD

This study employed a Research and Development (R&D) design to create and evaluate an interactive electronic student worksheet (E-LKPD) built with Canva and guided by the RADEC (Read, Answer, Discuss, Explain, Create) learning model. The primary objectives were to establish the product's validity, assess its practicality in a real classroom, and measure its effectiveness in improving student learning outcomes.

Participants and Sampling.

Expert validation involved three purposively selected groups—content experts, media design experts, and language experts—chosen based on their demonstrated competence in curriculum, instructional media, and Bahasa Indonesia usage, respectively. Practicality and effectiveness trials were conducted with convenience samples of one fourth-grade class (28 students) and their classroom teacher at SDN 14 Koto Lalang, Padang. All participants provided informed consent.

Instrumentation

Three questionnaire forms one each for content, media, and language validation—were developed by adapting established rubrics (Ummi & Yeni, 2021) and structured on a five-point Likert scale. Practicality was measured via response surveys distributed to both the teacher and students following a full lesson using the E-LKPD. Effectiveness was gauged through a standardized pretest–posttest of Pancasila content administered immediately before and after a single instructional session.

Procedure

1. Validation Phase: Experts independently evaluated the draft E-LKPD and returned completed questionnaires within two weeks.
2. Practicality Trial: The classroom teacher integrated the E-LKPD into a regular Pancasila lesson. Immediately afterward, teacher and students completed practicality surveys.
3. Effectiveness Trial: On the same day, students took a pretest; after using the E-LKPD, they took a posttest covering identical items.

All materials and steps are documented in Appendix A (instrument rubrics) and Appendix B (lesson plan).

Data Analysis

- Validity and Practicality: Percentage scores were calculated using
  Percentage = Raw Score/Maximum Possible Score × 100% and categorized into five levels (very low to very high) following Riduwan & Sunarto's thresholds (Maulita & Erita, 2021).
- Effectiveness: Learning gain was measured by the normalized gain
  N-Gain = Posttest Score - Pretest Score/100-Pretest Score with gains interpreted as low (< 0.30), medium (0.30–0.70), or high (≥ 0.70).

Reliability and Rigor

Triangulation of expert, teacher, and student input enhanced reliability. The instruments were piloted in a similar classroom prior to the main study to refine clarity and consistency. All analyses were conducted in MS Excel, and outliers (± 3 SD) were examined but retained when attributable to genuine performance variation.

Assumptions and Limitations

It was assumed that participants answered honestly and that no external factors (e.g., technical issues) influenced the lesson. Limitations include the single-class scope and short intervention duration, which may constrain generalizability. Future research should replicate the study across multiple schools and extend the observation period.

Results and Discussions

Validation Results

Expert validation of the E-LKPD covered three domains—content, media design, and language—and was conducted in two rounds for content and one round each for media and language. As shown in all three domains achieved "Very Valid" status, with an overall mean validity score of 91.9%.

Practicality Results

Practicality was evaluated via Likert-scale questionnaires administered to the Grade IV teacher and students in two schools (SDN 14 Koto Lalang and SDN 38 Kampung Baru).

Table 1. Practicality Scores by Respondent Group

Respondent Group	SDN 14 Koto Lalang (%)	SDN 38 Kampung Baru (%)	Mean (%)	Practicality Category
Teacher	95	90	92.5	Very Practical
Students	93.5	93.7	93.6	Very Practical

Both teachers and students rated the E-LKPD as "Very Practical" in both settings, with an overall mean practicality of 93.1%.

Effectiveness Results

Student learning gains were measured via pre- and post-tests in both schools. Table 3 presents the mean pre-test and post-test scores, normalized gain (N-Gain), and gain category:

Table 2. Pre- and Post-Test Scores and N-Gain

School	Pre-Test Mean	Post-Test Mean	N-Gain	Gain Category
SDN 14 Koto Lalang (n=28)	60.18	87.68	0.70	High
SDN 38 Kampung Baru (n=25)	68.00	85.80	0.53	Medium

The E-LKPD produced high learning gains (N-Gain = 0.70) in SDN 14 and moderate gains (N-Gain = 0.53) in SDN 38, indicating a positive impact on student achievement in both contexts.

Discussion

This study set out to develop a Canva-based interactive E-LKPD under the RADEC framework and to evaluate its validity, practicality, and effectiveness in Grade IV Pancasila instruction.

Major Findings and Their Importance

- **Validity**: Achieving an overall 91.9% validity score confirms that the E-LKPD content, design, and language meet high-quality standards. This aligns with prior work showing that multimedia-rich digital worksheets enhance instructional fidelity (Lestari, 2022; Andini et al., 2022).
- **Practicality**: Both teachers and students found the E-LKPD "Very Practical" (mean = 93.1%; Table 2), demonstrating that the materials integrate smoothly into real classroom settings without undue preparation or technological barriers (Triyani et al., 2024; Suryandari et al., 2023).
- **Effectiveness**: Significant pre-to-post learning gains (N-Gain = 0.70 "High" and 0.53 "Medium"; Table 3) indicate that the E-LKPD meaningfully boosted students' understanding of Pancasila values, echoing findings from similar studies on interactive e-worksheets (Fauziyah & Attadib, 2022).

