

Students' Progress in Integrated Thematic Learning with Scientific Approaches

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This study describes the improvement of integrated thematic learning with a scientific approach in Bukittinggi City Primary School. The approach used in this study was a qualitative and quantitative approach to classroom action. The results of research in planning the first cycle learning was 83.4% and increased in the second cycle to 93.1%. The results of the implementation of the actions of the first cycle teacher was 72% and increased in the second cycle to 90.6%. The results of the implementation in terms of the activities of students in cycle I, was 72%, and increased in cycle II to 96%.

Key words: *Teaching and learning process, Integrated Thematic, Scientific Approach.*

Background

Integrated thematic learning is learning that uses themes as the main focus. The learning provides meaningful experiences to students as a whole. They are said to be meaningful because in integrated thematic learning students will understand the concepts they learn through direct and real experience and relate them to other concepts that are already understood. According to Fitria et al. (2018), integrated learning is learning that links one lesson to another. Fitria Kumala Sari et al., (2019) suggested that "Thematic learning is conditioned so that students get optimal, good, impressive, enjoyable and enjoyable learning experiences because they depart from the interests and needs of students, and foster social policies in helping others". Therefore, in 2013 curriculum learning in thematically sponsored scientific thematic learning was used. This means that with thematic learning students get an optimal learning experience, that is good, impressive, and fun because learning is by the interests and needs of students, and fosters social policy in helping others. Therefore, the 2013 curriculum used thematic learning in learning. A different opinion was also expressed

by Purwadarminta (Majid, 2014) that integrated thematic learning is learning that uses themes to link several subjects to provide meaningful experiences to students. The theme is the main thoughts or ideas that are the subject of conversation. Thematic learning is a learning approach that integrates various competencies from various subjects into a theme. Therefore, in presenting learning material the teacher must be able to present the material from various subjects intact and not separately in a predetermined theme (Lian et al., 2018) (Khasanah et al., 2019) (Sarina et al., 2019). The integrated thematic advantage in learning is that it can provide meaningful learning for students and create a pleasant learning atmosphere, for example, in the material contained in the theme of caring for animals and plants. In this material students are required to develop their thinking in understanding the lesson and to be skilled at finding and solving existing problems.

There are many ways that teachers can implement integrated thematic learning, one of which is by using a scientific approach, where students can obtain information from anywhere, anytime, and does not depend on information provided by the teacher (Majid, 2014) This is an attempt to provide understanding to students in knowing and understanding various materials using a scientific approach, that information can come from anywhere, at any time and does not depend on unidirectional information from the teacher. Therefore, the expected learning conditions created are directed to encourage students to find out from various sources of observation, not to be told (Wandasari et al., 2019). This scientific approach is different from the learning approach used in the previous curriculum, where in the scientific approach there are steps in the learning process. Scientific steps in the integrated thematic learning process include: observing, asking, reasoning, trying and communicating. This is in line with the Ministry of Education and Culture (2013) stating that a scientific approach is one in which learning includes these components: observing, asking, reasoning, trying/creating, presenting/communicating. The application of a scientific approach is expected to create learning conditions that encourage students to find out from various sources, not just told by the teacher. According to Majid, (2014) the integrated thematic learning process uses a scientific approach. This is intended to provide understanding to students in knowing, understanding various materials using a scientific approach, that information can come from anywhere, at any time not depending on the direction of the teacher's information. Therefore, the expected learning conditions created are directed to encourage students to find out from various sources of observation, not to be told. Fitriani, (2014) also explained that teachers are the key in efforts to achieve quality improvement in education through the student-based learning model with a scientific approach. This means that the teacher gives freedom to students to explore their knowledge through the activities of observing, winning, trying, reasoning and then communicating the knowledge they have acquired.

