Improving Students' Application Ability Through Contextual Learning Approach in Students of Smp 8 Yogyakarta

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Abstract

The results of observations at SMP 8 YOGYAKARTA, especially class III, show that learning science is a traditional approach. The teacher uses most of the available time to explain the subject matter. Students listen and take notes. Learning is also textual, the teacher reads the curriculum to find out the concepts that must be taught then the teacher reads a textbook about the concept and teaches it to students. In addition, the teacher in giving examples is not based on real experiences experienced by students but based on textbooks, so students are less able to apply the learning outcomes of aqidah morals in everyday life. This can be seen clearly during the discussion, students are indeed active in giving opinions or answering questions, but students argue and answer questions according to what is in the book or it can be said that the teaching and learning process is textual. As a result, the learning outcomes are memorized so that students cannot apply or apply science learning outcomes in everyday life as stated in the Class III 2013 curriculum. Applicative ability is one of the students' abilities in applying their learning outcomes at Bloom. taxonomy, including C3. (Cognitive-3, namely application), then the applicative ability is developed into five abilities which include 1) the ability to use scientific methods to solve moral problems, 2) the ability to apply concepts to solve other problems, 3) the ability to design/make simple technology, 4) the ability to produce simple products, 5) the ability to relate lessons to the field of work. With these five applicable abilities, students will get learning outcomes that are very useful for their lives now and in the future. Students' applicative abilities can be improved by changing the learning approach, textual learning patterns need to be replaced with contextual learning patterns. Contextual learning according to Duran Corebima (2003: 18) allows students to develop and apply their academic knowledge and skills in various school environments and outside of school, in order to solve problems in the form of simulations and in the form of real problems.

Keywords: Education, contextual learning, and Students

A. Introduction

A. Background

Elaine B. Johnson (2003: 1-2) identified eight main elements of CTL, namely:

A. Meaningful learning, namely learning is seen as something relevant or useful for life.

b. Application of knowledge is the ability to see how something that has been learned applies to other environments and is useful now or in the future.

c. Active learning means that students actively solve various problems, look for alternative answers and are able to compare so that learning outcomes will last a long time

d. Working together, namely students in learning not only alone but they learn together with their friends so that in addition to learning about lessons, they also learn to socialize.

e. High level thinking, where students are required to use critical and creative thinking when collecting data, understanding a problem, or solving a problem.

f. Standards-related curriculum i.e. teaching content related to various local, regional and national standards, as well as association and/or industry standards.

g. The cultural responsibility is that educators must understand and respect the values, beliefs and customs of students and society.

h. Authentic assessment, namely the use of many valid assessment strategies that reflect the actual results expected by students. The assessment includes assessing student projects and activities and using portfolios, rubrics, lists or tables, and observation guides, and encouraging students to be active participants in assessing their own learning outcomes and using assessments to improve their writing.

According to Nurhadi (2003: 5) contextual learning is understanding

in the teaching and learning process that views the importance of linking subject matter with students' real lives and encouraging students to connect their knowledge with its application in everyday life, involving the seven main components of effective learning, namely: constructivism, question and answer. . .), discovery (inquiry), learning community (learning community), modeling (modeling) and real assessment (authentic assessment).

Based on the description above, it can be seen that through contextual learning students practice solving various problems in everyday life. They are invited to carry out discussion and inquiry activities to solve problems and find things through real activities, so that learning outcomes are expected to be a provision for students.

B. Problem Identification

Science learning in semester 1 of the 2020/2021 academic year at MI Al Mujahidin Gumalar mas ih uses a traditional learning approach with the lecture method. So that learning has not made a real contribution to students or it can be said that students have not been able to apply learning outcomes in everyday life. Seeing this, we need a learning approach that can activate students as well as make a real contribution to students' lives, this approach is a contextual learning approach.

