

## Improving fifth-grade students' learning outcomes in integrated thematic learning using the RADEC model

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### ABSTRACT

The study was undermined by the low learning results of students in integrated thematic learning in class V SDN 10 Palak Aneh Pariaman. The subjects of this study consist of f 28 fifth-grade students. Research method is a mixed approach, and this type of research is class action research. Data collection techniques were through observation, non-test and test. These results of this study indicate that learning activities and outcomes increases from good to excellent category. From the results obtained, it can be concluded that the application of the RADEC model will increase the level of integrated thematic learning outcomes from students.

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## INTRODUCTION

At present, elementary schools apply integrated thematic learning as regulated in the 2013 curriculum which orients learning to a combination of more than one content in different fields of material. The application of integrated thematic learning with an integrated teaching model and using themes to relate different topics to students in order to provide students with meaningful learning. Learning in schools must apply innovative learning and make students directly involved during the learning process so that changes in attitudes and learning outcomes are more effective (Vallery et al., 2022; Iranti et al., 2023; Putra et al., 2022; Winanda et al., 2020). The teacher is someone who will help and become a facilitator for students in building knowledge in school. In carrying out their duties at school, teachers must be able to develop meaningful learning, which is carried out in 4 stages of activity, namely planning, implementing learning, evaluating, and providing action, and it is hoped that teachers will have the courage to develop innovative and creative learning (Nurhayati et al., 2022).

Thematic learning is learning that teaches students meaningful learning, prioritizing making students active, intelligent in finding information both directly, from learning media, and text teaching materials, creatively solving problems and building their knowledge, having a problem solver soul, critical thinking, as well as skilled and noble.

But in reality the implementation of integrated thematic learning still found problems. From the findings at Public Elementary School 10 Palak Bizarre City of Pariaman for two days, the researchers found problems in terms of lesson planning, learning implementation, and in terms of student learning outcomes. From the aspect of lesson planning, the problems found were: (1) lesson plans emphasizing the steps of learning activities in the steps contained in the theme book and the application of innovative learning models has not yet been seen, (2) the development of indicators that are lacking and the learning objectives of KD are not yet interrelated with learning materials, (3) lesson plans that have not used innovative learning model steps in their activities, and (4) incomplete lesson plans. In terms of the implementation of learning, the problems found are: (1) teacher-centered learning, (2) lack of information sources and learning resources focused on theme books because teachers do not develop teaching materials (3) teachers tend to apply lecture methods (conventional) in learning and the lack of linking learning with the real world context of students (4) The passivity of students, especially when concluding learning, is caused by students lacking sources of learning information and less skilled in reading comprehension.

Problems in terms of lesson plans and the application of integrated thematic learning have an impact on the acquisition of students in learning. From the observations made by the researchers, it was found that the learning outcomes of class V students at SD Negeri 10 Palak Strange were not maximized because only 5 students out of a total of 28 students achieved grades above the KKM.

To overcome the problems found, it is necessary to apply a learning model that is in sync with the conditions of students. The application of the learning model must be appropriate and make students actively involved, creative, and critical in building their knowledge. So the RADEC model is one of the innovative models that improves student learning outcomes. Several steps starting from read (read), answer (answer), discuss (discuss), explain (explain), and create (create). With the RADEC learning model, students are expected to be able to realize the knowledge they gain through a work or the ability to create solutions to learning problems (Tulljanah & Amini, 2021). The steps of the RADEC learning model also create a climate of cooperation and actively investigate problems in learning activities so that students actively develop the 4C abilities needed in the 21st century (Sopandi in Suryana et al., 2021). RADEC is a learning model that also has other advantages, namely: 1) the RADEC model motivates students 2) trains independent students, 3) presents material contextually, 4) relates material to teaching materials with real-life applications, 5) student center learning (focusing activities on students, and 6) opening opportunities for students to understand the material at the beginning of learning through reading activities and answering pre-learning questions (Sopandi et al., 2019 in Yulianti et al., 2022).

