

RESEARCH

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RADEC-Based Social Studies Learning in Islamic Junior Secondary Education: Enhancing Critical Thinking and Academic Achievement

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Abstract

This classroom action research addressed low critical thinking achievement and learning outcomes among 31 eighth grade students in Class VIII.C at MTsN 9 Pesisir Selatan in Social Studies. Before the intervention, students' overall critical thinking achievement was 34.41%, the class mean learning outcome was 36.12, and classical learning completion was 3.23%. The study aimed to improve students' critical-thinking achievement and learning outcomes through the Read, Answer, Discuss, Explain, and Create (RADEC) learning model. The study employed a two cycle Classroom Action Research design based on Kurt Lewin's model, comprising planning, acting, observing, and reflecting. Data were collected through critical thinking observation and learning achievement tests and were analysed descriptively using percentages and mean scores. The success criteria were overall critical thinking achievement of at least 80% and classical learning completion of at least 75% of students achieving the KKTP of 80. In Cycle I, the class mean increased to 61.50, critical thinking achievement reached 59.16%, and classical completion reached 13.3%. Reflection on Cycle I identified the need for more structured reading guidance, more analytical questions, clearer group responsibilities, stronger teacher scaffolding, and clearer criteria for learning products. These refinements were implemented in Cycle II. The class mean subsequently increased to 86.70, critical thinking achievement reached 81.84%, and classical completion increased to 83.8%, meeting both predetermined success criteria. The findings demonstrate improvement during the iterative RADEC based classroom intervention. However, the improvement cannot be attributed solely to RADEC because the study involved one class, two action cycles, no comparison group, and descriptive rather than inferential analysis.

Keywords: RADEC; Critical thinking achievement; Learning outcomes; Social Studies; Classroom action research.

Introduction

Twenty first century education emphasizes competencies that enable students to understand complex problems and respond to changing social conditions. Critical thinking is commonly identified as one of these competencies, alongside creativity, collaboration, communication, character, and citizenship. Astuti (2024), through a literature review of the 6C competencies, identifies these competencies as important components of twenty first century learning. Critical thinking is particularly important because students are required not only to acquire information

but also to examine evidence, identify relationships among ideas, formulate arguments, and make reasoned judgments. Therefore, classroom learning needs to provide structured opportunities for students to engage actively with information and develop their reasoning (Anggraeni et al., 2022; Astuti, 2024; González-Pérez & Ramírez-Montoya, 2022; Herlinawati et al., 2024; Khotimah et al., 2024; Kusumo et al., 2025; O'Reilly et al., 2022; Rathore, 2025; Stanikzai, 2023; Thornhill-Miller et al., 2023)

Critical thinking also has particular relevance within Islamic education and madrasah pedagogy. The development of students in Islamic educational institutions involves not only cognitive achievement but also the capacity to engage with knowledge responsibly, reflectively, and ethically (Alwy Ahmed Mohamed et al., 2026; Rafi et al., 2025; Septiyanti, 2023). In this context, critical thinking should not be understood merely as the ability to criticize information, but as a capacity to examine evidence, consider alternative views, articulate reasoned arguments, and reflect on one's own thinking (Facione, 2015). Such capacities are relevant to the broader educational function of madrasah in preparing students to participate thoughtfully in social life and citizenship while developing responsible patterns of interaction and judgment (Alwy Ahmed Mohamed et al., 2026; Dahari et al., 2019; Facione, 1990; Raihani & Sari, 2023; Saputra et al., 2026).

Critical thinking refers to purposeful cognitive processes used to form reasoned judgments. Facione's framework identifies six core critical-thinking skills: interpretation, analysis, evaluation, inference, explanation, and self regulation. Interpretation involves understanding and clarifying information; analysis concerns identifying relationships among ideas or statements; evaluation involves assessing the credibility of information and the strength of reasoning; inference concerns drawing reasonable conclusions from available evidence; explanation involves articulating and justifying reasoning; and self regulation involves monitoring and reviewing one's own thinking. These six dimensions provide a structured framework for observing students' critical thinking performance in classroom learning (Abrami et al., 2015; Elisanti et al., 2018; Facione, 1990, 2015; KUBO, 2023; Sujatmika et al., 2025).

These dimensions are particularly relevant to Social Studies learning because historical and social issues require students to move beyond recalling isolated facts. In the present study, the topic of the exploration of the seas, colonialism, and imperialism in Indonesia requires students to identify and interpret historical information, analyse relationships among events and ideas, evaluate explanations or arguments concerning historical developments, draw conclusions from available information, explain the reasoning underlying their interpretations, and reconsider their understanding when confronted with additional information or alternative views (Gibson et al., 2025; Reyes Parra et al., 2024; Seixas, 2017). Accordingly, Social Studies tasks provide opportunities for the six dimensions of critical thinking to become observable through students' engagement with historical information and social interpretation. The present study therefore operationalized critical thinking through the six dimensions of interpretation, analysis, evaluation, inference, explanation, and self regulation proposed by Facione (2015). (Facione, 2015). The development of these competencies is also relevant to the pedagogical role of Social Studies in a madrasah. Social Studies learning addresses historical and social phenomena that require students to understand relationships between individuals, communities, events, and broader social developments (Amaliyah et al., 2026; Burgos-Videla et al., 2025). When students examine colonialism and imperialism, for example, they encounter questions concerning power, social consequences, historical interpretation, and collective responses (Arifin, 2020; Burgos-Videla et al., 2025). Learning activities that enable students to examine information, discuss different perspectives, provide reasons for their judgments, and reflect on their conclusions can therefore

provide a context for developing critical and responsible participation in social life (Burgos-Videla et al., 2025). In the madrasah context, such learning connects intellectual development with responsible citizenship, ethical interaction, and reflective engagement with knowledge (Alwy Ahmed Mohamed et al., 2026; Amaliyah et al., 2026).

The need to develop these competencies was evident in the initial condition of Social Studies learning at MTsN 9 Pesisir Selatan. Based on the initial classroom observations and teacher interviews documented in the research, students' participation and motivation during learning were still limited. Classroom interaction remained predominantly teacher oriented, while students had limited opportunities to ask questions, express opinions, discuss ideas, and develop their reasoning independently. Students also experienced difficulties in identifying problems, analysing information, establishing relationships among concepts, and drawing conclusions from available information. These classroom conditions indicated the need for an instructional approach that could provide students with structured opportunities to prepare individually, exchange ideas collaboratively, explain their reasoning, and construct knowledge actively.