Interpretation and Comparison with Literature

The high validity and practicality ratings suggest that leveraging Canva's templates and multimedia features effectively supports the RADEC stages—particularly Read and Create—by providing clear visuals and engagement (Suharto et al., 2022; Anggraeni & Badarudin, 2024). The stronger gains at SDN 14 compared to SDN 38 may reflect differences in initial proficiency (higher baseline at SDN 38) and variations in teacher facilitation during the Discuss and Explain phases.

Alternative Explanations

While the E-LKPD design appears robust, factors such as teacher enthusiasm, prior student familiarity with technology, or class dynamics could also influence the observed gains. A control group or crossover design in future studies would help isolate the effect of the E-LKPD itself.

Limitations

- **Sample and Setting**: The study involved only two schools and a single class per site, limiting generalizability.
- **Duration**: The intervention occurred in one lesson period per school; longer-term effects remain unmeasured.
- **Instrument Depth**: While expert and user surveys captured surface-level perceptions, in-depth qualitative feedback (e.g., focus groups) could provide richer insights.

Implications and Suggestions for Future Research

- **Broader Trials**: Replicate the study across multiple regions and grade levels to validate generalizability.
- **Longitudinal Study**: Examine retention of Pancasila concepts over an extended period.
- **Qualitative Analysis**: Incorporate interviews or focus groups with students and teachers to explore attitudes and experiences in depth.

Overall, this research demonstrates that an interactive, Canva-based E-LKPD structured via the RADEC model can be a valid, practical, and effective tool for fostering student engagement and learning outcomes in Pancasila education.

Conclusions

The interactive E-LKPD developed with Canva and structured around the RADEC learning model demonstrated exceptionally high validity (mean = 91.9%), strong practicality (teacher and student ratings ≥ 90%), and meaningful effectiveness (N-Gain = 0.70 "high" and 0.53 "medium" across two schools) in Grade IV Pancasila instruction. These results confirm that combining readily accessible digital design tools with a structured, student-centered pedagogical framework can produce learning materials that are both engaging and pedagogically sound. By integrating multimedia elements into the RADEC phases—Read, Answer, Discuss, Explain, Create—this study extends previous work on electronic worksheets and offers a scalable approach for strengthening character education in elementary settings. Future research should replicate these findings across diverse contexts and examine long-term retention to further validate the model's impact.

DAFTAR PUSTAKA

Suharto, A., Subariah, R., & Farizy, S. (2022). Pelatihan dan pemanfaatan aplikasi Canva untuk desain grafis pada siswa SMK Saradan Tajur Halang Bogor. *Jurnal Abdimas Indonesia (JAI)*. Retrieved from https://dmi- journals.org/jai/

Junaedi, S., Pawiyatan Luhur, J., & Duwur, B. (2021). Aplikasi Canva sebagai media pembelajaran daring untuk meningkatkan kemampuan kreativitas mahasiswa pada mata kuliah English for Information Communication and Technology. *Indonesian Journal of Education and Humanity, 2*, 45–53.

Kharissidqi, M. T., & Firmansyah, V. W. (2022). Aplikasi Canva sebagai media pembelajaran yang efektif. Indonesian Journal of Education and Humanity, 2, 12–19.

Anggraeni, D. R., & Badarudin. (2024). Peningkatan keterampilan berpikir kritis dan sikap kemandirian belajar siswa melalui model pembelajaran RADEC (Read, Answer, Discuss, Explain, Create) pada materi "Indonesiaku Kaya Budaya" di kelas IV SDN 1 Bantarsoka. Jurnal Penelitian Pendidikan Dasar, 5(1), 67–75.

Suriani, A., & Yanti, R. (2024). Implementasi model pembelajaran RADEC pada keterampilan menulis teks eksplanasi di kelas V sekolah dasar. Indonesian Research Journal on Education, 4, 101–110.

Warsidah, W., Satyahadewi, N., Amir, A., Linda, R., & Ashari, M. (2022). Implementasi pembelajaran berbasis Kurikulum Merdeka pada peserta didik kelas IV Sekolah Dasar Negeri 16 Pontianak Utara. AR-RIAYAH: J urnal Pendidikan Dasar, 6(2), 233–242. https://doi.org/10.29240/jpd.v6i2.5519

Amelia, R., Nur, P., Linashar, A., Truvadi, R., Trinita, A., Fauzi, I., & Salam, B. (2023). Peran pendidikan Pancasila dalam membentuk karakter bangsa Indonesia: Tinjauan dan implikasi. In Advances in Social Humanities Research (Vol. 1, pp. 15–28). Publisher Name.

Bhughe, K. (2022). Peran guru Pendidikan Pancasila dan Kewarganegaraan dalam pembentukan karakter peserta didik di sekolah dasar. Jurnal Kewarganegaraan, 19(2), 113–121. https://doi.org/10.24114/jk.v19i2.36954

Ummi, A., & Yeni, Y. (2021). Pengembangan modul berbasis digital menggunakan aplikasi Flip PDF Profesional pada pembelajaran tematik terpadu di kelas V sekolah dasar. Journal of Basic Education Studies, 3(1), 45– 58.