

Implementation of the RADEC Learning Model to Boost Social Studies Learning in Elementary Schools

Denny Ramadhan¹, Wahyu Sopandi², Arie Rakhmat Riyadi³, Neni Maulidah⁴

Universitas Pendidikan Indonesia^{1,2,3,4}

*E-mail: dennyramadhan@upi.edu

Abstract

This study aims to describe the implementation of the RADEC learning model in enhancing 21st-century skills in the Social Studies (IPS) subject at elementary schools. The research employed a pre-experimental design with a one-group pretest-posttest approach involving fifth-grade students at a public elementary school in Bandung City. The RADEC model was implemented through the stages of Read, Answer, Discuss, Explain, and Create, which are designed to develop students' critical thinking, communication, collaboration, and creativity skills. At the Create stage, the philosophy of positivism serves as an important foundation, where students are encouraged to create based on empirical observation and scientific problem-solving, so that the resulting works are not only innovative but also objectively and empirically testable. The results showed a significant improvement in students' 21st-century skills after the implementation of the RADEC model in Social Studies learning, particularly in creativity based on scientific principles. These findings affirm that the integration of the RADEC model with the positivist approach can encourage students to actively create real solutions in the context of elementary school Social Studies.

Keywords: RADEC, Social Studies, Cultural Diversity, Positivist Philosophy, Active Learning



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Introduction

The RADEC model—standing for Read, Answer, Discuss, Explain, and Create—offers a fresh and engaging approach to Social Studies learning in elementary schools. By guiding students through these five interactive stages, RADEC encourages them to become active participants in their own learning process. Each step is thoughtfully designed to build critical thinking, foster collaboration, and spark creativity, which are all vital skills for students to thrive in the 21st century.

Recent research has shown that using the RADEC model can significantly boost students' creative thinking abilities in Natural and Social Sciences (IPAS) subjects at the elementary level. For example, a study at SDN Mojosongo 3 Surakarta found that students' creative thinking skills improved markedly after the RADEC model was implemented in the classroom (Jannah & Sari, 2024). Beyond creativity, the RADEC approach also helps students strengthen their literacy and problem-solving skills. This is because each stage of the model trains students to understand, process, and apply information actively in their daily lives (Hidayat & Pratiwi, 2024).

The benefits of RADEC go even further when applied to thematic learning. Evidence from UPT SPF SD Negeri Bawakaraeng II Makassar shows that students who learned through the RADEC model made significant gains in higher-order thinking skills compared to those taught with more traditional methods (Nasrullah & Rahman, 2024). This suggests that RADEC not only helps students

grasp Social Studies content but also equips them with the analytical, evaluative, and creative skills they need to tackle real-world social issues.

In summary, the RADEC model is highly relevant for boosting Social Studies learning in elementary schools. It not only deepens students' understanding of Social Studies concepts but also helps them develop essential character traits and 21st-century skills, such as critical thinking, creativity, collaboration, and communication (Nugraha et al., 2024).

However, field observations indicate that Social Studies learning in elementary schools is still dominated by conventional, teacher-centered approaches that provide limited opportunities for active student engagement. This situation results in low mastery of 21st-century skills, particularly in creativity and critical thinking, when students are faced with social issues (Pratiwi et al., 2024)². Innovative efforts are needed to address these challenges, one of which is the implementation of the RADEC learning model (Read, Answer, Discuss, Explain, Create), which emphasizes active, collaborative, and problem-based learning (Nugraha et al., 2024).

The RADEC model offers a systematic sequence of learning activities, starting from reading materials, answering questions, engaging in discussions, explaining discussion results, and culminating in the creation of real solutions through student projects. In the Create stage, the philosophy of positivism serves as a key foundation, encouraging students to create based on empirical observation and scientific problem-solving, so that every product can be tested objectively and empirically (Pratiwi et al., 2024). This approach is believed to enhance students' creativity and critical thinking skills within the context of Social Studies learning (Nugraha et al., 2024; Pratiwi et al., 2024).

The application of the RADEC model, which emphasizes active, collaborative, and problem-based learning, is not only relevant to the development of 21st-century skills but also grounded in a strong philosophical foundation. One of the main pillars in the "Create" stage of the RADEC model is positivist philosophy. Positivism is a school of thought that asserts valid knowledge must be based on empirical experience and can be objectively tested through scientific methods (Pamungkas & Sunarti, 2022). In the context of Social Studies learning, this approach encourages students to produce works or solutions based on directly observed data and facts, ensuring that every learning outcome can be scientifically justified.

Therefore, integrating positivist philosophy into the RADEC model helps students develop critical and creative thinking patterns, as well as accustoms them to making decisions based on concrete evidence rather than mere assumptions or subjective opinions (Pamungkas & Sunarti, 2022; Pratiwi, 2024). This is in line with the objectives of Social Studies learning in elementary schools, which aim to equip students with the ability to understand and solve social problems in their environment rationally and scientifically. The implementation of RADEC, which is grounded in positivism, has also proven effective in improving student learning outcomes and collaborative skills in Social Studies (Nugraha et al., 2024).