The initial critical thinking assessment provided further evidence of the classroom problem. Using the six critical-thinking indicators of Facione (2015), the overall critical thinking achievement of Grade VIII.C was 34.41%. The number of students demonstrating the respective indicators was 12 for interpretation, 10 for analysis, 12 for evaluation, 11 for inference, 10 for explanation, and 9 for self-regulation, from a total of 31 students. The findings indicated difficulties across several dimensions of critical thinking, including understanding and interpreting information, identifying relationships among concepts, evaluating information, drawing conclusions, explaining reasoning, and reflecting on one's own thinking.

The learning achievement data also demonstrated the need for instructional improvement. The established Criteria for the Achievement of Learning Objectives (KKTP) was 80. Among the 31 students in Grade VIII.C, only one student reached the criterion, while the class mean was 36.12. Thus, the proportion of students reaching the criterion was 3.23% (1 of 31 students). Grade VIII.C also recorded the lowest mean achievement among the eight Grade VIII classes included in the initial assessment. These findings provided the empirical basis for selecting Grade VIII.C as the focus of the classroom action research.

One instructional model that has been developed to promote active learning and higher order thinking is the Read, Answer, Discuss, Explain, and Create (RADEC) learning model. RADEC consists of five stages: Read, Answer, Discuss, Explain, and Create. The model provides students with opportunities to read learning materials before classroom activities, answer questions based on their initial understanding, discuss their ideas with peers, explain the results of their thinking, and create a product based on the knowledge developed during learning. Previous research has positioned RADEC as an instructional approach relevant to active learning and higher order thinking within the Indonesian educational context (Burhanudin et al., 2024; Pratama et al., 2019).

The potential relationship between RADEC and critical thinking can be understood through the cognitive activities embedded in its five stages (Purwanto & Yanuarto, 2025). In the Read stage, students encounter and identify relevant information, providing an initial basis for interpretation (Facione, 2015; Setiawan et al., 2022). In the Answer stage, students formulate individual responses by connecting information with the questions provided, creating opportunities for interpretation and preliminary analysis (Facione, 2015; Setiawan et al., 2022). The Discuss stage enables students to compare ideas, examine relationships among arguments, respond to alternative views, and consider the reasons presented by peers (Pratama et al., 2019; Setiawan et al., 2022). These activities provide opportunities related to analysis, evaluation, and inference (Facione, 2015). In

the Explain stage, students communicate their conclusions and provide reasons for their responses, creating opportunities to articulate and examine their reasoning (Facione, 2015; Setiawan et al., 2022). Finally, in the Create stage, students reorganize and apply their understanding in a learning product, requiring them to select and organize relevant information and represent their understanding (Pratama et al., 2019; Setiawan et al., 2022). Across the sequence, students may also revise their responses and reconsider their understanding based on feedback, providing opportunities related to self regulation (Facione, 2015).

This sequence provides a theory of action linking the instructional activities to the intended learning outcomes. In the context of the historical topics examined in this study, students first encounter information about exploration, colonialism, and imperialism through reading; formulate initial responses to questions; examine their ideas collaboratively through discussion; articulate and justify their conclusions; and reorganize their understanding through the creation of learning products (Fauziah & Sukmawati, 2023). The intervention therefore does not assume that critical thinking develops automatically through the use of the RADEC model. Rather, the expected development of critical thinking is linked to the cognitive and social demands created through the activities within each stage. Previous studies have examined RADEC in relation to critical thinking and problem oriented learning, providing a basis for further investigation in the present classroom context (Fauziah & Sukmawati, 2023; Purwanto & Yanuarto, 2025; Rahayu et al., 2021; Suryana & Sopandi, 2021; Ulum et al., 2025)

The existing literature provides evidence of RADEC across different educational levels, subjects, research designs, and learning outcomes. At the elementary school level, Pratama et al. (2020) examined RADEC in relation to students' higher order thinking skills. Yulianti et al. (2022) investigated critical thinking among 27 fifth grade students at SDIT Rahmatan Lil Alamin, Bogor, using a one group pretest posttest design. The study reported a mean critical thinking score of 74 on the pretest and 86 on the posttest, with an N-gain of 0.513. Suryana and Sopandi (2021) examined RADEC among 26 fifth grade students using a one group pretest posttest design and focused on the development of students' literacy culture. These studies indicate that empirical evidence concerning RADEC has been generated in elementary education and has frequently employed pretest posttest approaches to examine outcomes such as higher order thinking, critical thinking, and literacy.

Research has also extended RADEC to other educational levels and subject areas. Rahayu et al. (2021) examined critical thinking skills through a problem oriented RADEC model, demonstrating the relevance of the model to higher order cognitive processes. Wardani and Munir (2024) investigated RADEC in Grade XI IPS Economics using a quasi experimental non equivalent groups pretest posttest design. Their study examined critical thinking skills using essay tests and analysed the data using descriptive statistics, N-gain, and an independent-samples t-test. Thus, evidence concerning RADEC has emerged not only from elementary education but also from secondary level social science learning. However, these studies differ in educational level, subject area, sample characteristics, research design, and outcomes examined.

The comparison of previous studies indicates an important distinction between evidence concerning outcome differences associated with RADEC and evidence concerning the iterative implementation of RADEC in response to classroom problems. The studies reviewed above predominantly examine changes between pre-intervention and post intervention conditions or compare groups through experimental and quasi experimental designs. Such designs provide evidence concerning differences in measured outcomes but do not necessarily document how difficulties encountered during implementation are identified and addressed through subsequent

instructional modification. Classroom action research provides a different form of pedagogical evidence because the intervention is examined through repeated cycles of planning, action, observation, and reflection.

Accordingly, the research gap in the present study is not simply the general scarcity of RADEC research. Rather, based on the literature reviewed above, there is limited pedagogical evidence documenting how RADEC is implemented and subsequently refined through classroom action research to address identified classroom difficulties while developing the six dimensions of Facione's critical thinking and learning achievement simultaneously in Grade VIII Social Studies at an MTs. This gap differs from the practical problem identified in Grade VIII.C. The practical problem concerns the students' low initial critical-thinking achievement, limited classroom participation, teacher-oriented interaction, and low learning achievement. The research gap concerns the limited evidence on how iterative modification of RADEC implementation can respond to such classroom difficulties within junior secondary Social Studies learning in a madrasah context.

