

Implementation of Thematic Learning Through the Scientific Approach of Fifth Grader

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Received: 2023-05-22	Thematic teaching is an approach oriented to learning practices that are in accordance
Published: 2023-07-07 Keywords: Thematic-Integrated Learning; Scientific Approach; Elementary School.	with the needs of child development. The thematic learning approach emphasizes more on the application of the concept of learning by doing. This article aims to analyze the implementation of scientific approaches in thematic learning of fifth grader. The scientific approach carried out in the 2013 curriculum and in the revision stage to perfect it provides a lot of enlightenment about the appropriate and effective learning process. Through five stages of the learning process with a scientific approach, namely; Observing, questioning, reasoning, trying, and communicating are expected by students to obtain a meaningful learning process. So that it can equip students in facing the rapid development of the times. The reasoning of the students is quite diverse. Teachers are expected to provide understanding and explanation with language according to the background of students. Reasoning from facts that exist during observation is connected with the experience of learners. The participation of teachers who continue to accompany and guide makes discussion activities run effectively and efficiently. It is appropriate as a teacher to equip themselves with various insights and knowledge about this scientific approach to find various innovations in the learning process. The creation of a meaningful learning process cannot be separated from the learning process in elementary school. Deep experience can equip the next generation to be able to compete in various areas of life.
Artikel Info	Abstrak
Sejarah Artikel Diterima: 2023-05-22 Direvisi: 2023-06-15 Dipublikasi: 2023-07-07 Kata kunci: Pembelajaran Tematik; Pendekatan Saintifik; Sekolah Dasar.	Pembelajaran tematik merupakan suatu pendekatan yang berorientasi pada praktik pembelajaran yang sesuai dengan kebutuhan perkembangan anak. Pendekatan pembelajaran tematik lebih menekankan pada penerapan konsep belajar sambil melakukan konsep tersebut (learning by doing). Artikel ini bertujuan untuk menganalisis implementasi pembelajaran tematik melalui pendekatan saintifik pada siswa kelas V SD. Pendekatan saintifik yang terdapat dalam kurikulum 2013 dan dalam tahap revisi kembali guna menyempurnakannya memberikan banyak pencerahan mengenai proses pembelajaran yang tepat dan efektif. Melalui lima tahapan proses dalam pembelajaran dengan pendekatan saintifik yaitu; mengamati, menanya, menalar, mencoba, dan mengkomunikasi diharapkan peserta didik dalam menghadapi pesatnya perkembangan jaman. Penalaran peserta didik kelas tinggi cukup beragam. Guru diharapkan memberikan pemahaman dan penjelasan dengan bahasa sesuai dengan latar belakang peserta didik. Penalaran dari fakta yang ada selama pengamatan dihubungkan dengan pengalaman peserta didik. Peran serta guru yang terus mendampingi dan membimbing menjadikan kegiatan diskusi dapat berjalan efektif dan efisien. Sudah sepatutnya sebagai guru membekali diri dengan berbagai wawasan dan pengetahuan mengenai pendekatan ilmiah ini untuk menemukan berbagai inovasi-inovasi dalam proses pembelajaran di sekolah dasar. Pengalaman yang mendalam dapat membekali generasi penerus untuk mampu bersaing dalam berbagai bidang kehidupan.

Improving the quality of education is needed at this time so that the goals of national education can be achieved. For this reason, as teachers have an obligation to provide quality and adequate educational services for every student we teach and can solve all learning problems in the classroom. Learning problems in the classroom are still experienced by many teachers. For example, there is still the assumption of thematic learning that is very boring for students. This also happened at SDN Dinoyo 3 Malang. The preliminary study was conducted at SDN Dinoyo 3 Malang in Lowokwaru District, Malang City. Preliminary studies were conducted to determine the gap between real conditions and ideal conditions in thematic learning and the problems that exist in the learning. The interview was conducted on February 2, 2023 with class V teachers. Based on the results of the interview, it was concluded that in thematic learning where the scope of material is wide and often memorized, the learning still refers to textbooks, thus making students feel bored which eventually students tend to be silent.