The interrelation between RADEC, Social Studies learning, cultural diversity, positivist philosophy, and active learning is strong and mutually supportive within the context of elementary education. The RADEC model (Read, Answer, Discuss, Explain, Create) is designed to foster active student engagement through a series of stages that require participation, collaboration, and authentic problem-solving.

Research in the field of Social Studies (IPS) indicates that the application of innovative learning models can significantly enhance both student achievement and engagement. For example, Nugroho (2023) found that using a contextual learning model assisted by monopoly media improved Social Studies outcomes for fifth-grade elementary students, with a notable increase in average scores and mastery learning. Additionally, Sari (2023) highlighted that the Reading Guide strategy was effective in improving Social Studies achievement among fifth-grade students at SDN 1 Plumbon, with the percentage of mastery rising from 53% in the first cycle to 78% in the second cycle.

Furthermore, Rahmawati (2023) found that factors such as teachers, students, and infrastructure influence Social Studies mastery, and that remedial efforts and material enrichment are effective solutions for overcoming learning deficiencies. These studies underscore the importance of innovation in Social Studies teaching methods to optimize learning outcomes and student engagement.

Active learning, as integrated into the RADEC model, provides opportunities for students to think critically, ask questions, discuss, and create solutions based on empirical experience. This aligns with positivist philosophy, which emphasizes the importance of knowledge gained through observation, concrete evidence, and scientific methods (Pamungkas & Sunarti, 2022). Through the "Create" stage, students are encouraged to produce works or solutions that can be objectively tested, ensuring that every learning product is scientifically accountable.

Research shows that active learning with the RADEC model not only improves learning outcomes but also increases participation, collaboration, and motivation among students in the classroom. Students become more active in asking questions, expressing opinions, and working together in groups, creating a more dynamic classroom atmosphere and meaningful learning (WJARR, 2024; UPI, 2023). Moreover, the use of RADEC-based worksheets in Natural and Social Sciences (IPAS) subjects stimulates deeper conceptual understanding and fosters higher-order thinking skills (UPI, 2023).

Thus, integrating RADEC into Social Studies learning based on cultural diversity and positivist philosophy creates an active, participatory, and relevant learning environment for the 21st century. This model not only cultivates academic skills but also character and social attitudes that are adaptive to global challenges.

Based on this background, this study aims to describe the implementation of the RADEC learning model in improving 21st-century skills in Social Studies at the elementary school level. The research is expected to make a significant contribution to the development of innovative learning models, preparing a generation that is adaptive, creative, and competitive for the future (Nugraha et al., 2024).

Methods

1. Research Method

This study employed a descriptive qualitative and quantitative approach (mixed methods) to evaluate the effectiveness of implementing the RADEC learning model in improving learning in elementary schools. The research was conducted at a public elementary school during the even semester of the 2024/2025 academic year. The research subjects were 30 fifth-grade students selected purposively.

2. Quantitative Approach

The quantitative approach was used to measure the improvement in student learning outcomes before and after the implementation of the RADEC model. The main instrument was essay tests (pretest and posttest) that had been validated by experts and tested for reliability through a trial on a similar group. Pretest and posttest data were analyzed descriptively by calculating the mean, minimum, maximum scores, and the percentage of students achieving the Minimum Mastery Criteria (KKM). This analysis aimed to numerically describe the impact of the RADEC model on students' Social Studies learning outcomes.

3. Qualitative Approach

The qualitative approach was used to describe the learning process, student engagement, and participation during the implementation of the RADEC model. Qualitative data were collected through direct observation, documentation of student activities, as well as teacher and student reflections as stated in the teaching module. Observations were conducted at each stage of the RADEC model (Read, Answer, Discuss, Explain, Create), and the results were analyzed descriptively to provide an in-depth picture of classroom learning dynamics. The validity of qualitative data was

ensured through source and technique triangulation, by comparing the results of observations, documentation, and reflections.

4. Research Procedure

- a. **Pretest:** Students were given an initial test to measure their baseline abilities before the implementation of the RADEC model.
- b. **Implementation of the RADEC Model:** Learning was carried out according to the RADEC syntax, including reading, answering, discussing, explaining, and creating.
- c. **Observation and Documentation:** During the learning process, the researcher conducted observations and documentation of student and teacher activities.
- d. **Posttest:** After the learning process, students were given a final test to measure the improvement in learning outcomes.
- e. **Reflection:** Teachers and students conducted reflections to assess the learning experience and process.
- f. **Data Analysis:** Quantitative data were analyzed using descriptive statistics, while qualitative data were analyzed descriptively through interpretation of field findings.