The classroom action research in this study was designed around this iterative principle. Reflection on Cycle I identified several difficulties: some students had not read the learning materials deeply before class, answers in the Answer stage remained relatively simple, participation in group discussions was uneven, students' ability to explain discussion results was still limited, and learning products in the Create stage did not yet demonstrate sufficient analytical depth. Consequently, the implementation in Cycle II was modified by providing more structured reading guidance, assigning earlier reading preparation, designing questions requiring analysis, evaluation, and inference, assigning clearer responsibilities within groups, increasing teacher scaffolding during discussion, strengthening opportunities for students to explain and defend their reasoning, and providing clearer criteria for learning products. These modifications were derived from classroom observations and reflection in the present study rather than treated as fixed features of RADEC.

The contribution of this study therefore lies not merely in applying RADEC to a new classroom or institutional setting. Its pedagogical contribution is the documentation of an action reflection revision process showing how difficulties encountered during the implementation of reading, answering, discussion, explanation, and creation were used to inform subsequent instructional modifications. The study consequently provides contextual evidence concerning how RADEC activities can be refined in relation to the specific critical thinking demands of Social Studies learning. By examining changes in the six dimensions of critical thinking together with learning achievement across two action cycles, the study provides pedagogical evidence concerning the relationship between instructional implementation, classroom reflection, and subsequent modification of learning activities.

This contribution is particularly relevant in the context of a madrasah. The study does not treat the MTs setting merely as a different institutional location. Rather, the madrasah context provides a setting in which the development of critical reasoning is connected with students' capacity to engage responsibly with knowledge, communicate their views, listen to and consider the reasoning of others, and participate constructively in discussions of social and historical issues. Thus, the development of critical thinking through Social Studies learning can support both the intellectual and social dimensions of students' educational development, including reflective participation and responsible citizenship (Raihani & Sari, 2023; Septiyanti, 2023).

The study was conducted in Class VIII.C at MTsN 9 Pesisir Selatan, where the initial critical-thinking achievement was 34.41%, the initial class mean learning-achievement score was 36.12, and classical learning completion was 3.23% (1 of 31 students). The research focused on Social

Studies material concerning the exploration of the seas, colonialism, and imperialism in Indonesia. The classroom action research was conducted through two cycles consisting of planning, acting, observing, and reflecting. The RADEC stages were implemented in each cycle, while instructional strategies were refined following reflection on the previous cycle.

Accordingly, this study aims to examine the implementation and iterative refinement of the Read, Answer, Discuss, Explain, and Create (RADEC) learning model to improve students' critical-thinking achievement and learning outcomes in Social Studies in Class VIII.C at MTsN 9 Pesisir Selatan. Specifically, the study examines changes in the six critical thinking dimensions interpretation, analysis, evaluation, inference, explanation, and self regulation and changes in students' learning achievement across the research stages. The study is expected to contribute contextual pedagogical evidence concerning how RADEC can be implemented and refined through classroom action research to support critical thinking and learning achievement in Social Studies within a madrasah context.

Method

Research Design and Context

This study employed Classroom Action Research (CAR) using the action-reflection cycle proposed in the Kurt Lewin model, which consists of four stages: planning, acting, observing, and reflecting (Sanjaya, 2016). The CAR design was selected because the study aimed not only to examine changes in students' critical-thinking performance and learning achievement but also to improve classroom learning through iterative instructional actions. Evidence obtained through observation and reflection in one cycle was used as the basis for refining the instructional implementation in the subsequent cycle. The study was conducted at MTsN 9 Pesisir Selatan during the even semester of the 2025/2026 academic year. The research focused on Grade VIII.C, consisting of 31 students, including 11 boys and 20 girls. The class was selected based on initial classroom conditions identified through preliminary observation, an initial critical-thinking assessment, and learning-achievement data. Classroom observation and teacher interviews indicated that student participation and motivation in Social Studies learning were limited. Classroom interaction tended to be teacher-oriented, while students had limited opportunities to ask questions, express opinions, discuss ideas, and independently develop arguments.

The initial assessment provided further evidence for selecting Grade VIII.C. Based on the six critical thinking dimensions of interpretation, analysis, evaluation, inference, explanation, and self-regulation proposed by Facione, students' overall critical-thinking achievement was 34.41%. The initial learning-achievement assessment showed that only 1 of the 31 students reached the established Criteria for the Achievement of Learning Objectives (KKTP) of 80, while the class mean was 36.12. Thus, the initial classical completion rate was 3.23% (1 of 31 students). Grade VIII.C also recorded the lowest mean achievement among the eight Grade VIII classes included in the initial assessment. These conditions provided the empirical basis for conducting CAR in this class.

The research was conducted on Social Studies (IPS) material concerning the exploration of the seas, colonialism, and imperialism in Indonesia. The learning objectives required students to understand historical information, identify relationships among historical events and concepts, analyze causes and consequences, evaluate information and historical impacts, formulate conclusions, and explain their reasoning. These learning demands were aligned with the six critical thinking dimensions of interpretation, analysis, evaluation, inference, explanation, and self regulation (Facione, 2015; KUBO, 2023).

Participants and Research Procedure

The study was conducted in two cycles. Each cycle consisted of two meetings and followed the four CAR stages of planning, acting, observing, and reflecting. The RADEC learning model was implemented during the action stage in each cycle. RADEC consists of five instructional stages: Read, Answer, Discuss, Explain, and Create (Suryana & Sopandi, 2021). The implementation was not treated as an unchanged procedure; instructional strategies within the RADEC stages were modified in Cycle II based on classroom evidence and reflection from Cycle I. In Cycle I, RADEC activities consisted of pre learning reading and answering, group discussion, presentation and explanation, and creation of a learning product related to the exploration of the seas, colonialism, and imperialism in Indonesia. Observation during Cycle I identified several classroom difficulties. Some students had not read the learning material deeply before class, answers in the Answer stage tended to reproduce information from the handout, participation in group discussions was uneven, students' ability to explain discussion results was still limited, and the learning products produced during the Create stage had not yet demonstrated sufficient analytical depth. These findings became the basis for modifying the implementation in Cycle II.

In Cycle II, the instructional implementation was refined by providing more structured reading guidance, assigning reading several days before classroom learning, designing pre learning questions that required analysis, evaluation, and inference, assigning clearer roles to group members, providing more intensive teacher scaffolding during discussion, strengthening opportunities for students to explain and defend their reasoning, and providing clearer criteria for the learning product. Thus, Cycle II represented an instructional refinement based on evidence from Cycle I rather than a repetition of exactly the same implementation.

