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The Implementation of RADEC Learning Model to Improve Learning Outcomes Students in Social Science Subjects at SMPN 1 Jatiroto

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Abstract: This class action research aims to improve the learning outcomes of grade VIII students of SMPN 1 Jatiroto in the subject of Social Sciences. In this study, the researcher used a RADEC (read-answer-discuss-explain-and create) based learning model, with the subject of the material "The influence of changes and interaction in the room on life in ASEAN countries". The subjects of this study are 32 students in grade VIII A SMPN 1 Jatiroto in the odd school year 2022/2023. This action research is carried out in two cycles, each cycle is carried out with 4 stages of action research. The data collection method is carried out through observation, test and documentation techniques. The results of this study show that the RADEC-based learning model for social studies learning has succeeded in improving student learning outcomes. This can be seen from the average score of students who experienced an increase of 12.03 points in the pre-cycle to the first cycle and an increase of 24.37 points from the pre-cycle to the second cycle. This shows that the use of the RADEC method in this study can improve student learning outcomes to the maximum.

Keywords: RADEC, student learning outcomes, social sciences, SMPN 1 Jatiroto

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Introduction

Social Science learning is a learning that requires high thinking skills. No wonder many students have difficulty understanding social studies learning objectives. This is because the materials contained in social science learning subjects are complex materials and tend to change with the times. Although the discussion of social studies learning focuses on social sciences, social studies learning needs to be designed contextually to help students understand the material presented (Mariati & Saehu, 2021; Zulyusri et al., 2023).

Social studies learning is also almost applied to all levels of education in Indonesia, starting from secondary and higher education levels. Because social studies learning requires a fairly high level of understanding of the material, it is not uncommon for students to have difficulty in achieving minimum learning completeness. This often happens, especially in junior high school students. Junior high school students have difficulty understanding social studies lessons due to the low references read by students and the lack of application of learning methods that can encourage students to think critically and discuss in class (Kwangmuang et al., 2021; Sari et al., 2021).

In line with the previous explanation, in this study teachers found learning problems in the form of low student learning outcomes for social studies subjects. This happened to students in grade VIII-A SMPN 1 Jatiroto who had difficulty understanding the material "The influence of changes and interaction in space on life in ASEAN countries". Students in class VIII-A SMPN 1 Jatiroto also got quite low learning outcomes, at the observation stage only around 18.80% of students achieved complete results in learning this material.

The teacher then makes an initial identification to the students related to the cause of the low student learning outcomes at this time. The teacher then conducted an interview with the students related to what obstacles were experienced during the learning process of this social studies material. The results of the interviews showed that in the learning process with the material "The influence of changes and spatial interaction on life in ASEAN countries", students were less directly involved in learning discussions in class, as a result students lacked motivation and student learning participation was low. On the other hand, the learning methods applied by teachers still focus on teachers, so that students do not get a portion to be involved in the learning process.

The teacher then reflects on the learning that has been carried out and then changes the learning method that has been applied previously. Teachers realize that learning methods should be done to increase student motivation and engagement. This will have a positive impact on student learning outcomes.

Teachers then apply the RADEC (read-answer-discuss-explain-and create) learning method as an effort to improve student learning outcomes. The RADEC learning method itself is used to stimulate students' pedagogical skills by actively involving students in the learning process. There are at least 4 main skills that can be developed by students in this RADEC learning method, namely careful reading skills, question-answering skills, discussion skills, and creative skills (Fuziani et al., 2021; Pohan et al., 2020; Pratama et al., 2020; Widodo et al., 2024; Yulianti et al., 2022).

This process allows students to activate a productive and directed discussion process in the classroom, which will encourage students to be thoroughly involved in the classroom. This study aims to investigate how the application of the RADEC method to improve student learning outcomes in social studies subjects at SMPN 1 Jatiroto. This RADEC method is used with intervention by teachers so that it has the opportunity to increase student involvement and student learning outcomes in the learning process.

Method

The research method used in this study is classroom action research (CAR) which is one of the research with an approach (field research). Classroom Action Research (CAR) is a research method conducted by teachers to improve the quality of learning in the classroom through actions carried out systematically. CAR aims to identify learning problems and find solutions through reflection and repetitive actions (Bramantya et al., 2024).

Classroom Action Research (CAR) consists of several stages that are systematic and repetitive. The first stage is the identification of problems that occur in the learning process. After that, the teacher plans the actions that will be taken to overcome the problem. These actions are then applied in the classroom, where teachers conduct observations and collect data to evaluate the effectiveness of the actions. The next stage is reflection, where teachers analyze the data that has been collected to determine if the problem has been resolved or if further action is needed. This cycle can be repeated several times until the expected results are achieved. CAR helps teachers to continuously improve the quality of learning based on empirical evidence from experience in the field (Alwi & Helsa, 2019; Banegas & de Castro, 2019; Putra et al., 2021).