On February 6, 2023, researchers made observations by observing the thematic learning process taking place in class V of SDN Dinoyo 3 Malang. At that time, it was found that class V courage in expressing the students lacked results of the answers they had and the students' learning outcomes were still lacking. This is shown by the presence of symptoms including: 1) when the teacher explains the teaching material there are students who prefer to draw; 2) play alone; 3) talk to his deskmates, and occasionally notice when the teacher gives a warning or reprimand; 4) when the teacher asks questions verbally, there are only 5-8 students answering, while the other students just shut up and listen; 5) Students seem afraid and nervous in answering questions; 6) some sit lazily; 7) During the teaching and learning process, the teacher only uses the lecture method in explaining. "Teachers never use any learning model when explaining. This is considered effective and not time-consuming." said the grade V teacher when interviewed by researchers.

As a result of the use of learning methods and models that teachers use less effectively, it triggers students not active in speaking, and bored in participating in thematic learning. This is evident from the average results of daily and midterm 2 tests that have been shown by class V teachers with the following results; score 65 (3 students), grade 70 (7 students), grade 73 (10 students), grade 77 (3 students), grade 80 (5 students). Even though the KKM (minimum passing grade) in the school is 75. It is clear that there are still many students whose scores are below KKM.

Akbar et al (2016: 2) stated that thematic learning is an approach oriented to learning practices that are in accordance with children's developmental needs. The thematic learning approach emphasizes more on the application of the concept of learning by doing. Students conduct and carry out their own search process and conclude the results according to their respective abilities and competencies. This leads to the implementation of scientific work carried out by the 2013 curriculum.

This is corroborated by Majid (2014: 195) revealed that the scientific approach emphasizes collaboration and cooperation among students in solving every problem in learning. Therefore, teachers must create learning that refers to process standards that contain exploration, elaboration, and confirmation. The process by prioritizing the conditions of students who behave scientifically by being jointly invited to observe, question, reason, formulate, conclude, and communicate. Students can master the material learned well. In addition, Prastowo (2013: 15) strengthens that effective learning can be done interactively, inspirationally, motivatively, fun, and exciting so that it can encourage students to be active, initiative, creative, and independent. This scientific approach is applied to provide enlightenment in the creative, innovative, and fun learning process for students in conducting learning that is directly carried out by students. Learning that maximizes student creativitymakes learning more meaningful for teachers and students.

The meaningful learning created is supported by teachers who have the ability to manage learning both in terms of material, techniques and learning models, as well as classroom management. The management of material with the world of children's lives provides a lot of ease for students to understand and get to know more deeply and this has been launched by the government in the 2013 curriculum. Learning in the Thematic Curriculum directs the material by bringing the child's world closer to learning. Majid (2014: 4) stated that thematic learning by raising themes that are close to students' lives and their environment will provide meaning. This is because it meets the needs, interests and talents of students so that it helps in completing the work or for their future. Mudiono (2010: 90) stated that teaching and learning is an activity that has educational value.

Teaching and learning activities supported by media and tools as a variety of learning resources provide a lot of help to students to gain an understanding of the material learned. Mudiono (2010: 90) stated that learning resources are useful tools in teaching and learning activities. These tools can represent something that teachers can't convey through words or sentences. The use and application of teaching materials must also consider the characteristics of students.

The characteristics of elementary school students have a tendency to be more psychomotor development, so that they move more and activate all five senses to explore the environment. In line with that, Piaget stated that in the period of development, the age of 7-11 years (periods II and III) is the time when children extract information from concrete objects and process it holistically (Crane, 2007: 182). Learning that maximizes the senses of sight, smell, touch, hearing, and taste is very helpful for students to organize students' knowledge and relate to one another to form new understanding. Teachers cannot provide only knowledge but must build the knowledge of learners in their own minds (Slavin, 2006: 243). This became the basis of the constructivist view. Constructivists who lead to the initial understanding of learners and build new understanding. Smaldino (2011: 13) states that constructivism considers the involvement of students in meaningful experiences as the essence of empirical learning. It moves from passive transfer of information to passive problem solving and discovery. For this reason, a teacher is required to have the right learning management ability in every process.