Implementation of the RADEC Model

The RADEC model was implemented through five stages: Read, Answer, Discuss, Explain, and Create (Suryana & Sopandi, 2021). Each stage was operationalized according to the Social Studies content and the classroom problems identified during the research. At the *Read stage*, students studied a handout containing material related to the exploration of the seas, colonialism, and imperialism in Indonesia. In Cycle I, students were directed to read the material before classroom discussion. Following reflection on Cycle I, the Read stage in Cycle II was strengthened through more structured reading guidance. Students were instructed to identify and mark important information, underline key concepts, and write the main points obtained from the reading. Students were also encouraged to record relevant additional information obtained from other learning sources, such as textbooks and other relevant sources. The reading activity was therefore used to prepare students with initial knowledge before entering the collaborative stages of RADEC. It particularly supported students in identifying historical facts, understanding important information, and organizing information that could subsequently be used when answering questions and participating in group discussions.

At the Answer stage, students individually responded to pre-learning questions based on the material they had read. The questions were designed to assess and stimulate students' initial understanding before group discussion. In Cycle I, some students tended to reproduce information from the handout rather than formulate answers based on their own reasoning. Therefore, in Cycle II, the questions were redesigned to require students to analyze information, evaluate possible interpretations, and draw conclusions. The questions included: "*Why can the influence of colonialism still be felt by Indonesian society today?*", "*In your opinion, were all impacts of colonialism negative? Explain your reasoning,*" and "*How might Indonesian society have developed if Western nations had*

never come to the Indonesian archipelago?” These questions required students to connect historical information with broader consequences and contemporary contexts. Students first formulated individual responses and subsequently used their answers as a basis for discussion.

At the Discuss stage, students worked in groups to compare and develop their individual responses and solve problems contained in the student worksheets (LKPD). The discussion focused on the exploration of the seas, the arrival of Western nations in Indonesia, colonialism, imperialism, and their effects on Indonesian society. In Cycle I, uneven participation among group members was identified as one of the problems. Therefore, in Cycle II, group activities were organized more systematically by assigning specific responsibilities to group members, including group leader, recorder, presenter, questioner, and respondent. The teacher also circulated among the groups and provided guiding questions when students encountered difficulties. Examples of guiding questions included *“Why did European nations choose sea routes rather than land routes?”* and *“What factors encouraged European maritime exploration?”* Students were encouraged to compare different answers, provide reasons supported by information, and revise their responses based on the results of group discussion.

At the Explain stage, each group presented the results of its discussion to the class. The presentation required students to communicate the results of their reasoning systematically and respond to questions, comments, and challenges from other groups. In Cycle I, students’ ability to explain and defend their reasoning was still limited. Therefore, in Cycle II, the teacher provided greater opportunities for students to explain the basis of their answers and encouraged other students to respond to the presenting group. The teacher functioned as a facilitator by asking students to clarify their reasoning, strengthening historically accurate concepts, and correcting misconceptions when necessary. This stage provided opportunities for students to articulate, justify, compare, and evaluate ideas developed during the discussion.

At the Create stage, students transformed the knowledge developed through reading, answering, discussion, and explanation into a learning product. In the implementation concerning the exploration of the seas and the arrival of Western nations in Indonesia, students worked in groups to construct a visual representation of the maritime routes taken by Western nations to reach Indonesia. The product was required to include the countries of origin of the Western nations, the maritime routes they followed, the regions they visited, and their purposes for coming to the Indonesian archipelago. Students represented the routes of Portugal, Spain, the Netherlands, and England using symbols, colors, and explanatory information. In Cycle II, several groups additionally incorporated supporting information such as arrival years, relevant figures, and expedition objectives. The activity required students to reorganize information obtained during the preceding RADEC stages and communicate their understanding through a visual product.

Instructional Refinement between Cycles

The instructional modifications in Cycle II were determined from the results of observation and reflection in Cycle I. The main problems identified in Cycle I were insufficient depth of pre-learning reading, simple or copied responses during the Answer stage, uneven participation during group discussion, limited ability to explain discussion results, and learning products that had not yet demonstrated sufficient analytical depth. Accordingly, the Read stage was strengthened through structured reading guidance and earlier reading assignments. The Answer stage was improved through more analytical and contextual questions. The Discuss stage was strengthened through clearer division of group responsibilities and teacher scaffolding. The Explain stage provided greater opportunities for students to present, question, respond, and defend their reasoning. The

Create stage was supported by clearer product criteria and opportunities to integrate information from the preceding learning activities. These modifications were implemented to address the specific classroom difficulties identified through the CAR process. Thus, Cycle II was designed as a refinement of Cycle I based on classroom evidence rather than as an independent instructional treatment.

Research Instruments

The research instruments consisted of a critical thinking observation sheet, learning achievement tests, field notes, and documentation. The critical thinking observation sheet was based on Facione's six dimensions of critical thinking: interpretation, analysis, evaluation, inference, explanation, and self-regulation (Facione, 2015). Interpretation referred to students' ability to understand and interpret information; analysis concerned identifying relationships among concepts or ideas; evaluation concerned assessing the credibility and logic of information; inference concerned drawing conclusions from available information or evidence; explanation concerned communicating reasoning logically; and self regulation concerned reflecting on and evaluating one's own thinking. The learning achievement test consisted of objective multiple choice items and essay questions related to the learning material. The assessment focused on students' understanding and application of concepts concerning the exploration of the seas, colonialism, and imperialism in Indonesia, including factors driving maritime exploration, the process of Western arrival in Indonesia, and the effects of colonialism and imperialism on Indonesian society. The test was administered as an evaluation at the end of the research cycle to identify changes in learning achievement.

To address comparability across the research stages, the pre action, Cycle I, and Cycle II assessments were administered as part of the same instructional evaluation framework and covered the same learning objectives and content domain. The assessments were aligned with the same indicators and learning objectives concerning the exploration of the seas, colonialism, and imperialism in Indonesia. However, because the study used classroom assessments rather than standardized parallel-form tests, differences in item difficulty and students' familiarity with the assessment cannot be completely excluded. Therefore, changes in scores were interpreted descriptively as improvement observed across the CAR stages rather than as evidence of a statistically isolated effect of RADEC. Field notes were used to record relevant classroom events, student participation, teacher actions, and difficulties emerging during implementation. Documentation was used to record the implementation of learning activities, including discussion, explanation, creation of learning products, and evaluation activities.