5. Data Analysis

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Results and Discussions

1. Results

This study aimed to determine the effectiveness of implementing the RADEC learning model in improving Social Studies learning outcomes among fifth-grade students at SD Negeri Bandung. Measurements were carried out through pre-tests and post-tests administered to 30 students. The data analysis results are presented in Table 1 below.

Table 1.
Comparison of Pre-Test and Post-Test Results of Fifth-Grade Students in Social Studies Learning Using the RADEC Model

No	Score Category	Pre-Test (n=30)	Pre-Test (n=30)
1.	Highest Score	80	100
2.	Lowest Score	40	70
3.	Mean Score	60,17	85,67
4.	Students \geq KKM (75)	10 (33,3%)	28 (93,3%)

Note: Data processed from student observations and test result, 2025

The pre-test results showed an average score of 60.17, with only 33.3% of students achieving the Minimum Mastery Criteria (KKM). After the implementation of the RADEC model, the average score increased to 85.67 and the percentage of students meeting the KKM rose to 93.3%. The highest score increased from 80 to 100, and the lowest score rose from 40 to 70. These findings indicate a significant improvement in students' Social Studies learning outcomes after the application of the RADEC model.

Observations and documentation during the learning process showed that students were more active and enthusiastic in participating in each stage of RADEC. In the "Read" stage, students independently read the materials and learning resources. In the "Answer" and "Discuss" stages, students were confident in expressing their opinions and engaging in group discussions. During the "Explain" stage, most students were able to confidently present the results of their discussions in front of the class. In the "Create" stage, students produced creative works related to the topic of cultural diversity in Indonesia.

Reflections from teachers and students also indicated a positive response to the RADEC model. Teachers found that this model facilitated classroom management and increased student engagement. Students stated that the learning process was more enjoyable, easier to understand, and made them more confident in expressing their ideas.

2. Discussions

The results of this study comprehensively demonstrate that the implementation of the RADEC learning model has a significant positive impact on improving Social Studies (IPS) learning outcomes among fifth-grade students at SD Negeri Bandung. This is reflected in the quantitative data, which shows an increase in the average student score from 60.17 in the pre-test to 85.67 in the post-test, as well as a rise in the percentage of students achieving the Minimum Mastery Criteria (KKM) from 33.3% to 93.3% after the implementation of the RADEC model. Furthermore, the highest score increased from 80 to 100, and the lowest score rose from 40 to 70, indicating a more equitable improvement in learning outcomes across all levels of student ability.

This improvement in learning outcomes aligns with the main objectives of the RADEC model, which is to encourage students to actively read, answer, discuss, explain, and create throughout the learning process. Observations during the learning activities showed that students were more enthusiastic, confident in expressing their opinions, actively engaged in group discussions, and capable of producing creative works related to cultural diversity topics. Active student involvement at each RADEC stage reinforces previous research findings that this model is effective in enhancing critical thinking, collaboration, and creativity skills among students.

From a qualitative perspective, reflections from teachers and students indicate that learning with the RADEC model is considered more enjoyable, easier to understand, and able to increase students' confidence in expressing ideas. Teachers also found it helpful for classroom management and facilitating student-centered learning, in line with the Pancasila Student Profile, which emphasizes values such as cooperation, independence, and critical reasoning.

These findings are also supported by various national and international studies stating that the RADEC model is valid and effective in improving learning outcomes, activity, and student motivation at various educational levels. The RADEC model has proven capable of addressing issues found in conventional learning, which tends to be monotonous and less engaging for students. By providing space for students to read, discuss, and create, this model not only enhances cognitive learning outcomes but also builds 21st-century skills that are highly needed in the era of globalization.

Moreover, based on the teaching module used, the implementation of RADEC is also relevant to the achievement of IPAS learning objectives and the strengthening of student character through regular reflection, formative assessment, and follow-up learning activities. This ensures that improvements in learning outcomes are not only temporary but also sustainable and contextual to the needs of the learners.

Overall, Social Studies learning with the RADEC model at SD Negeri Bandung has proven effective in improving learning outcomes, engagement, and student creativity. This model is highly recommended for adoption by elementary school teachers in an effort to advance the quality of Social Studies learning and other subjects that require active and collaborative approaches.

Conclusion

Based on the research findings, it can be concluded that the implementation of the RADEC learning model significantly improves Social Studies learning outcomes among fifth-grade students at SD Negeri Bandung. This is evidenced by the increase in the average student score from 60.17 in the pre-test to 85.67 in the post-test, as well as the rise in the percentage of students achieving the Minimum Mastery Criteria (KKM) from 33.3% to 93.3%. In addition, student activity, participation, and creativity in the learning process also increased at each stage of RADEC (Read, Answer, Discuss, Explain, Create). The RADEC model has proven effective in fostering students' critical thinking skills, collaboration, and learning motivation, and is relevant to strengthening the character of the Pancasila Student Profile.

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