Therefore, instead of explaining the statement, the researcher carried out research on the use of the RADEC model so that student learning outcomes could increase with the title "Improvement of Student Learning Outcomes in Integrated Thematic Learning Using the RADEC Model in Class V Elementary School." lesson plan (RPP), carry out actions, observations, and reflections. All of these stages are threads in a series. This research was carried out by two roles, namely practitioners who were played by researchers and class teachers as well as fellow teachers with the role of observers and aimed at perfecting the learning planned and carried out by the teacher and being able to improve student learning outcomes. The research was carried out during the second semester of the academic year January - June 2022/2023 Academic Year in Class V SDN 10 Palak Strange, Kota Pariaman, Kota Pariaman. There are 28 students in class V with 14 female students and 24 male students. Information that will become data is obtained from observations and tests that are collected and

analyzed by researchers by calculating the percentages and student learning outcomes that have been averaged so that it is known whether student learning outcomes have increased or not.

## **LITERATURE REVIEW**

### ***Definition of Learning Outcomes***

Learning outcomes according to Lena (2021) can be interpreted as something obtained either in the form of a transition after existence treatment or learning activities can determine the extent the acquisition of knowledge obtained by a student. The result of learning is a reflection of whether the implementation of learning carried out by a skilled teacher and succeeded in directing students or not. (Sarumaha et al., 2022). According to Cintia et al., (2018) the learning outcome is the new abilities and knowledge that the student has after passing through the teaching learning process and in accordance with the learning objectives that have been set cover the cognitive, affective, and psychomotor aspects of students where the ability and achievement of students in learning is processed through evaluation

### ***Definition of Integrated Thematic Learning***

According to Sulistya in Ilmi & Lena, (2022) integrated thematic learning helps learners to explore and re-understand the various concepts contained in the topic as well as reconstruct learning activities and stimulate the spirit of learners because the materials learned are presented contextually. (nyata). Other experts Kristagatanrum et al., (2022) explained that learning should equip students with the skills of the 21st century, including critical thinking and problem solving, creativity, communication skills, and collaboration. (ability to work collaboratively).

### ***Definition of the RADEC Model***

The RADEC model is an innovative learning model that has names from the steps of the model itself. RADEC is a learning model which has steps starting with read, answer, discuss, explain, and create. (mencipta). With the RADEC learning model, students are expected to be able to realize the knowledge they have acquired through a work or the ability to create solutions to learning problems. (Tulljanah & Amini, 2021). According to Sopandi in Dita amalia, Bambang Suprianto, (2019), the learning model of RADEC is effective in making students highly skilled, active independent learning, skilled in communicating and collaborating and understanding students towards learning material. The learning model RADEC also creates a climate of cooperation and actively investigates problems in the learning process so that students actively develop skills of the 21st century (Sopandi in Suryana et al., 2021). RADEC learning model also has other advantages such as: 1) the RADEC model motivates students to be active in learning, 2) trains students to learn independently, 3) presents materials contextually, 4) associates materials on teaching materials with real-life applications, 5) student center learning (centric on students, and 6) gives students an opportunity to understand materials at the beginning of learning through reading activities and answer questions before visitors.( Sopandi dkk., 2019 dalam Yulianti et al., 2022).

## **METHOD**

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## Type Of Research

The research was conducted in the form of classroom action research (PTK) (class Action Research) with the research design developed by Kemmis and Mc Taggart (Arikunto, 2013) and modified. The stages of this research model consisted of 4 stages, namely making a lesson plan (RPP), carry out actions, observations, and reflections. All of these stages are threads in a series. This research was carried out by two roles, namely practitioners who were played by researchers and class teachers as well as fellow teachers with the role of observers and aimed at perfecting the learning planned and carried out by the teacher and being able to improve student learning outcomes. Information that will become data is obtained from observations and tests that are collected and analyzed by researchers by calculating the percentages and student learning outcomes that have been averaged so that it is known whether student learning outcomes have increased or not. The formula used is the percentage formula according to the Ministry of Education and Culture (2016)

## Time and Place Of Research

The research was carried out during the second semester of the academic year January - June 2022/2023 Academic Year in Class V SDN 10 Palak Strange, Kota Pariaman, Kota Pariaman. There are 28 students in class V with 14 female students and 24 male students.