Each learning process of students with different experiences and knowledge forms unique characteristics in each individual learner. Chatib (2009: 12) states that the character in every human being who is born into this world in different circumstances, from one another The learning process created is required to be able to facilitate the unique differences of each student so that all are involved in the learning process. A learning process that maximizes students to actively provide learning experiences that support their understanding. As stated by Gardner, and Wilis (in Santyasa, 2005) a person is said to understand if he can show the performance of understanding at a higher level of ability both in the same context and in different contexts. Another opinion from Yulaelawaty (2002) revealed that understanding is a standard tool for educational programs that reflect competence, so as to lead students to become competent in various fields of life. Thus, understanding is one of the fundamental elements of education in order to achieve educational goals. In the process of understanding carried out in learning using a scientific approach, it is carried out by students and teachers themselves as facilitators not main actors.

The scientific approach launched in the 2013 curriculum follows the development of students who have changed in rhythm with the times. Dananjaya (2013: 29) stated that curriculum changes were also followed by changes in the teaching paradigm to a learning paradigm where teachers became facilitators (screenwriters) while learning was centered on students so as to create a lively, fun, and interactive classroom atmosphere. This is because students are encouraged to work together to achieve goals, help solve problems and exchange ideas. The same is expressed by Hudson (2013: 250) in his book that an integrated curriculum is a curriculum that is oriented to; 1) make students the center of the learning process, 2) connect learning with the real world in the student environment, 3) inter-content connections that provide opportunities for students to have their own perspectives, and 4) shape/generate innovative ideas for students.

Learning that provides opportunities for students to do, interact, and discover for themselves makes the learning process itself more effective. The role of a teacher as a facilitator who continues to accompany and direct students to get maximum results from the learning process. The process of learning by following the process standards of the integrated thematic curriculum 2013 with its scientific approach provides a major role in the world of education, especially in high grades , in this case grade V elementary school which is still patterned on holistic thinking and according to the context of their life background. Therefore, the author conducted a study entitled "Implementation of Thematic Learning through a Scientific Approach of Fifth Grader".

II. METHOD

The type of research used in this study is qualitative descriptive research. The research procedure consists of, 1) problem determination, the problem is based on initial observations related to basic literacy; 2) determination of titles; 3) determine the focus of research, the focus of research to be researched is how to plan, implement, and supporting factors and inhibition of basic literacy skills; 4) research phase, qualitative descriptive research that aims to uncover and describe and map facts based on perspectives or frameworks; 4) data collection stage, data collection using interview, obser-

vation and documentation data collection techniques; and 5) Data analysis, after all the data collected is then carried out data analysis, researchers use Miles and Huberman data analysis, namely data reduction, data presentation, and conclusions. Data collection was obtained from the Principal and homeroom teacher. Research data were collected by interviews, observations, and documentation studies. 1) The interview activity, in the interview begins by asking permission from the Principal to interview grade V teachers, which aims to obtain more information about scientific approaches in thematic learning at SDN Dinoyo 3 Malang. 2) Observation, Observation is a data collection technique carried out by observing objects to be studied, analyzed, and recorded findings at the research location. their Researchers will observe how plans, processes, and supporting factors and obstacles in implementing basic literacy at SDN Dinoyo 3 Malang and 3) Documentation, in this study researchers will use documents, photos/videos, audio recordings of interview results, and small notes that can support the truth of the interview results

This study uses analysis techniques from Miles, and Huberman described in (Sugivono, 2017), which consists of 1) Data Collection, 2) Data Reduction, 3) Data Display, and 4) Conclusion drawing/verification. Tests on qualiresearch include trust, tative reliability, dependability, and certainty. Credibility tests are conducted by observation, increased diligence in research, triangulation, discussion with colleagues, negative case analysis, and member examination. This transferability is related to the extent to which research results can be applied or used in other social contexts and situations. The dependability test is carried out by auditing the entire research process. Testing affirmability means trying the results of research related to the procedure performed. If the results of the research are a function of the process carried out, then the research has met the affirmability standard.

III. RESULT AND DISCUSSION

Learning that provides opportunities for students to do, interact, and discover for themselves makes the learning process itself more effective. The role of a teacher as a facilitator who continues to accompany and direct students to get maximum results from the learning process. The process of learning by following the process standards of the integrated thematic curriculum 2013 with its scientific approach provides a major role in the world of education, especially in high grades, in this case grade V elementary school which is still patterned on holistic thinking and according to the context of their life background. The steps that can be taken to provide the best service for students with this concrete and holistic age period background are as follows.