Data Analysis

The study used descriptive quantitative analysis to examine changes in students' critical thinking performance and learning achievement across the research stages. Critical thinking data were analyzed by calculating the percentage of achievement for each of the six indicators and the overall percentage at each observation stage. The results were compared across the pre action condition, Cycle I, and Cycle II to describe changes in students' critical thinking performance. Learning achievement data were analyzed using class mean scores and the percentage of students achieving the established KKTP. Classical completion was calculated from the proportion of students whose scores reached the KKTP of 80. The analysis compared the pre action condition with the results obtained after Cycle I and Cycle II. The success criterion was established based on the predetermined classroom target. The action was considered to have met the classroom success

criterion when classical learning completion reached at least 75% and students' critical thinking achievement reached the predetermined good category. The decision to terminate the action was based on the achievement of these classroom success criteria and the results of reflection at the end of Cycle II. Because the analysis was descriptive and the study involved a single classroom without a comparison group, no inferential claim of statistical significance was made. The observed changes were interpreted within the context of the iterative CAR process. Alternative explanations, including repeated exposure to the learning content and assessment procedures, increasing familiarity with the learning activities, student maturation, and teacher adaptation across cycles, cannot be completely separated from the contribution of the RADEC intervention.

Results

Initial Conditions (Pre Action)

The initial classroom observation identified several problems in Social Studies learning in Grade VIII.C at MTsN 9 Pesisir Selatan. Classroom activities were predominantly teacher-centred, while students had limited opportunities to ask questions, express opinions, discuss ideas, and formulate arguments independently. Students also experienced difficulties in identifying problems, analysing information, establishing relationships among concepts, and drawing conclusions from available information.

The initial assessment provided an empirical basis for the classroom action. Based on the six critical-thinking dimensions proposed by Facione (2015) interpretation, analysis, evaluation, inference, explanation, and self-regulation students' overall critical-thinking achievement was 34.41%. Learning achievement was also low. Only 1 of 31 students achieved the predetermined KKTP of 80, while the class mean was 36.12. Thus, the classical learning completion rate was approximately 3.23% (1 of 31 students). These results indicated that the initial classroom condition had not met either the predetermined critical-thinking criterion or the learning achievement criterion. The findings from the initial condition became the basis for implementing Classroom Action Research through the RADEC learning model. The action was conducted in two cycles, with each cycle consisting of planning, acting, observing, and reflecting. The reflection following Cycle I was used to identify instructional difficulties and determine the corrective actions implemented in Cycle II.

Cycle I. Implementation of the Action

At the Read stage, students studied the learning materials and handouts provided by the teacher. At the Answer stage, students individually responded to questions based on the material they had read. At the Discuss stage, students compared their answers and discussed the learning problems in groups. At the Explain stage, groups presented their discussion results and responded to questions or comments from other students. The teacher provided clarification and reinforcement when necessary. At the Create stage, students transformed the knowledge developed during the previous stages into a learning product related to the topic. The implementation of Cycle I revealed several difficulties. Some students had not read the material deeply before learning activities, and their answers tended to reproduce information from the learning materials. Participation during group discussion was also uneven, while some students experienced difficulty explaining and defending their ideas. The learning products produced during this cycle were generally descriptive and had not yet demonstrated sufficient analytical depth.

Critical Thinking Ability

Students' critical thinking achievement in Cycle I reached 59.16%. Although students began to participate more actively in answering questions and discussing learning materials, several students still experienced difficulties in analysing relationships among concepts, evaluating information, drawing conclusions, and explaining their reasoning logically. The achievement of 59.16% remained below the predetermined criterion of at least 80% for the good category. Therefore, the critical-thinking success criterion had not yet been achieved in Cycle I.

Learning Outcomes

Learning achievement increased in Cycle I compared with the pre action condition. The class mean increased from 36.12 to 61.50. Classical learning completion also increased from approximately 3.23% in the pre action condition to 13.3% in Cycle I. Despite this increase, the results remained below the predetermined learning achievement criterion. The target required at least 75% of students to achieve the minimum score of 80. Thus, Cycle I did not yet meet the learning achievement success criterion.

Reflection on Cycle I

The observation and reflection conducted after Cycle I identified several instructional problems that required corrective action. Students needed greater support in preparing for the Read stage, formulating analytical responses during the Answer stage, participating more evenly in group discussions, explaining their reasoning, and producing learning products with greater analytical depth. Based on these findings, the implementation was refined in Cycle II. The refinements included more structured reading guidance, earlier reading assignments, questions requiring analysis, evaluation, and inference, clearer group responsibilities, more intensive teacher scaffolding, greater opportunities to explain and defend reasoning, and clearer criteria for the learning product. Therefore, Cycle II was designed as a corrective action based directly on evidence obtained during Cycle I.

Cycle II. Implementation of the Action

Cycle II continued to use the five RADEC stages but incorporated the instructional refinements identified through reflection on Cycle I. The Read stage was strengthened through structured reading guidance and earlier preparation. The Answer stage used questions that required students to analyse information, evaluate possible interpretations, and formulate conclusions. The Discuss stage was supported through clearer division of group responsibilities and teacher scaffolding. The Explain stage provided greater opportunities for students to present, question, respond, and defend their reasoning. The Create stage was supported by clearer product criteria and guidance concerning the information that should be incorporated into the learning product. These modifications were intended to address the specific classroom difficulties identified during Cycle I rather than simply repeat the same instructional procedure.

Critical Thinking Ability

The observation results showed that students' critical thinking achievement increased from 59.16% in Cycle I to 81.84% in Cycle II. The Cycle II result reached the predetermined good category, with an achievement level of at least 80%. The six critical thinking dimensions also showed different levels of achievement in Cycle II. Interpretation reached 86.2%, analysis 78.2%, evaluation 79.8%, inference 81.4%, explanation 80.6%, and self regulation 84.7%. The results indicate that achievement was not uniform across the six dimensions. Interpretation and self regulation showed relatively higher achievement, while analysis and evaluation remained

comparatively lower. Nevertheless, the overall critical thinking achievement of 81.84% met the predetermined success criterion. Thus, the critical thinking criterion was achieved in Cycle II.

Learning Outcomes

Students' learning achievement also increased in Cycle II. The class mean increased from 61.50 in Cycle I to 86.70 in Cycle II. Compared with the pre-action mean of 36.12, the scores showed an increase across the three research stages. Classical learning completion increased from approximately 3.23% in the pre action condition to 13.3% in Cycle I and 83.8% in Cycle II. The Cycle II result exceeded the predetermined target of at least 75% of students achieving the KKTP of 80. Therefore, the learning achievement success criterion was achieved in Cycle II.

The results across the pre action condition, Cycle I, and Cycle II are presented in Table 1.

Table 1. Changes in Learning Achievement and Critical Thinking Ability

Indicator	Pre Action	Cycle I	Cycle II
Average learning outcome	36.12	61.50	86.70
Classical learning completion	3.23%	13.3%	83.8%
Critical-thinking ability	34.41%	59.16%	81.84%

Note: Critical thinking achievement was assessed using the six dimensions of interpretation, analysis, evaluation, inference, explanation, and self-regulation proposed by Facione (2015).