## RESULTS

Research on this class action is research that is carried out in cycles, the authors carry out research in 2 cycles. Cycles 1 and 2 were held in 3 meetings and cycle 2 once. In its implementation, researchers collaborated with level V teachers at SDN 10 Palak Aneh Pariaman City and colleagues. For a more detailed explanation, the research results can be seen as follows:

### Cycle I Research Results

Cycle I research was held in 2 meetings where learning was carried out in 4 stages, namely: a) planning, b) implementation, c) observation, and d) reflection.

### Observation Result Of RPP Aspec

Based on research conducted on January 3, 2023, the assessment of the lesson plans in cycle 1 reached a score of 34 with a maximum score of 40, with the results after being presented in cycle 1 research meeting 1 of 85% with qualification B (Good). For more details, it can be understood in the table data presentation:

**Table 1.** Observation Analysis of RPP Aspects of Cycle I Meeting 1

No.	Rated aspect	Qualificatio n	Weight
1.	RPP identity	Very good	4
2.	Basic competencies	Very good	4
3.	Formulation of learning objectives	Good	3
4.	Learning Materials	Enough	2
5.	Selection of learning resources	Verry Good	4
6.	Learning media	Good	3
7.	Learning Model	Verry good	4
8.	Learning scenario	Good	3

9.	PPK Implementation	Good	3
10.	Evaluation	Very good	4
Number of Scores obtained			33
Presentation			85%
Qualification			B

The results of the research at the first meeting showed that there were several deficiencies in the learning planning aspect. Based on this, meeting 2 was held on January 10, 2022. In cycle I meeting 2, the RPP assessment from the observer's observations was 36 out of a maximum score of 40. Therefore the percentage of the assessment was at 90% %, which qualified well (A) . The details are as follows:

**Table 2.** Observation Analysis of RPP Aspects of Cycle I Meeting 2

No.	Rated aspect	Qualification	Weight
1.	RPP identity	Very good	4
2.	Basic competencies	Very good	4
3.	Formulation of learning objectives	Verry Good	4
4.	Learning Materials	Good	3
5.	Selection of learning resources	Verry Good	4
6.	Learning media	Good	3
7.	Learning Model	Verry good	4
8.	Learning scenario	Good	3
9.	PPK Implementation	Good	3
10.	Evaluation	Very good	4
Number of Scores obtained			36/40
Presentation			90%
Qualification			A

### *Observation Results of Cycle I Teacher Aspects*

Based on the observations carried out on the teacher aspect from the results of the observer's assessment, the percentage achieved was 82 %. The results obtained belong to the categories carried out by the teacher when providing integrated thematic material based on the RADEC model syntax. The qualifications achieved by the teacher are included in the qualifications, namely the Good category (B). Details of the observer's observations on the teacher aspect, namely:

**Table 3.** Observation Analysis of Teacher Aspect Learning Process Cycle I Meeting 1

No.	Rated aspect	Qualification	Weight
1.	Initial activity	Very good	4
2.	Core activitiesstimulatio/ Read	Good	3
3.	Sintaks Answer	good	3
4.	Sintaks Discuss	Good	3
5.	Explain	Good	3
6.	Create	Good	3
7.	Closing activities	Verry Good	4

Total score	23
Percentage	82 %
Qualification	B

Based on the results of the study on cycle 1 meeting 1, there are some improvements that teachers need to make so that the pupils can maximize their learning. Based on the results of the 2nd meeting, the aspects of the student's activity obtained a score of 25 with a percentage of 89.3%. It can be seen and understood in the following table