The contextual learning approach according to Nurhadi (2003: 5) is an understanding in the teaching and learning process that views the importance of the relationship between subject matter and students' real lives and encourages students to connect knowledge and its application in their lives. daily life, involves seven components. The main aspects of effective learning are constructivism, question and answer, inquiry, community learning, modeling and authentic assessment.

Based on the description above, the following problems can be identified:

1. Science learning at MI Al Mujahidin, especially in Class III, still uses traditional approaches and textual learning so that the learning outcomes are textual, although the value is high, the students' applicative ability in everyday life is still low.

2. The context used in learning the morality of aqidah is not varied, that is, only in the classroom.

C. Problem Formulation

After describing the description of the background and identification of problems in this study, operationally the formulation of the problem is:

1. How is the improvement of students' Applicative Ability in Class IV science learning?.

2. What contexts do students choose in science learning with CTL in class IV science lessons?

3. How is the student's ability to learn science through the CTL stages in science learning for class IV? Which steps can be carried out? And which stage is difficult to implement?

4. How is the student's ability to master science learning with CTL?

5. What are the obstacles experienced by students in learning contextually in science learning?

D. Research Objectives

1. Improving students' applicative abilities in learning science class IV

2. Identify the context used by students in learning science class IV

3. To find out the students' abilities in learning science class IV

4. Improving the ability of Class III students in science subjects through the stages of CTL learning

5. Identifying student barriers to science learning the solution so that the approach can be applied and worked well at MI Al Mujahidin Gumalar, Tegal Regency.

E. Research Use

1. Improve students' ability to apply their learning outcomes in their daily lives.

2. Improving the ability of teachers in developing learning methods, especially the contextual learning approach (CTL)

3. Provide input to school principals to make improvements and improvements in providing facilities and infrastructure in science learning.

F. Literature Review

1. Contextual Learning

Contextual Teaching and Learning (CTL) Approach

developed from constructivism (Piaget in Muslimin, 2003: 4). The main idea is to relate learning activities and problems to the daily context of children and apply them in the real world (Alan B, 2002: 1). Children learn from the real world where the knowledge learned will be used. The theory of meaningful learning (Meaningful Learning) suggests that students learn from everyday problems that are beneficial for their lives.

Contextual learning approach is an understanding of the process

learning that views the importance of the relationship between subject matter and students' real lives and encourages students to connect their knowledge with its application in everyday life, involving seven subjects. effective learning components, namely: constructivism. (constructivism), questioning, inquiry, community learning, modeling and authentic assessment. (Nurhadi, 2003: 5)

2. Applicative Ability

Applicative ability is one of students' abilities in applying their learning outcomes, in Bloom's taxonomy including C3 (cognitive) namely application, applicative abilities are developed into five abilities which include:

a. Ability to Use Scientific Methods to Solve Science Problems

It is a student's ability to apply the seven components of the scientific method which includes: formulating problems, solving problems, planning experiments or observations, making observations, tabulating data, analyzing data and drawing conclusions in solving problems related to the concept of crosses and increasing crop production.

b. Ability to Apply Concepts to Solve Other Problems.

So that students have the ability to apply concepts to solve other problems, the activities carried out always expose students to the problems that occur in students' lives. Students are invited to solve su one problem. (Sifak Indana, 2003:7). Likewise in this study, to improve students' ability to apply the concepts learned to solve problems by providing various daily problems related to science learning.

c. Ability to Connect Learning With Field of Work

It is a student's ability to relate the concept of crossbreeding and increasing food production in the workplace. The indicators used to determine this ability are students' interest in work related to the concept of crossing and increasing food production and also to students' ability to solve problems related to the concept of crossbreeding and increasing food production.

3. Learning Context

Contextual learning approach using multi-context (Blanchard, 2000:5

6), which means using various settings, both places, problems and skills in various contexts. The context in this case according to Slamet Suyanto (2003) is very varied, covering the following aspects:

1. Mosque 6. School 11. Factory 16. Airport
2. Urban 7. Family 12. Warung 17. Village Office
3. Market 8. Community 13. Warnet 18. Terminal
4. Mosque 9. Office 14. Wartel 19. Hospital
5. Hotel 10. Bank 15. Puskesmas 20. Beach, etc.