The reality that occurs that the learning process by the teacher shows: 1) tends to a one-way style, 2) lack of opportunity for students to find their understanding, 3) have not been able to present learning as a whole lesson, 4) lack of giving or confronting students with a problem, 5) the teacher is lacking in conditioning the classroom, 6) the teacher is not yet maximal in using the learning approach in the classroom and there are still some scientific steps that have not been maximally implemented, such as the teacher has not given feedback to students in the learning process (asking), the teacher is lacking linking existing knowledge with life that is relevant and real for students (trying), and the teacher has not allowed students to communicate/tell what they have learned to the front of the class (communicating). The main problem in learning formal education is the low absorption of learners or students (Fitria, 2013). Besides that, the facts also show that the teacher does not guide all students in the exercise, the teacher only gives guidance to some students, and the teacher does not guide students to do the task independently because there are still students who ask their friends. If the learning conditions described above are allowed to continue, they will have negative implications on student learning outcomes in integrated thematic learning at the Bukittinggi City elementary school. To overcome the above conditions it is necessary to find a solution through classroom action research, namely applying a scientific approach as an effort to improve student achievement (learning outcomes) in integrated thematic learning. Hope can make students think critically, creatively, actively and pleasantly in learning by providing student-centred learning, allowing students to practice their communication skills. The teacher who is professional in carrying out the learning process considers several aspects which are oriented towards the development of students and the way of thinking of students (Fitria et al., 2018).

Methods

This study uses a class action research (CAR) by using qualitative and quantitative data analysis with the research subjects of students in grade II of the 15 elementary schools (Public Elementary School) in Bukittinggi City. Classroom action research is research conducted by the teacher in his class through self-reflection, to improve his performance as a teacher, so that the achievement of the results of the learning process can run well or increase student competency (Fitria, 2017) The flow of the Kemmis & Mc Taggart model (Kunandar, 2011) consists of four stages, namely (1) planning, (2) implementation, (3) observation, and (4) reflection. Research data is in the form of observations, interviews, and tests of integrated thematic learning with the Scientific Approach. The data is about matters relating to the planning and implementation of learning related to teacher and student behaviour which includes learning interactions between teacher-student, student-student, and students in integrated thematic learning. The data source of this research is an integrated thematic learning process with a scientific approach, including learning planning and learning

implementation. Data were obtained from the subjects studied namely, teachers and students of grade II Public Elementary School.

Data collection techniques were done by observations and tests. Observations were made to observe the class setting of integrated thematic learning with a scientific approach. Based on the observation sheet, the researcher observed what happened during the learning process. The test is used to strengthen the observation data that occurs in the classroom, especially in the mastery of learning material items from student elements. The research instruments were collected based on observations of lesson plans, implementation of learning actions from the teacher and student aspects, and tests were done of the assessment of processes and learning outcomes. Data collection activities lasted for a week.

Results and Discussion

Cycle I Results

The results of the study at the first meeting include data planning, observation, implementation, and reflection. Planning: in the form of integrated thematic learning using a scientific approach arranged and realised in the form of a learning plan. This learning plan was arranged collaboratively between researchers and class II teachers. Implementation: on Thursday for day-1; learning begins with the teacher asking students to observe images of the Garuda Garni Pancasila on display by the teacher. In the questioning step, the teacher motivates students to ask questions about the picture displayed by the teacher. In the reasoning step, the teacher asks questions and answers with students explaining the symbols contained in the Garuda Gardasil. Then in the step of trying, the teacher asks students to imitate reading the text that has been read. Then in the communicating step, the teacher asks each group to come to the front of the class to demonstrate the results of group crafts. Observation;

a. Observation of Learning Implementation Plan

Based on observers' observations, the composition of the Lesson Plan components that researchers made was improved. The observations made by the observer of the Lesson Plan format obtained an assessment percentage of 80.6% with a good level of success.

b. Learning Implementation

The teacher has displayed pictures related to the material in front of the class. The teacher has provoked students to ask questions about the images in the student book. The teacher has conducted questions and answers with students about the garuda Pancasila picture The

teacher has guided students in reading the text. Also, the teacher has guided students in delivering the results of group crafts in front of the class in an easy to understand language. The results of observations of teacher activity obtained an assessment percentage of 68.8% with less success rate.