**Table 4.** Observation Analysis of Teacher Aspect Learning Process Cycle I Meeting 2

No.	Rated aspect	Qualification	Weight
1.	Initial activity	Very good	4
2.	Core activitiesstimulatio/ Read	Verry Good	4
3.	Sintaks Answer	good	3
4.	Sintaks Discuss	Verry Good	4
5.	Explain	Good	3
6.	Create	Good	3
7.	Closing activities	Verry Good	4
Total score			25
Percentage			89,3 %
Qualification			B

#### *Observation Results of Student Aspects Cycle I*

After carrying out the research, meeting 1, the researcher obtained the results of research on the main target learning activities, namely students during the implementation of learning with the RADEC model obtained a percentage score of 82%. This percentage is obtained based on the number of descriptors that appear during the learning process. Qualifications from the aspect of students are included in good qualifications (B). This means that students are quite enthusiastic when learning with the RADEC model as presented below

**Table 5.** Analysis of Observation of Learning Process Aspects of Students in Cycle I Meeting 1

No.	Rated aspect	Qualification	Weight
1.	Initial activity	Very good	4
2.	Core activitiesstimulatio/ Read	Good	3
3.	Sintaks Answer	good	3
4.	Sintaks Discuss	Good	3
5.	Explain	Good	3
6.	Create	Good	3
7.	Closing activities	Verry Good	4
Total score			23
Percentage			82 %
Qualification			B

Research cycle I meeting 1 shows if there has been an improvement in order to make students play an important role in the activity of providing material so that it is more optimal. So it continued with the second cycle of research in the second meeting on aspects of student activity which then resulted in a score of 25 from a maximum score of 28, the percentage of which was 87.5%. This can be seen in detail as follows:

**Table 6.** Observation Analysis of Student Learning Process Cycle I Meeting 2

No.	Rated aspect	Qualification	Weight
1.	Initial activity	Very good	4
2.	Core activitiesstimulatio/ Read	Verry Good	4
3.	Sintaks Answer	good	3
4.	Sintaks Discuss	Verry Good	4
5.	Explain	Good	3
6.	Create	Good	3
7.	Closing activities	Verry Good	4
Total score			25
Percentage			89,3 %
Qualification			B

### *Student Learning Outcomes*

In the implementation of research cycle 1 meeting 1 by applying the RADEC model the learning results are calculated from the attitude, knowledge, and skills aspects. On the attitude aspect, in meeting one there were nine outstanding pupils. Five people showed negative attitudes and four students showed positive attitudes. The learning results on the knowledge and skills aspects acquired by the student after being calculated obtained an average of 63.5 with a qualification requirement of guidance/ less (D). Students who reached the learning outcome limit (KKM) as many as 14 students and who did not qualify as much as 14 learners.

In the implementation of phase 2 cycle 1 research conducted on January 10, 2023 by applying the RADEC model, learning results were calculated from the attitude, knowledge, and skills aspects. In the attitude aspect, in the meeting 2 there were 9 students recorded showing outstanding attitude. 4 students showed outstanding negative attitude and 5 students show outstanding positive attitudes. Students who have reached the learning outcome limit (KKM) of 25 learners and who are not qualified as many as 3 learners have achieved an average of 80,8 with sufficient qualification (C).

### *Reflection Stage*

Based on the results of research at cycle 1 meeting 1 & 2 it was seen that the learning results of the participants were still below the KKM. At meeting 1 as many as 14 pupils (50%) who achieved the learning outcome that reached the limit of KKM and 14 others have not reached that limit. At the meeting two there were still pupils who have not yet reached KKM which is as much as 3 pupils (11%). Therefore, the research proceeded to cycle II with a plan to correct all the shortcomings found in cycle 1 will be corrected in cycles II.

### *Cycle II Research Results*

Research in cycle 2 is carried out as many times as one meeting which is conducted in 4 stages

namely (a) the interpersonal stage, (b) the implementation stage that is implementation of learning using the RADEC model, (c) the observation stage, and (d) the reflection stage.