A. Observe (*Mengamati*)

Observing is an activity carried out using the five senses. Observing activities prioritize the meaningfulness of the learning process *(meaningfull learning)*. This method has certain advantages, such as presenting media objects in a real way, students are happy and challenged, and easy to implement (Majid, 2014: 211). This activity provides students to fulfill their high curiosity, so that the learning process gives more meaning and binds students in the next process. Learners can observe using all their senses; sight, smell, hearing, touch, and taste. Students must also know how to investigate in a variety of different contexts (Hudson, 2013: 135).

The principles in observing according to Majid (2014: 214) are as follows;

- 1. Careful, objective, and honest and focused on the object observed for the benefit of learning.
- 2. The more or less homogeneity or heterogeneity of the subject, object, or situation observed, the more difficult it is to observe it. Before observation is carried out, teachers and students should determine and agree on the method and procedure of observation.
- 3. Teachers and students need to understand what to record, record, and the like, as well as how to make notes on the observatory gains.

The implementation of observing can be carried out anywhere and anytime. A teacher is expected to provide opportunities for students to do this activity openly, provide opportunities for students to carry out activities such as; see, listen, hear, and read. The role of a teacher facilitates students to carry out observe activities and trains them to be able to focus on these activities. For example, when observing healthy and unhealthy environments, in this case connected with the closest context, it can be landfills and school environments. Of course, the teacher must give and invite students to first determine the right procedures and methods and what senses are used to observe this environment. In its implementation, it will be more focused and not experience obstacles that can hinder observation activities later.

B. Inquired (Menanya)

The questioning activity is a continuation of the observation activity. Each individual has a different level of curiosity, for that as a teacher must be able to inspire students in improving and developing it. The world of knowledge is growing rapidly starting from question after question raised with the development of science as the answer. Trianto (2007: 110) states that the knowledge that a person has, always starts from 'asking' which is the main strategy that is contextually based. Asking questions in learning is a teacher activity to be able to provide encouragement, guidance, and one of the tools to evaluate the success of the learning process. Hudson (2013: 134) reinforces the above opinion through his book that elementary school-age students need to be taught the ability to think, inquiry, the ability to develop practical investigative questions, and the ability to predict eventual possibilities.

The function of asking according to Majid (2014: 216) is as follows:

- 1. Arouse the curiosity, interest, and attention of learners about a theme or learning topic.
- 2. Encourage and inspire learners to actively learn and develop questions from and for themselves.
- 3. Diagnosing students' learning difficulties while delivering designs to find solutions.
- 4. Structure tasks and provide opportunities for students to show their attitudes, skills, and understanding of the substance of learning given.
- 5. Awaken the skills of didk participants in speaking, asking questions, and giving answers in a logical manner, sitematis, and using good and correct language.
- 6. Encourage student participation in discussing, arguing, developing thinking skills, and drawing conclusions.
- 7. Build an attitude of openness to give and receive opinions or ideas, and enrich vocabulary and develop social tolerance in group life.
- 8. Familiarize students to think spontaneously and quickly, and be swift in

responding to problems that suddenly arise.

9. Practice politeness in speaking and awaken the ability to empathize with each other.

In addition, the questions asked by students must also be directed and focused so that good and targeted questions are produced in the learning process that has been planned by the teacher. The criteria for a good question according to Majid (2014: 217-219) are as follows:

- 1. Short and clear.
- 2. Inspire answers
- 3. Have focus
- 4. Probing or divergent
- 5. Validative or reinforcing
- 6. Give learners the opportunity to think again
- 7. Stimulates increased cognitive ability guidance
- 8. Stimulates the interaction process

C. Reasoning (Menalar)

According to Majid (2014: 223) reasoning is a logical and systematic thinking process of empirical facts that can be observed to obtain conclusions in the form of knowledge. Reasoning here leads to the activity of collecting information data that has been generated during observing activities which is then associated with the memory of students so that there is an interaction between the latest experience and previous experience to become a new understanding to add new information or the latest experience. From the reasoning process, there are 2 ways to reason, namely inductive reasoning and deductive reasoning (Majid, 2014: 228). Application development of learning activities to improve the reasoning power of students can be done bv:

- 1. Teachers compile learning materials in a form that is ready in accordance with the demands of the curriculum.
- 2. The teacher does not apply much lecture method or lecture method. The main task of the teacher is to give short but clear instructions accompanied by examples, either done alone or by simulation.
- 3. Learning materials are arranged in tiers or hierarchical, starting from simple (low requirements) to complex (high requirements).
- 4. Results-oriented learning activities that can be measured and observed.