Reflection results: From the reflection in the first cycle of meeting 1, it was concluded that the learning objectives expected in the first cycle of meeting 1 had not been achieved properly. Thus, the improvement of integrated thematic learning with the scientific approach of the researcher continued in the first cycle of the second meeting by taking into account the obstacles encountered in the first cycle of the first meeting. The obstacles encountered in the first cycle of the first meeting were corrected in the first cycle of the second meeting.

The results of the study at the second meeting include data planning, observation, implementation, and reflection. Planning: the action in the first cycle of meeting 2 was done as an effort to overcome the problems in learning that were found in the first cycle of meeting 1. This learning plan was arranged collaboratively between researchers and class II teachers based on the steps of a scientific approach. Implementation: held on Tuesday. This was a step observing students observe images relating to the second principle of Pancasila, then students asked about images relating to the second principle of Pancasila. Then the reasoning activities of students explained the meaning of the second symbol of Pancasila. Students made pencil cases in groups determined by the teacher. Then students tell the results of the group craft to the front of the class. Observation:

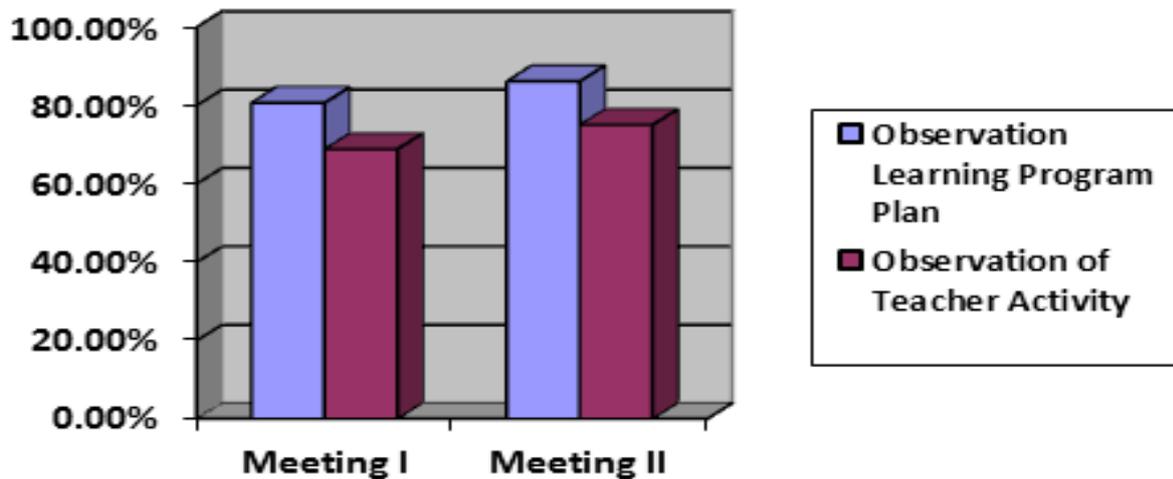
a. The lesson plans in the learning cycle I of meeting 2 were good, but there were still some shortcomings and obtained an assessment percentage of 86.1% with a good level of success.

b. Implementation of learning

Teacher activities in learning activities in this cycle have increased compared to the first cycle of meeting 1. The observations made by observers of the activities of teachers in the learning activities of the cycle I meeting 2, obtained a percentage of 75% assessment with a sufficient level of success. Student activities in the learning activities of cycle 1 of meeting 2 had increased compared to the first cycle of meeting 1, and obtained an assessment percentage of 75% with less success rate.