4. Community Utilization

CTL requires the support of all components of society in learning activities. In order for learning to be in accordance with the context, namely the real conditions of society, an active role from the community and the world of work is needed. Society is a source of learning, a source of problems, and a place for learning activities. Communities, rice fields, gardens, forests, and other workplaces learn. Doctors, farmers, breeders, planters are examples of resource persons in learning activities. The community in a broad sense as above is expected to be able to help with their expertise or expertise in teaching students.

Utilization of the community for learning activities has many advantages. First, students learn to live a real life, as stated by John Dewey (in Muslimin, 2002: 16) that learning is life itself. Students can feel how difficult it is to make a living. This will lead to a frugal and modest attitude. The two students do not learn to see (learning to know), but also learn by doing (learning to do) and learning to be (learning to be). After one day a field of work or business, students aspire to become entrepreneurs in that field, for example becoming a modern farmer.

5. CTL Implementation Techniques

According to Slamet Suyanto (2003: 8-9) there are four main ways to apply contextual learning. The first is to link learning to the calendar. The calendar reflects the annual activities of the state and society. For example, Kartini's mother's day, is used to train students to write letters like the one written by Kartini's mother. For example, a letter of concern for the surrounding environment and alternative solutions that are expected to be sent to the President or the Minister of the

Environment. Calendars can also be associated with seasons. The rainy season is very good for studying mold and lichen, because at that time a lot of mold and mildew grows.

The second way is to link learning problems with life problems around school. For example, near the school there is a rice field with a beautiful view inscribed with the words thoyibah.

The third way is to link learning problems with problems faced by students. Students have problems, talents, aspirations. Connect what is learned to the needs of students. For example, when studying Asmaul Husna, the teacher asks questions about students' aspirations so that students can connect Asmaul Husna with the work that the student wants.

The fourth way is to connect teaching materials with existing fields of work in the community. By learning what science needs to become a doctor, teacher, cleric, ulema, police, TNI, regent, sub-district head, and lurah. Students can learn science from doctors, teachers, police and others. Learning from this context is expected to encourage students to aspire to become doctors, teachers, ustadz and others.

6. Implications of Contextual Approaches in Science Learning

The application of a contextual approach in the science learning process in the classroom, in the field and in the laboratory according to Nurhadi (2003: 10) is to apply the seven main components of the CTL approach and implement them according to Nurhadi. not hard. CTL can be applied in any curriculum, any field of study, and in any class under any circumstances.

There are five elements (Zahorik in Nurhadi, 2002: 7) that must be considered in the practice of contextual learning and this study uses learning elements that are integrated with seven main components, namely: constructivism, question and answer, inquiry. , learning community (learning community), modeling (modeling) and actual assessment (authentic assessment). (Nurhadi, 2003: 10), the five elements.

A. Activating Knowledge (activation of existing knowledge)

Knowledge is built by humans little by little, the results are expanded through a limited (narrow) context and not suddenly. This thinking is an application of the

constructivism component (constructivism) in CTL. Knowledge is not a collection of facts, concepts or rules that are ready to be taken and remembered (Nurhadi, 2003: 10). Knowledge must be activated to acquire new knowledge. Humans must construct that knowledge and give meaning through real experience.

b. Gaining Knowledge

Gain new knowledge by learning everything first, then paying attention to the details. Inquiry is a core part of CTL activities (Nurhadi, 2002: 12). The next steps for discovering new knowledge are:

1. Formulate the problem

2. Observing or making observations

3. Analyze and present the results in the form of writing, pictures, reports, charts and other works.

4. Communicate or present the work to readers, classmates, teachers, and other audiences.

Furthermore, according to Nurhadi (2002: 13), the knowledge that a person has always starts from "asking", asking is the main strategy of CTL-based learning.