The results show an upward pattern across the three research stages. The class mean increased from 36.12 before the action to 61.50 in Cycle I and 86.70 in Cycle II. Classical learning completion increased from approximately 3.23% to 13.3% and subsequently to 83.8%. Critical-thinking achievement also increased from 34.41% in the pre-action condition to 59.16% in Cycle I and 81.84% in Cycle II. The improvement between Cycle I and Cycle II occurred after the instructional modifications developed through the reflection process. Therefore, the results demonstrate improvement during an iterative RADEC based classroom intervention, with the second cycle incorporating corrective actions derived from the first-cycle findings.

Achievement of the Research Success Criteria

The research success criteria were established before the implementation of the action. The first criterion required students' overall critical-thinking achievement to reach at least 80%, corresponding to the predetermined good category. The second criterion required at least 75% of students to achieve the KKTP of 80. Both criteria were achieved in Cycle II. Students' overall critical-thinking achievement reached 81.84%, exceeding the minimum criterion of 80%. Classical learning completion reached 83.8%, exceeding the predetermined target of 75%. The achievement of both criteria provided the basis for terminating the classroom action after Cycle II.

Discussion

The findings indicate that students' critical thinking achievement and learning outcomes improved during the two cycle implementation of the RADEC learning model in Social Studies learning. Critical thinking achievement increased from 34.41% in the pre action condition to 59.16% in Cycle I and 81.84% in Cycle II. The class mean learning outcome increased from 36.12 to 61.50 and subsequently to 86.70, while classical learning completion increased from approximately 3.23% to

13.3% and then to 83.8%. These results are consistent with the orientation of RADEC as a student centred learning model that provides a structured sequence of reading, answering, discussing, explaining, and creating (Sopandi, 2021; Suryana & Sopandi, 2021). The findings are consistent with previous research on RADEC and critical thinking in Social Studies learning. Liance Br K. et al. (2023) reported an increase in critical thinking scores from 50.87 to 87.13 in the experimental class and concluded that RADEC affected students' critical thinking skills in advanced Social Studies learning (D.Y. Liance Br K et al., 2023). Similarly, Insani et al. (2025) found that the mean critical thinking score in the RADEC class increased from 65.85 to 88.00, with an N-Gain of 0.63, compared with 0.46 in the control class. These findings provide empirical support for the improvement observed in the present study (Insani et al., 2025).

Broader evidence is provided by Andriyani et al. (2025), whose systematic review of 10 relevant studies concluded that RADEC has a positive effect on students' critical thinking skills (Andriyani et al., 2025). Burhanudin et al. (2024) likewise found that RADEC supports the development of critical thinking, creativity, communication, and cooperation through increased student participation and active learning. However, they also identified students' reading ability and teachers' instructional planning as important challenges in RADEC implementation. This suggests that the outcomes of RADEC may depend not only on the model itself but also on students' readiness and how the learning process is implemented (Burhanudin et al., 2024).

The findings can also be understood in relation to the broader literature on critical thinking. Jegstad et al. (2025), based on a systematic review of 105 studies, identified textual, dialogic, digital, and practical classroom approaches as relevant to the development of critical thinking and emphasized the importance of engaging students in critical dialogue around subject content. This is relevant to RADEC because its Read, Answer, Discuss, Explain, and Create stages provide structured opportunities for students to engage with information, interact with peers, communicate their understanding, and produce learning outcomes (Jegstad et al., 2025)..

The improvement from Cycle I to Cycle II should nevertheless be interpreted within the Classroom Action Research design. The increase in critical thinking achievement from 59.16% to 81.84%, learning outcomes from 61.50 to 86.70, and classical learning completion from 13.3% to 83.8% occurred through an iterative process of implementation, observation, reflection, and instructional improvement. Therefore, these findings should not be interpreted as evidence that RADEC alone caused the observed changes, but rather as improvement achieved during the implementation and refinement of RADEC based Social Studies learning in this particular classroom context.

However, because this study used Classroom Action Research without a control group, the observed improvement should not be interpreted as evidence that RADEC alone caused the changes. The improvement occurred within an iterative instructional process that included teacher reflection, modification of instructional strategies, repeated student participation, and increasing familiarity with the learning procedures (Kemmis et al., 2014). Therefore, the findings should be understood as improvement achieved during the implementation and refinement of RADEC rather than as an isolated causal effect of the model (Marsden & Torgerson, 2012; Rangkuti, 2019; Utomo et al., 2024).

The Five RADEC Stages and the Learning Process

An important finding is that the development observed in this study should be understood in relation to the complete RADEC sequence rather than attributing the improvement primarily to the Discuss and Explain stages. The five stages provided interconnected learning experiences. Read provided students with initial information, Answer required individual processing, Discuss enabled

students to compare and develop ideas, Explain required students to communicate and justify their reasoning, and Create required them to reorganise their understanding into a learning product. This sequence is consistent with the conception of RADEC as a model that integrates reading, thinking, communication, collaboration, and creation (Sopandi, 2021; Suryana & Sopandi, 2021).

Read

The Read stage provided the informational foundation for subsequent learning activities. Students studied handouts concerning ocean exploration, colonialism, and imperialism in Indonesia before engaging in classroom discussion. During Cycle I, some students did not read the material deeply enough, indicating that providing reading material alone was insufficient for students who were not yet accustomed to independent preparation.

In Cycle II, structured reading guidance was introduced to help students identify important information, key concepts, and main ideas. This modification provided greater structure for the reading process and was consistent with the constructivist perspective that learners actively construct knowledge by connecting new information with prior knowledge (Kusumaningpuri & Fauziati, 2021). In this study, Read therefore functioned as more than preliminary literacy activity; it established the informational foundation required for subsequent interpretation, analysis, and discussion.

Answer

The Answer stage transformed information obtained through reading into individual cognitive activity. During Cycle I, several students produced factual or reproduced answers rather than responses based on their own reasoning. This indicated that students needed greater support to move beyond recall. In Cycle II, questions were refined to require analysis, evaluation, and inference. Students were encouraged to provide reasons, consider alternative interpretations, and formulate conclusions. This modification corresponded with Facione's (2015) framework because students were required to interpret information, identify relevant relationships, and formulate reasoned responses. The Answer stage consequently provided an individual reasoning foundation before students encountered alternative perspectives during group discussion (Facione, 2015).