### *Results of Observation of Aspects of RPP Cycle II*

From a study conducted on 17 January 2023, the rating of RPP in cycle 2 reached 39 with a maximum value of 40, with the result after percentage is 97.4% with SB qualification (Sangat Baik). To be clearer can be understood in the following table:

**Table 7.** Observation Analysis of Aspects of RPP Cycle II

No.	Rated aspect	Qualification	Weight
1.	RPP identity	Very good	4
2.	Basic competencies	Very good	4
3.	Formulation of learning objectives	Very Good	4
4.	Learning Materials	Verry Good	4
5.	Selection of learning resources	Verry Good	4
6.	Learning media	Verry Good	4
7.	Learning Model	Verry good	4
8.	Learning scenario	Verry Good	4
9.	PPK Implementation	Good	3
10.	Evaluation	Very good	4
Number of Scores obtained			39
Presentation			97,4%
Qualification			A

### *Results of Observations on Teacher Aspects Cycle II*

The results of cycle II research conducted on January 17, 2023 showed a significant increase in value. Based on observers 1 and 2 evaluation results, a score of 29 points was obtained on the aspect of teacher activity in learning with a percentage of 96.4%. This shows that teachers successfully implemented learning with the RADEC model with qualifications Very good (SB). For more clarity can be seen in the following table:

**Table 8.** Observation Analysis of Teacher Aspects of Cycle II Learning Process

No.	Rated aspect	Qualification	Weight
1.	Initial activity	Very good	4
2.	Core activitiesstimulatio/ Read	Verry Good	4
3.	Sintaks Answer	Verry good	4
4.	Sintaks Discuss	Verry Good	4
5.	Explain	Good	3
6.	Create	Verry Good	4
7.	Closing activities	Verry Good	4
Total score			27
Percentage			96,4 %
Qualification			A



### Results of Observations on Student Aspects Cycle II

The implementation of cycle II research on the thematic learning process integrated aspects of the student with the model RADEC obtained the evaluation result from the observer with a score of 27. After the percentage, the result of the assessment was 96.4%. This evaluation results show that from the aspect of the participant the learning implementation has achieved the qualification Very good (SB). The results of the assessment can be seen in the following table:

**Table 9.** Observation Analysis of Learning Process Aspects of Students Cycle II

No.	Rated aspect	Qualification	Weight
1.	Initial activity	Very good	4
2.	Core activitiesstimulatio/ Read	Verry Good	4
3.	Sintaks Answer	Verry good	4
4.	Sintaks Discuss	Verry Good	4
5.	Explain	Good	3
6.	Create	Verry Good	4
7.	Closing activities	Verry Good	4
Total score			27
Percentage			96,4 %
Qualification			A

### Student Learning Outcomes Cycle II

In cycle II, the student's learning outcomes showed significant improvement. In the assessment of attitude aspects, there were eight pupils who had outstanding attitudes. In terms of knowledge, the average grade V student score was 93.2. In the second cycle, all students achieved the KKM with the highest score of 100 and the lowest rating of 80. In the skill aspect, the mean grade V pupil score was 90,03 with a highest grade 100 and a lowest grade of 77.5. (SB). Details of student learning results can be seen in the following table:

**Table 9.** Student Learning Outcomes Cycle II

No	Assesment Aspect	Highest score	Lowest score	Average	Succeded	Failed
1	Attitude	-	-	-	5 (+)	3 (-)
2	Knowledge	100	80	93,2	28	0
3	Skill	100	77,5	90,3	28	0