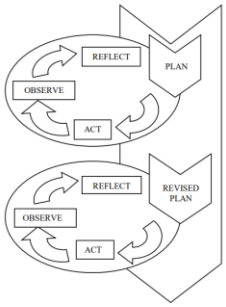

Figure 1. CAR Step *(Setiawan & Islami, 2020)*

The subject of this class action research is class VIII-A students of SMPN 1 Jatiroto. This study is aimed at measuring the improvement of learning outcomes of students in grade VIII-A SMPN 1 Jatiroto in the Social Sciences lesson with the material "The influence of changes and spatial interaction on life in ASEAN countries". The data used in this study are the results of student interviews, student observations, and student grades which are then analyzed and processed using quantitative descriptive methods.

Results

Pre-Cycle Analysis Results

The implementation of pre-cycle actions is carried out using a learning lesson plan prepared by social studies teachers in grade VIII-A SMP Negeri 1 Jatiroto. The teaching material provided is "The influence of changes and interaction in the room on life in ASEAN countries". In the pre-cycle, teachers use conventional-based learning methods by using learning media in the form of summaries of material in power points.

At this stage, students do not actively participate in learning activities because the teacher only focuses on delivering material as the main learning objective. The teacher then measured the learning outcomes of students using a measurement instrument in the form of a test in the form of a multiple-choice question as many as 40 questions with the subject "The influence of changes and interaction in the room on life in ASEAN countries".

Table 1. Pre-Cycle Data Frequency Distribution

No	Interval	Median	Absolut Frequency	Relative Frequency (%)
1	75-83	79	6	18.8
2	66-74	70	5	15.6
3	57-65	61	14	43.8
4	48-56	52	7	21.9
Total			32	100

In table 1, it can be concluded that only 18.8% of students obtained a complete score and above the KKM (75). Meanwhile, 81.2% of other students still have not reached the KKM score or have not been declared complete in this learning. These results show that only students still do not get optimal learning outcomes related to the material provided by the teacher through the classical/lecture-based learning model.

First-Cycle Analysis Results

In the first cycle, teachers conduct action research with 4 stages of implementation, namely: 1) the planning stage; 2) the stage of implementation of the action; 3) observation stage; and 4) the reflection stage (Bramantya et al., 2024; Setiawan & Islami, 2020). In the first cycle, the teacher divided the class into 5 different discussion groups to discuss the learning objectives that had been conveyed. In this first stage, the teacher still plays a role in delivering the initial material in the first 30 minutes, and the next 30 minutes students are welcome to discuss with each other.

Table 2. First-Cycle Data Frequency Distribution

No	Interval	Median	Absolut Frequency	Relative Frequency (%)
1	81.3-87.5	84.3	7	21.9
2	75-81.2	78.1	12	37.5
3	68.7-74.9	71.9	10	31.3
4	62.5-68.7	65.6	3	9.4
Total			32	100

As a result, there was an increase in the percentage of completeness of student learning outcomes. Based on table 2, it was found that 19 students had met the minimum standard of grade completeness, previously only 6 students met the standard. This means that students who obtained a minimum score of 75 have increased by three times. In this first cycle, the percentage of completeness of student learning outcomes has increased, in the first cycle it was 59.40% or around 19 out

of 32 students have achieved the minimum completeness of learning outcomes.

Subheading 2 serves as a secondary section divider within your article. It helps to further organize the content under the main sections indicated by Subheading 1. By breaking down the content into more specific subsections, Subheading 2 enhances the clarity and structure of your writing, making it easier for readers to follow detailed arguments and findings.

Second-Cycle Analysis Results

In the second cycle, teachers conduct action research with 4 stages of implementing the same class action research, namely: 1) the planning stage; 2) the stage of implementation of the action; 3) observation stage; and 4) the reflection stage. Teachers also continue to divide the class into the same 5 learning groups. However, in this second stage, the teacher only provides stimulus in the first 15 minutes and gives students the freedom to discuss related to the material taught.

Based on observations, students are more active in discussing, asking questions, answering and even producing learning conclusions that have begun to be directed. This then encourages student involvement in learning effectively. Student learning outcomes also experienced a significant increase, which is listed in the following table.

Table 3. Second-Cycle Data Frequency Distribution

No	Interval	Median	Absolut Frequency	Relative Frequency (%)
1	81.25-87.5	79	6	18.8
2	66-74	70	5	15.6
3	57-65	61	14	43.8
4	48-56	52	7	21.9
Total			32	100

In the second cycle, simultaneously student learning outcomes increased quite positively. In this second cycle, all students completed their learning results well. It can be seen in table 3 that 100% of students get learning results above the minimum completeness criteria (KKM). The minimum completeness criterion (KKM) for social science subjects is 75, while the lowest interval score is 77.45-83.08 with 12 students getting this interval score. Meanwhile, as many as 20 students achieved learning outcomes above 83 scores.