Discuss

The Discuss stage provided opportunities for students to develop their understanding through interaction with peers. In Cycle I, participation within groups was uneven, and some students were more dominant than others. The Cycle II implementation therefore provided clearer group responsibilities and greater teacher scaffolding during discussion. These modifications were consistent with the social-constructivist perspective that learning can be supported through interaction with others and through assistance that enables learners to develop higher levels of understanding (Kusumaningpuri & Fauziati, 2021). The use of scaffolding was also relevant to the implementation of the discussion stage, as teacher guidance can support students as they gradually develop greater independence in learning (Rohaendi & Laelasari, 2020).

Explain

The Explain stage required students to communicate the results of their group reasoning. Students presented their ideas, responded to questions, and received feedback from other students and the teacher. During Cycle I, some students experienced difficulty explaining relationships between concepts and defending their answers. In Cycle II, greater opportunities were provided for students to explain the basis of their answers and respond to questions. The teacher facilitated the process by asking students to clarify their reasoning and correcting misconceptions when necessary. The stage therefore provided a context in which reasoning developed through the previous RADEC stages could be articulated publicly. This process is consistent with the role of communication and

interaction in supporting the development of students' understanding (Mahn, 2015). Within the RADEC framework, the Explain stage provides opportunities for students to communicate and clarify their understanding developed through the preceding stages (Sopandi, 2021).

Create

The Create stage required students to transform information and reasoning developed during the preceding stages into a learning product. In this study, students developed visual representations concerning the arrival and maritime routes of Western nations to Indonesia. During Cycle I, the products were generally descriptive and did not sufficiently demonstrate relationships among historical information. In Cycle II, clearer criteria and guidance were provided so that students could organise relevant information more systematically. The activity required students to select, organise, and represent information rather than simply reproduce material. This process is compatible with the constructivist view that learners develop understanding by reorganising information into meaningful representations (Kusumaningpuri & Fauziati, 2021).

Taken together, the five stages formed a cumulative learning sequence. Read and Answer established the individual cognitive foundation; Discuss developed reasoning through interaction; Explain required students to articulate and justify their thinking; and Create required students to reorganise and represent their understanding. Consequently, the improvement observed in this study should be interpreted in relation to the interaction among the five stages rather than as the result of one stage operating independently (Sopandi, 2021).

Development of Critical Thinking

Overall critical-thinking achievement increased from 34.41% in the pre-action condition to 59.16% in Cycle I and 81.84% in Cycle II. In Cycle II, the six dimensions demonstrated different levels of achievement: interpretation 86.2%, analysis 78.2%, evaluation 79.8%, inference 81.4%, explanation 80.6%, and self regulation 84.7%. The variation among the six dimensions is important because it indicates that development was not uniform. The relatively high interpretation score of 86.2% can be related to the repeated opportunities provided through Read and Answer for students to understand and process historical information. According to Facione (2015), interpretation involves understanding and expressing the meaning of information or situations. The structured reading and individual answering activities therefore provided a relevant context for developing this dimension (Facione, 2015).

Analysis obtained the lowest score at 78.2%. Students still experienced difficulty establishing relationships among several historical concepts, including the relationship between European geographical conditions and maritime exploration, the motives of Gold, Glory, and Gospel, and the consequences of colonialism for Indonesian society. Facione (2015) defines analysis in terms of identifying relationships among concepts, statements, questions, or representations. The lower achievement in this dimension suggests that connecting multiple historical factors remained more demanding than understanding individual pieces of information.

Evaluation reached 79.8%. Through Discuss and Explain, students encountered different answers and were required to provide reasons for their positions concerning the effects of colonialism. These activities created opportunities to consider the strength of arguments and information. However, the score remained below 80%, indicating that evaluative thinking had not fully reached the predetermined good category. Inference reached 81.4%. Students were required to formulate conclusions concerning the motives and consequences of Western exploration and colonialism. The Discuss and Create stages supported this process by requiring students to compare information, identify relationships, and develop conclusions. This corresponds with

Facione's (2015) description of inference as the process of identifying information and evidence needed to draw reasonable conclusions.

Explanation reached 80.6%. The result was consistent with the opportunities provided through the Explain stage for students to communicate their reasoning and respond to questions. Nevertheless, explanation should not be attributed exclusively to the Explain stage because students developed the content of their explanations through Read, Answer, and Discuss before presenting it. Explanation therefore represented the point at which reasoning developed throughout the preceding stages became publicly communicable (Facione, 2015). Self regulation reached 84.7%. Students engaged in activities involving revision and refinement of their answers and learning products following feedback from teachers and peers. These activities are consistent with Facione's (2015) conception of self-regulation as monitoring and evaluating one's own cognitive processes. However, because several instructional processes occurred simultaneously within the CAR design, the contribution of individual activities to self regulation cannot be isolated.

Comparison with Previous RADEC Research

The findings are broadly consistent with previous studies that have reported positive changes associated with RADEC implementation. Fatikhin et al. (2024) reported that RADEC can provide opportunities for developing critical thinking through structured reading, discussion, and presentation activities (Fatikhin et al., 2024). Wardani and Munir (2024) also reported improvements in student engagement in the context of RADEC implementation (Wardani & Munir, 2024). The present study extends this discussion by examining RADEC in an MTs classroom, specifically Grade VIII.C at MTsN 9 Pesisir Selatan, within Social Studies learning on ocean exploration, colonialism, and imperialism in Indonesia. The initial condition was characterised by a class mean of 36.12 and very low classical learning completion. The improvement observed after two cycles should therefore be interpreted in relation to this specific classroom context. The study does not provide sufficient evidence to conclude that the magnitude of improvement was greater than that reported in previous RADEC studies. Differences in participants, subject matter, assessment instruments, instructional duration, baseline achievement, and classroom conditions make direct comparisons inappropriate. The present findings should consequently be regarded as contextual evidence concerning the implementation of RADEC in this particular classroom rather than as evidence of universal applicability (Fatikhin et al., 2024; Wardani & Munir, 2024).

Why Did Cycle II Show Greater Improvement?

The higher achievement in Cycle II is closely related to the reflection and corrective actions that characterise Classroom Action Research. Cycle I identified several classroom problems, including insufficient depth of reading, factual rather than analytical answers, uneven participation during discussion, difficulty explaining reasoning, and learning products that remained largely descriptive. The second cycle responded directly to these problems. Reading preparation was strengthened, questions were redesigned to stimulate higher-level reasoning, group responsibilities were clarified, teacher scaffolding was increased, opportunities for explanation and response were expanded, and clearer criteria were provided for learning products. These changes represent the reflective mechanism of CAR because instructional decisions in the second cycle were based on evidence generated during the first cycle (Rangkuti, 2019; Utomo et al., 2024).