c. Understanding Knowledge

Understanding science by compiling:

1. Temporary concept

2. Share with others to get that response

3. Concept revised and developed

Learning outcomes are obtained from sharing between friends, and between those who know and those who do not. This is the application of the concept of a learning community, which means that learning outcomes are obtained from collaboration with others (Nurhadi, 2002: 16). There are certain skills or knowledge models that can be imitated. Well, here is a component modeling application. In CTL teaching, the teacher is not the only model. Models can be designed by involving students.

d. Applying Knowledge (practicing knowledge and experience)

Learning occurs when knowledge is presented in the context of its use. The teacher's role here is to carry out teaching by always encouraging students to connect what they learn with the knowledge and experience they have before and connect it

to the phenomena of everyday life. Furthermore, students are encouraged to build conclusions which are students' understanding of the concepts / theories they are learning.

e. Reflecting Knowledge (reflecting knowledge)

Reflection is also an important part of learning with the CTL approach. Reflection is a way of thinking backwards on what has been done in the past (Nurhadi, 2003: 18). Reflection is a response to events, activities, or newly received knowledge.

Furthermore, at the end of the lesson the teacher leaves a moment for students to reflect, the reality is:

1. A direct statement about the things he got that day
2. Student notebook or journal
3. Students' impressions and suggestions about the day's learning
4. Discussion
5. Work

F. THEORY FRAMEWORK

1. Contextual Learning Approach

The contextual learning approach in this study uses a learning scenario that refers to the Zahorik principle (in Nurhadi, 2003: 7) which has five stages of learning, namely:

A. Activating Knowledge (activation of existing knowledge)

b. Acquiring Knowledge (acquisition of new knowledge)

c. Understanding Knowledge

d. Applying Knowledge (practicing knowledge and experience)

e. Reflecting Knowledge (reflecting knowledge)

2. Applicative Ability

Applicative ability is one of the students' abilities in applying their learning outcomes, in Bloom's taxonomy including C3 (cognitive-3) namely application, which includes 1) the ability to use scientific methods to solve science problems, 2) the ability to apply concepts to solve other problems, 3) the ability to design / create simple technology, 4) the ability to produce simple products, 5) the ability to relate lessons to the field of work.

3. Learning Context

Context is a place or problem that students use in learning to gain knowledge related to the concept being studied.

G. Framework

1. Contextual learning approach is an understanding in the teaching and learning process that views the importance of the relationship between subject matter and students' real lives and encourages students to connect their knowledge with its application in everyday life, involving seven main components, namely effective learning, namely: constructivism, question and answer, inquiry, community learning, modeling and authentic assessment. The stages of learning with a contextual learning approach are activating knowledge.), acquire knowledge (understand knowledge), apply knowledge (apply knowledge), reflect knowledge (reflect knowledge). Taha This learning is used in learning to develop students' applicative abilities.

2. In contextual learning, the combination of the material studied with the daily context of students will produce the basics of in-depth knowledge where students will be able to apply the knowledge they have acquired in real life. One of the characteristics of the contextual approach is learning through various contexts.

3. The teaching and learning process by applying knowledge in real life can familiarize students with learning in real life. Applicative ability is a very meaningful ability for life.

4. Application of the contextual learning approach is expected that students are able to apply the knowledge gained through activities that reflect real life in their lives. In addition, the application of a contextual learning approach is expected to improve student learning outcomes starting from the magnitude of the influence of learning, the right context in science learning, students' ability to learn science through contextual learning stages and responses to contextual. . study.

H. Research Method

1. Research Type

Is a Type of Classroom Action Research

2. Approach

The design of this research is classroom action research with research subjects Class IIIMI Al Mujahidin Kab. Tegal Academic Year 2021/2022. This

research consists of two cycles of action. Cycle I used the concept of Tayibah and Asmaul Husna sentences. Cycle II uses the concept of God's Books. Data on students' applicative abilities were obtained through observation, written tests and worksheets. Context usage data was obtained through student observation and questionnaires. Data on the ability of students to learn science through contextual stages were obtained through observation, worksheets and written tests. Concept mastery data obtained from the results of the pretest and posttest. Data on inhibiting factors were obtained from student questionnaires and interviews with teachers.