The improvement in learning outcomes is quite good and high, with the percentage of student learning outcomes reaching 100% and students who get learning outcomes above 83 reaching 62.5%. The highest interval in the second cycle is also quite high, the highest interval is 94.37-100 with a median of 97.19 and there are several students who get a score of 100. It can be concluded that the application of the RADEC (read-answer-discuss-explain-and create) model in social studies subjects with the theme "The influence of changes and interaction in the room on life in ASEAN countries" is very effective.

The RADEC model allows students to gain new insights from the learning process in the classroom. This new knowledge was also gained by fellow students during class discussions. This allows students to remember the subject matter longer. Students' retention of learning is good enough to make students able to do well on the test, and they get quite good learning results as well.

Discussion

One of the challenges in education in Indonesia is the phenomenon of low learning outcomes among Junior High School student (Novitasari & Rahman, 2023; Ubaidillah et al., 2023). Similar problems have been observed in social science subjects at the junior high school level at SMPN 1 Jatiroto. Educators often struggle to understand the appropriate learning approaches to effectively engage and support the diverse learning styles of their students.

To address this challenge, the implementation of the RADEC learning model may offer a promising solution. The RADEC model, which stands for "Read, Answer, Discuss, Explain, and Create," is a student-centered approach that aims to enhance learning outcomes by catering to various learning preferences (Aiello et al., 2021; Tulljanah & Amini, 2021).

The application of the RADEC model in social science subjects has the potential to significantly improve student learning outcomes. This can be seen from the average

score students who experienced an increase of 12.03 points in the pre-cycle to the first cycle, and an even more substantial increase of 24.37 points from the pre-cycle to the second cycle (as shown in Table 4). These impressive improvements demonstrate that the use of the RADEC method in this study can effectively enhance student learning outcomes to a considerable degree.

Table 4. Comparison of Student Learning Outcome

No	Comparison of Means	Average Score	Score Appreciation
1	Pre-Cycle to First-Cycle	63.52-75.55	12.03
2	Pre-Cycle to Second-Cycle	63.52-87.89	24.37
3	First-Cycle to Second-Cycle	75.55-87.89	12.34

This hands-on, experiential learning approach encourages students to actively interact with their environment, which can lead to deeper understanding and retention of the subject matter. Additionally, the contextual nature of the RADEC approach, which links learning to real-life experiences, can help students better understand and apply the concepts they are learning, as demonstrated in a study on improving science learning outcomes through a contextual learning model (Panigoro et al., 2024; Pohan et al., 2020; Wardani & Munir, 2024; Widodo et al., 2024).

Furthermore, the RADEC model's emphasis on active participation, discussion, and knowledge creation aligns well with the diverse learning preferences and needs of students, as highlighted in a systematic literature review on learning models suitable for elementary school students. By carefully adapting the RADEC model to the specific educational context and characteristics of SMPN 1 Jatiroto, educators can foster a more engaging, interactive, and effective learning environment that caters to the unique learning styles of their students.

This approach has the potential to significantly improve learning outcomes in social science subjects, as it empowers students to actively participate in the learning process, engage in meaningful discussions, and construct their own understanding of the subject matter. With this in-depth understanding, students can then apply their knowledge to real-world scenarios, further reinforcing their grasp of the material and making the learning experience more meaningful and applicable to their lives.

Conclusions

Based on the findings of the study, it can be concluded that the RADEC (read-answer-discuss-explain-and create) learning method applied to social studies subjects with the focus of the material "The influence of changes and interaction in the room on life in ASEAN countries" in Class VIII-A SMPN 1 Jatiroto students is effective in improving student learning outcomes. This is aimed at increasing the percentage of completeness of student learning outcomes from 18.80% in the pre-cycle, 59.40% in the first cycle, and 100% in the second cycle.

The increase in the percentage of completeness of student learning outcomes is due to the fact that at each stage of the cycle student involvement in learning also increases, so that this RADEC model can be used to improve student learning outcomes with the record of active teachers providing stimulus during the application of the RADEC method which then makes students actively involved in learning.

Suggestion and Recommendation

Implementing the RADEC (Read-Answer-Discuss-Explain-Create) method in educational settings can significantly enhance student learning outcomes by fostering active engagement and deeper comprehension. Initially, structured reading sessions that provide diverse and relevant materials can stimulate students' curiosity and foundation of knowledge. This should be followed by an answering phase where students critically engage with the material through quizzes or written responses.

Regularly facilitated discussions can then enable students to share insights,

clarify doubts, and construct knowledge collaboratively, encouraging a deeper understanding of the subjects. When students explain concepts in their own words, it reinforces their comprehension and helps teachers identify any lingering misconceptions.

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