- 5. Any errors must be corrected or corrected immediately.
- 6. It is necessary to do repetition and practice so that the desired behavior can become a habit or practice.
- 7. Evaluation or assessment is based on real or authentic behavior.
- 8. The teacher records all the progress of learners for the possibility of providing remedial learning actions.

D. Try (Mencoba)

The next step is to try. This trying activity is carried out to obtain real and authentic study results in accordance with the data that has been obtained. Through this experiment, learners can develop knowledge about the surrounding environment, especially those related to the surrounding nature. The role of a teacher in this activity is certainly needed. This is because with maximum assistance and guidance, students are able to use scientific methods and be scientific to solve various problems in everyday life.

There are 3 stages in conducting this experiment according to Majid (2014: 232).

- 1. Preparation which includes activities to determine goals, prepare tools and materials, place experiments, consider safety and health issues, provide explanations of what must be considered and the stages that must be done by students.
- 2. The implementation carried out by students with the assistance and guidance of teachers as facilitators. The role of the teacher in the implementation is the key to success in the experiment. The teacher should provide encouragement and assistance to the difficulties faced by learners and pay attention to the overall situation.
- 3. Follow-up in this case is the activities carried out after implementation, namely; collection of reports of experimental results by students and examination of experimental results by teachers, so that teachers can provide feedback to students and discuss further problems found during the experiment. It can also provide opportunities for teachers and students to examine the results of the activity as a whole so that general data is obtained that leads to complete conclusions.

E. Communicate (Mengkomunikasikan)

Communicating is done after everything is done. Teachers are expected to provide opportunities for students to communicate what they have learned. This activity can be done through writing down or telling what is found in the activities of seeking information, associating and finding patterns. These results are presented in class and assessed by the teacher as the learning outcomes of students or groups of students. The activity of "communicating" in learning activities is to convey the results of observations, conclusions based on the results of analysis orally, in writing, or other media.

In the integrated thematic learning guidelines of the 2013 curriculum states that communicating activities emphasize learning activities Students to present ideas, creative models / products and provide explanations / demonstrate the results of problem solving, development, new ideas, conclusions in oral form, writing, diagrams, charts, pictures or other media in class / outside the classroom. This activity provides opportunities for students to be able to develop their confidence and systematic grammatical management both in writing and orally in the delivery of ideas and findings. Other learners can develop an attitude of respecting opinions and thinking critically and systematically. This will certainly be very useful in the life process of students in a community environment.

IV. CONCLUSION AND SUGGESTION

A. Conclusion

The approach required in the 2013 curriculum is a scientific approach that provides opportunities for students to develop and improve the ability to be scientific in the learning process carried out by relating the material taught, with students' real-world situations and motivating students to make connections between the knowledge they have and their application in life. Seven main components of learning, namely: *constructivism, inquiry,* questioning, *learning community,* modeling, *reflection,* and *autentic assessment*) (Nurhadi.2009:37). This appears in integrated thematic learning activities with a scientific approach.

High-class students will be more enthusiastic if they are invited directly to real objects. One of the lessons with the theme "*Panas dan Perpindahannya*" can be started by taking students around observing the school environment. This is certainly interesting for students. They do not feel they are learning, so there is no boredom in them to participate in this activity. But beforehand, teachers must give directions on the activities to be carried out in observing, for example looking at the cleanliness of the school, recording findings during touring, working with couples or groups, and maintaining order during the tour. Briefing and clarification of this activity will have a positive impact during observing activities. Students will carry out according to instructions from the teacher. They tried to take notes and look directly but did not cause a commotion because they had been briefed beforehand.

The next activity is to ask. This activity can be started with teacher questions such as "Does anyone want to ask questions after seeing our school?", "How do you feel about seeing the condition of our school environment?", and other questions that provoke students to ask questions. Teachers can direct questions that must be asked, such as directing to the themes of environment, hygiene, health, and beauty. Student questions are directed to focus on learning material so that time and learning are more effective. Focused questions provide an advantage in the process of finding answers to these questions. The focus of the question affects the next activity, namely reasoning.