Student familiarity with the RADEC learning structure may also have contributed to the improvement. Students experienced the sequence during Cycle I and therefore entered Cycle II with greater familiarity with the expectations of reading, answering, discussing, explaining, and creating.

Repeated exposure to the learning material and assessment procedures may likewise have contributed to higher performance. These factors cannot be separated from the instructional refinements within the CAR design. Consequently, the improvement in Cycle II should be interpreted as the result of the iterative classroom intervention rather than attributed solely to the RADEC model.

Interpretation of Learning Outcomes

The class mean increased from 36.12 in the pre-action condition to 61.50 in Cycle I and 86.70 in Cycle II. Classical learning completion increased from approximately 3.23% to 13.3% and then to 83.8%. The Cycle II result exceeded the predetermined success criterion of at least 75% classical completion. The parallel increase in critical-thinking achievement and learning outcomes suggests that the instructional process was accompanied by improvement in both dimensions measured in the study. Nevertheless, the design does not allow the independent contribution of RADEC to be estimated because there was no control group or comparison class. Teacher adaptation, student familiarity with the instructional procedures, repeated exposure to the material, and assessment familiarity may also have contributed to the observed changes.

An additional consideration concerns the comparability of the assessments across the research stages. The available research data do not establish whether the pre-action, Cycle I, and Cycle II tests were identical tests or parallel forms with equivalent difficulty. Therefore, score increases should not be interpreted as entirely independent of possible differences in assessment characteristics. Future research should explicitly document the development of equivalent assessment forms and provide evidence concerning content coverage and difficulty.

Limitations and Alternative Interpretations

Several limitations should be considered. First, the study involved one class consisting of 31 students at MTsN 9 Pesisir Selatan and was implemented through two action cycles. The findings therefore describe improvement in a specific classroom context and cannot establish that the same pattern will occur across different madrasah or school settings. Second, the absence of a control or comparison group limits causal interpretation. The observed changes may reflect the combined contribution of RADEC, teacher adaptation, students' increasing familiarity with the learning procedures, repeated exposure to the learning content, and other classroom factors. The study therefore provides evidence of improvement during an iterative instructional intervention rather than a controlled estimate of the independent effect of RADEC (Rangkuti, 2019; Utomo et al., 2024).

Third, instructional time and classroom resources imposed practical constraints on implementation. Discuss, Explain, and Create require sufficient time for interaction, presentation, feedback, revision, and product development. Limitations in learning resources, media, technological facilities, and internet access may also have affected the range of activities that could be implemented. Fourth, successful RADEC implementation requires substantial teacher preparation. Teachers need to prepare appropriate reading materials, formulate questions that stimulate higher-order thinking, provide scaffolding for students who are not accustomed to independent reading, organise group activities, establish assessment criteria, and allocate sufficient time for all five stages. The experience of the two cycles demonstrates the importance of these implementation conditions in the present classroom (Rohaendi & Laelasari, 2020; Sopandi, 2021).

Implications

The findings suggest that RADEC is a promising instructional option for comparable MTs classroom contexts, particularly when Social Studies learning requires students to interpret information,

establish relationships among historical concepts, discuss ideas, communicate arguments, and create representations of their understanding. However, the findings do not justify presenting RADEC as a generally established effective model across educational settings. Its implementation in this study was closely connected to iterative teacher reflection, student readiness, instructional scaffolding, classroom organisation, assessment design, and available learning time (Fatikhin et al., 2024; Sopandi, 2021). Four implementation considerations emerge from the findings. First, students need adequate reading preparation and guidance, particularly when independent reading is not yet an established learning habit. Second, discussion scaffolds, including clear group responsibilities, can help distribute participation more evenly. Third, explicit assessment criteria and examples of expected learning products can clarify expectations during the Create stage. Fourth, sufficient instructional time is necessary because Discuss, Explain, and Create require opportunities for interaction, presentation, feedback, revision, and production. Overall, the study indicates that critical-thinking achievement and learning outcomes improved during the implementation of the RADEC learning model in Grade VIII.C at MTsN 9 Pesisir Selatan. The central pedagogical finding is that the improvement occurred through the complete five-stage RADEC sequence combined with reflective refinement between cycles. Read and Answer established the foundation for individual understanding, Discuss and Explain developed opportunities for social reasoning and communication, and Create required students to integrate their understanding into a learning product.

At the same time, the findings should be interpreted cautiously because the study used one classroom, did not include a control group, and does not establish equivalent difficulty among the assessments across the research stages. Thus, RADEC may be regarded as a promising instructional option within comparable classroom contexts, while stronger claims concerning its general effectiveness require further research involving multiple classrooms or schools, comparable assessment forms, longer implementation periods, and appropriate comparison conditions (Fatikhin et al., 2024; Sopandi, 2021; Wardani & Munir, 2024).

Conclusion

This classroom action research showed descriptive improvement in students' critical-thinking achievement and learning outcomes through the implementation of the RADEC (Read, Answer, Discuss, Explain, and Create) model in Grade VIII.C of MTsN 9 Pesisir Selatan. Critical thinking achievement increased from 34.41% in the pre-action condition to 59.16% in Cycle I and 81.84% in Cycle II. The class mean of learning outcomes increased from 36.12 to 61.50 and 86.70, while classical learning completion increased from approximately 3.23% to 13.3% and 83.8%, respectively. Thus, both success criteria were achieved in Cycle II: critical-thinking achievement reached the good category at 81.84%, exceeding the 80% criterion, and classical learning completion reached 83.8%, exceeding the 75% target. The improvement from Cycle I to Cycle II followed instructional refinements based on reflection, including more structured reading preparation, analytical questioning, clearer group responsibilities, stronger teacher scaffolding, greater opportunities to explain and defend ideas, and clearer criteria for learning products. These findings indicate improvement during an iterative RADEC based classroom intervention. However, the findings are limited to one class of 31 students and two action cycles without a comparison group or inferential statistical testing. Therefore, they do not establish that RADEC alone caused the observed changes or that the findings are generalizable to other Social Studies settings. Teacher adaptation, students' familiarity with RADEC, repeated exposure to the material and assessment procedures, differences in assessment difficulty, and practical constraints related to time,

resources, technology, and internet access may also have contributed to the observed improvement. Further research involving multiple classes or schools, comparison conditions, longer implementation periods, and demonstrably comparable assessment instruments is needed to examine whether similar patterns are consistently observed.

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