## DISCUSSION

The aim of this research is to describe improved student learned outcomes using Read, Answer, Discuss, Explain, Create (RADEC) model the in integrated thematic learning in elementary schools. This research is a classroom action research (CAR) that uses qualitative and quantitative approaches. It was carried out in two cycles, namely cycle I consisting of 2 meetings and cycle II consisting of 1 meeting. In each cycle includes four stages, namely planning, implementation, observation and reflection. The research subjects were teachers and students, totaling 28 people consisting of 14 men

and 14 women. The results of the study show that the RADEC model can improve the learning outcomes of the student viewed from the following aspects: ( a) The observation result of RPP was 85% (B) in cycle 1 meeting 1, 90% (SB) at cycle 1, meeting 2, and 97.4% (SV) at Cycle II. (b) the observation outcome of teacher activity was 82% ( B) in Cycle 1 meetings 1, 89.3 (B)) % at cycles I meetings 2 and reached 96.4 % (SF) at cicles II. In cycle 1 meeting 1 the number of pupils who reached the limit of KKM was 14 with a percentage of 50%. The average student outcome in cycle 1, meeting 1 was 63.5. In the cycle I meeting 2, the total pupils that reached KKM limit was 25 with 89 percent. The average pupil score was 80,8. In cycle II all students of class V SDN 10 Palak Aneh achieved a complete score with an average grade score of 91,6 which shows an improvement from cycle I meetings 1 and 2.

This is supported by previous research, namely research by Chairunnisa et al., (2022) that the learning model of RADEC effectively improves the learning outcomes of SDN students IPS online learning. Furthermore, the results of the research showed that the model of learning RADEC is effective in improved the learning. The results of the study in cycle 1 showed that the test results were evaluated by 35 students using the application quizziz in the cycle I obtained the lowest score of 60 while the highest score is 85 with an average score of 70,28 which is 24 students (69%) who have reached the KKM and who have not reached KKM as 11 students (31%). In the Cycle I the obstacles encountered among others 1) the average score is still low and not met 2) there are still students who are inactive in the group 3) there are some students who have been late to collect pre-learning. Cycle II obtained the results of the evaluation test using the application quizziz received that the learning results of students in cycle II was improved, of the 35 students received the lowest score that is 60 while the highest score is 90 with the average score is 84.42 which is as many as 32 students (91%) who have achieved KKM.

According to Sopandi in Dita amalia, Bambang Suprianto, (2019), the learning model of RADEC is effective in making students highly skilled, active independent learning, skilled in communicating and collaborating and understanding students towards learning material. The learning model RADEC also creates a climate of cooperation and actively investigates problems in the learning process so that students actively develop skills of the 21st century (Sopandi in Suryana et al., 2021). RADEC learning model also has other advantages such as: 1) the RADEC model motivates students to be active in learning, 2) trains students to learn independently, 3) presents materials contextually, 4) associates materials on teaching materials with real-life applications, 5) student center learning (centric on students, and 6) gives students an opportunity to understand materials at the beginning of learning through reading activities and answer questions before visitors.( Sopandi dkk., 2019 dalam Yulianti et al., 2022)

## **CONCLUSION**

Based on the research results obtained and discussion regarding the holding of the Read, Answer, Discuss, Explain, Create (RADEC) model at level V SDN 10 Palak Aneh Pariaman City, the authors conclude that by implemented Read, Answer, Discuss, Explain, Create (RADEC) model the in the activity of provided integrated thematic material in Theme 6 “ Heat and Its Transfer” Sub-theme 1 to sub-theme 3 learning 1 is proven to increase student learning outcomes. The evidence for this statement is exposed from the elaboration of data that has been processed using classroom action research data processing techniques, namely: a) RPP cycle I averaged at 85% (Good) and cycle II at 97,4 % (Very Good); b) the teacher aspect in cycle I averaged at 82 % (Good) and cycle II at 96.4 % (Very Good) and the student aspect in cycle I averaged at 82 % (B ) and cycle II at 96.4 % (SB); c)

aspects of students' skills and knowledge in cycle I meeting 1 at 63,5 and in cycle I meeting 2 at 80,8, while in cycle II the score was at 91,6 . From the results described above, it can be concluded that by holding the Read, Answer, Discuss, Explain, Create (RADEC) model when providing learning materials to students, it will increase the level of student integrated thematic learning outcomes.

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