For more details on observing lesson plans and teaching activities in the first cycle can be seen in the graph below:

The Graph I. Observation data on lesson plans and teaching activities in cycle I



Reflection results: From reflection on the first cycle of meeting 2, it was concluded that learning had increased compared to the previous meeting, but there were still some shortcomings. Thus, with the improvement of the thematic learning process integrated with the scientific approach, the researcher continued in cycle 2 by taking into account the obstacles encountered in cycle I of meeting 2. The constraints encountered in cycle I of meeting 2 were corrected in cycle II.

Cycle II Results

The First Meeting

1. Planning; Planning an integrated thematic learning implementation using a scientific approach was arranged and realised in the form of a learning plan. This learning plan was arranged collaboratively between researchers and class II teachers.

2. Implementation: on Wednesday for learning day 1. The step of observing began with the teacher asking students to observe pictographs of vegetables displayed by the teacher in front of the class. The teacher provoked students to ask questions about the picture displayed by the teacher. In the reasoning steps, the teacher asked questions and answers with students explaining the data presented in the form of pictographs. Then in the step of trying, the teacher asked students to fill in the pictograph graph in the front of the class. Then in the communicating step: the teacher asked each group to come to the front of the class to demonstrate the results of the basil cucumber that had been made.

3. Observations

a. Observation of the Learning Implementation Plan

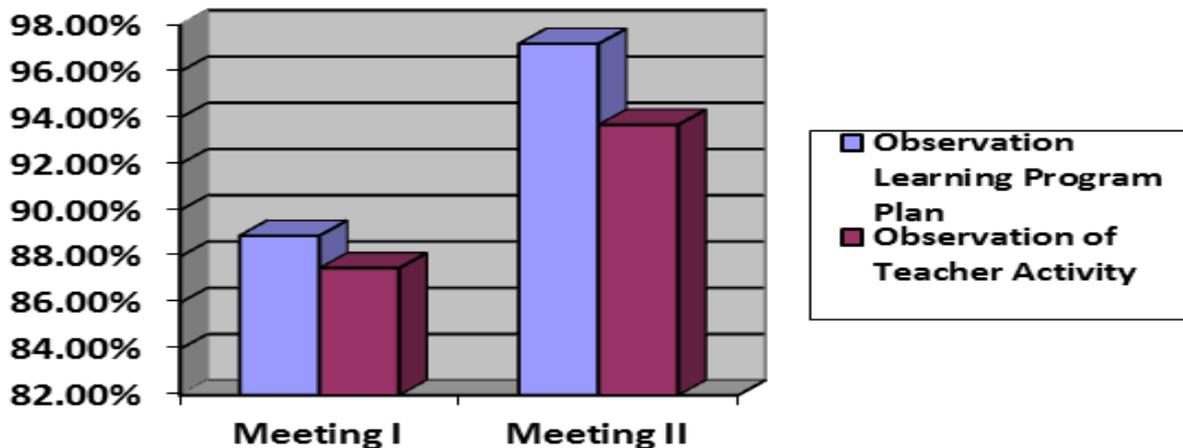
Based on the observers' observations, the composition of the Lesson Plan components that researchers made was improved. The observations made by the observer of the Lesson Plan format obtained an assessment percentage of 88.9% with a good level of success.

b. Learning Implementation

The teacher displayed pictographic pictures related to the material in front of the class. The teacher provoked students to ask questions about pictographic drawings. The teacher conducted questions and answers with students regarding pictographic drawings. The teacher guided students in filling pictograph data in front of the class. Also, the teacher guided students in delivering the results of group crafts in front of the class in an easy to understand language. The results of observations of teacher activity obtained an assessment percentage of 87.5% with a good level of success.

More details on observing lesson plans and teaching activities in cycle 2 can be seen in the graph below:

Graph 2. Observation data on lesson plans and teaching activities in cycle II



Reflection

From reflection on the first cycle of meeting 2, it was concluded that the learning objectives expected in the second cycle of meeting 1 were achieved well. Thus, an increase in integrated thematic learning with the scientific approach of the researcher continued in the second cycle

of meeting 2, by taking into account the obstacles encountered in the second cycle of meeting 1. Obstacles encountered in cycle 2 meeting 1 were improved in cycle 2 meeting 2.