The reasoning of high-grade learners is quite diverse. Teachers are expected to provide understanding and explanation with language according to the background of students. The terms that appear trigger a lot of curiosity of learners. A good teacher is a teacher who has broad insight into the concepts in the lesson content. But sometimes a teacher experiences ignorance of something. Teachers should not try to trick learners. A teacher who is forthright in a way that remains educative will be more appreciated and respected by students, otherwise if there is an explanation that is not basic will be the basis of the concept received by students. This will certainly make students continue to understand things that are not basic in the future. There are many ways that can be used to give a statement such as "How about we look together at home, can ask father and mother, brother, or from other media". That is

one that a teacher can say if he experiences the unknown.

Reasoning from facts that exist during observation is connected with the experience of learners. The teacher acts as a facilitator and tentor. Direction and mentoring during reasoning activities are needed so that the results of reasoning are focused on the theme. The dirty school environment, the presence of garbage piled up in the backyard, and the number of flies flying, and others can be a record. From the records of these students, a teacher is expected to provide an understanding of cleanliness and its relationship with health. Many ways can be used to keep students active, for example by providing a stimulus that triggers students' thinking and previous experience or knowledge. Experience regarding cleanliness in the home and community environment can help students in reasoning activities. This relationship gives learners a connection between statements with one another, thus helping them in drawing tentative conclusions to be tested.

The next stage is to try. Trying is an activity done to find out more about something. This activity can be done in class or outside the classroom. Place and time vary according to the level of the experiment itself, whether it takes longer or one study. One example that can be done in the environmental theme is to put smelly garbage in the environment around the school. Through this experiment, learners will see for themselves how smell, sight, and emotions they experience during the experiment. Smelly litter attracts flies and mosquitoes. The smell that pierces the nose is certainly uncomfortable to study. This condition makes discomfort in following the learning process. This can lead students to decide what to do so that environmental conditions return to comfort and health. In this experiment, teachers can instill positive morals and attitudes. Attitudes in handling, preventing, and applying in life in any environment. This can certainly provide an immersive experience to better maintain cleanliness. When applied by students in everyday life, this learning process is more meaningful than just reading and looking at pictures.

This trying activity will provide valuable experience for students. They experience firsthand how garbage can interfere with their learning activities. Teachers must be able to provide guidance and direction to learners in order to express their feelings and experiences during this experiment. Teachers conduct guidance and direction without intimidating the sentences of learners. Providing opportunities for students can provide comfort for them to freely express their ideas and opinions. With freedom of opinion will provide broad opportunities for students to express themselves. This will certainly have a positive impact on their development in expression.

The results of each learner's opinion can be discussed together. Discussions that begin in pairs will be more effective. Students who will give opinions in front of many people are not easy. Students who have different backgrounds certainly have different confidence. It begins with a discussion in pairs or groups, giving students practice to speak to express their opinions. Students reveal in front of the class more trained. The role of teachers in this discussion activity is very large. This is because teachers have the authority to condition students who present their conclusions and also students who become listeners. The listener's attitude is also targeted in the assessment. How to respect someone's opinion that is appropriate or not in accordance with his opinion.

The participation of teachers who continue to accompany and guide makes discussion activities run effectively and efficiently. Students become bound to stay tuned to these activities without feeling left out. They get equal opportunities in expression. The crowd that occurred was not a commotion but a positive debate between students with one another. A crowded but harmonious class in communicating provides positive learning on how to behave in deliberation in other environments. The teacher also becomes a facilitator to be able to draw appropriate final conclusions. Diverse opinions are drawn to serve as the final conclusion of the overall activity.

For this reason, a teacher is expected to be able to improve the ability of students through a learning process that prioritizes students as the center of learning. Their opportunity to find and find their own problems in the learning process certainly provides opportunities for students to solve them themselves. This activity can be implemented in the lives of students, especially in facing the challenges of the development of the era of globalization and increasingly rapid advances in technology and science. It is appropriate as a teacher to equip themselves with various insights and knowledge about this scientific approach to find various innovations in the learning process. The creation of a meaningful learning process cannot be separated from the learning process in elementary school. Deep experience can equip the next generation to be able to compete in various areas of life.

B. Suggestion

Discussion regarding this research is still very limited and requires a lot of input. Suggestions for future authors are to study more deeply and comprehensively about the Implementation of Thematic Learning Through the Scientific Approach of Fifth Grader.

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