Second Meeting

1. Planning: Planning an integrated thematic learning implementation using a scientific approach was arranged and realised in the form of a learning plan. This learning plan was arranged collaboratively between researchers and class 2 teachers.

2. Implementation

Cycle 2 meeting 2 was held on Thursday, April 21, 2016, for 1 learning day. The step of observing began with the teacher asking students to observe pictures of class activities. In the questioning step, the teacher provoked students to ask questions about the images in the student book.

In the reasoning step, the teacher asked students to mention ways to maintain class cleanliness. Next to the step in trying the teacher asked students to practise how to maintain class cleanliness. Then in the communicating step, the teacher asked each group to come to the front of the class to read poetry.

3. Observations

a. Observation of Learning Implementation Plan

Based on the observers' observations, the composition of the Lesson Plan components that researchers made was improved. The observations made by the observer of the Lesson Plan format obtained an assessment percentage of 97.2% with a very good level of success.

b. Learning Implementation

The teacher displayed pictures related to the material in front of the class. The teacher had provoked students to ask questions about the images in the student book. The teacher conducted questions and answers with students regarding class cleanliness. The teacher guided students in cleaning the class. Also, the teacher guided students in reading poetry in front of the class in an easily understood language. The results of observations of teacher activities obtained an assessment percentage of 93.7% with a very good level of success.

4. Reflection

From the reflection in the previous cycle, it was concluded that the learning objectives expected in cycle 2 of meeting 2 were very well achieved. Thus, an increase in integrated thematic learning with a scientific approach had increased.

Discussion

Cycle I

Learning planning in the form of a lesson plan: This is as revealed by Majid, (2014) that the lesson plan is a plan that describes the procedures and organisation of learning to achieve one basic competency set in the content standard and has been spelled out in the syllabus. The observation and assessment of integrated thematic learning lesson plans with a scientific approach in the first cycle was already in good criteria. But there were still some descriptors that had not yet appeared. Among them, the selection of teaching materials was not by the ruffle of teaching materials. For the next meeting, the teacher, in choosing teaching materials, adjusted even more to the wrangling of teaching materials. Learning material was a breakdown of the main material that contained facts, concepts, principles, and relevant procedures, and was written in the form of items by the formulation of competency achievement indicators. The selection of learning media was not by the learning objectives. For the next meeting in the selection of learning media, the teacher had to adjust to existing aspects. The media was the aid in the learning process for delivering learning material (Faisal, 2014). Learning methods are also not appropriate with the learning objectives so that learning that takes place is less meaningful for students. It is better if at the next meeting the teacher is more creative in adjusting the learning method with the learning objectives.

According to the Ministry of Education and Culture (Faisal, 2014), the learning method is a breakdown of learning activities, used by the teacher to create a learning atmosphere and learning process so that students reach the KD which is adjusted to the characteristics of students and the KD to be achieved. The learning conducted by the teacher is also not by the predetermined time allocation causing the teacher to use other subject hours at the end of the lesson; therefore at the next meeting, the teacher must adjust the time allocation that has been set so that learning takes place on time. According to Haryati, (2007) the estimated time needed to reach one KD, taking into account: the level of material difficulty, the scope of the material, the frequency of use of the material, the level of importance of the material being studied, as well as the way of delivering the material.

The implementation of integrated thematic learning with a scientific approach found several things to consider as follows: in the initial activity researchers have not been able to ask

challenging questions to students to test the extent of students' abilities in previous learning. The teacher forgot to convey the plan of observation activities so students did not understand the activities to be carried out; students always ask what activities will be carried out. The teacher had not been able to master the class because the teacher was only focused on the material presented, so the classroom conditions were noisy and many students talked with their friends. The teacher did not implement the learning according to the planned time allocation, and the teacher took too long to give the students time to do the exercises. The teacher had not been able to carry out the steps of the scientific approach as expected. In closing activities, the teacher had not carried out follow-up by giving direction to the next activity and the task of enrichment, and the researcher only asked about the conclusion of learning but in the end, the researcher concluded the learning, not the students. At the core activity of the assignment of instructional material the teacher did not present material systematically (easy to difficult, from concrete to abstract). Sometimes teachers were still convoluted in delivering material so that there was material that was delivered previously. The teacher did not yet implement contextual learning. Involving students in learning, the teacher did not show interpersonal relationships so that there were still students who had not been well remembered by researchers. Students were unable to show active participation in learning, while in the 2013 curriculum students must be active compared to teachers; teachers are only as facilitators in learning. Students were not been able to carry out learning by the steps of the scientific approach while students must carry out learning by the steps of the scientific approach.

Cycle 2

Planning

The plan of implementing the learning in cycle 2 increased from the planning of learning in learning cycle I. The plan for implementing learning in cycle 2 has very good qualifications. The implementation of learning in cycle 2 was presented in a 1 x meeting (5 x 35 minutes). The learning plan for learning in cycle 2 increased: (a) indicators used operational verbs, (b) learning objectives were detailed and clear, (c) assessments were clear, detailed and complete.

Based on observations and evaluations of the Lesson Plan of integrated thematic learning with a scientific approach in the second cycle has increased from the previous cycle, namely, the criteria were very good. It's just that the selection of teaching materials is still not by the content of teaching materials. This is because researchers do not fully understand how teaching material should be drawn in integrated thematic learning. According to Haryati, (2007) before implementing the learning process, a teacher is obliged to make and provide learning materials. Learning material is one component in the learning system that plays an

important role in helping students achieve the indicators that have been set in basic competencies. The selection of learning media is not by the learning objectives. For the next meeting in the selection of learning media, the teacher had to adjust to existing aspects.

Based on the data analysis conducted by the observer on the observation sheet Lesson Plan cycle 2, the observer obtained an average of 93.1% with very good qualifications. Based on the data exposure process and learning outcomes described above, researchers can be used as a basis for improving student learning development. The process and results obtained by students in learning can be used by teachers as a guide in analysing student learning progress in an integrated thematic learning process. From the process and results obtained in cycle 2, the implementation of cycle 2 has been carried out very well and researchers have succeeded in increasing integrated thematic learning with a scientific approach in class 2 PUBLIC ELEMENTARY SCHOOL Bukittinggi city. This is stated by Mulyasa, (2014) that in terms of results, the learning process is said to be successful if there is a positive behaviour change in the students themselves or at least most (80%). The results of data analysis on the implementation of integrated thematic learning with a scientific approach in the second cycle obtained an average of 90.6% with very good criteria on teacher activities, and on student activities with an average of 90.6% with very good criteria.

Based on the data presented above it is known that the learning process has increased due to an increase in terms of planning the implementation of learning. According to Sagala, (2012) "the learning process is methodologically rooted in the part of the educator, namely the teacher, and the pedagogical learning process occurs in students ". Furthermore in the form of teaching and learning interactions in an educational atmosphere, namely interactions that are conscious of the goal, the interaction that has been planned for a particular goal is at least the achievement of instructional goals or learning objectives that have been formulated in the unit of study.

Conclusion

This research concludes that in thematic learning with a scientific approach it has been able to provide a change in the student learning experience. All students' potentials both physically and non-physically (thinking/reasoning activities) develop well. Teacher actions that condition students' learning experiences involve sensory eyes and ears and their mental activities can provide learning that is more satisfying to students. The stages of action in the classroom action research cycle can change the teacher's understanding of the nature of students learning well. The teacher acts as a facilitator and mediator in learning and students are more given the opportunity to learn experience directly through a scientific approach.

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