3. Data sources

Sources of data used in this study:

1. Student Work Results

2. Interview Results

3. Documentation Results

4. Observation Results

I. Action Hypothesis

Based on the things above, the hypotheses of action in this study are: Students' applicative abilities can be improved through contextual learning.

J.Data Analysis

Analyzing data is organizing and sorting data into patterns, categories and basic units of description so that themes can be found that match the data.

Data analysis stages

Data reduction: because the data obtained in the field is very large, the selection of data that is really important and basic is carried out

Presenting data: the data obtained from the reduction results are presented in the form of narration, graphs, matrices, networ etc.

Drawing conclusions and Verification: providing conclusions from the activities carried out

To find out if there is an increase in learning outcomes, it is analyzed by comparing the percentage of learning completeness results with the lecture model in cycle 1 with the percentage of learning mastery results with a contextual approach in cycle 2

Percentage: P= Number of Students Completed X100%

Total number of students

B. Discussion

1. Action Results Cycle I

Biology learning with CTL in the first cycle of learning concepts

Crossing, learning is actively followed by 35 students. The first cycle of learning is carried out in 9x35 minutes. The first cycle learning activities include:

1. Conducting question and answer activities, to activate students' prior knowledge (Activating Knowledge) about the context of problems that exist around students related to the material to be studied in this case is the concept of crosses to find solutions.

2. Observing using genetic discs, students observe the phenotypic characteristics of themselves, their parents and friends. Then map it on the genetic disk and then the genetic number will be known then compare the genetic number and connect numbers that are far away with adjacent numbers, so that the closeness of their kinship will be known. With this activity students gain new knowledge (Acquiring Knowledge).

3. Conducting practical activities, this activity is carried out in groups using genetic buttons. This activity begins with the preparation of media and initial guidance from the teacher regarding the implementation of practical activities. This activity is a modeling of the process of crossing a red four o'clock flower with a white four o'clock flower, this practicum uses a genetic button model with consideration because it is not possible to carry out real object activities due to time, tools and knowledge that are not possible. With this activity students have new knowledge about the possible outcomes of a cross between red and white flowers (Acquiring Knowledge).

4. Conduct class discussions, namely sharing the results of the practicum. This activity begins with a presentation from each group and then a discussion is held to clarify the results, the teacher in this case acts as a guide and guide the discussion so that the discussion can run smoothly. This activity aims to make students understand a problem correctly (Understanding Knowledge).

5. Making simple work, this activity is carried out by students by making genetic discs and being creative according to the ability of each student to fill in other traits / characteristics that are different from the previous genetic disc or students making modifications to the genetic disc. This activity trains students to be creative in producing a work and to be able to apply the knowledge they have gained (Applying Knowledge).

6. Reflection is held after learning, this activity is carried out to determine the development of knowledge obtained by students during learning.

C. Concluding Remarks

A. Conclusion

From the results of the analysis and discussion in this study, it can be taken Conclusion as follows:

1. With a contextual learning approach students' applicative abilities develop. In the concept of crosses, the applied abilities that developed were the students' ability to apply concepts to solve other problems by 85.8%, the students' ability to relate concepts to work by 83.3%, the students' ability to use scientific methods to solve biological problems, by 77.31%, students' ability to produce simple products is 75.4%, students' ability to design simple technology is 58.9%. While the applicative ability to the concept of increasing food production that develops is the ability of students to use scientific methods to solve biological problems by 87.3%, students' ability to apply concepts to solve other problems by 93.6%, students' ability to relate concepts to work by 86.9 %, students' ability in designing simple technology is 79.5% and the ability to produce simple products is 76.9%.

2. Contexts that can be used and selected by students in learning the concept of crossbreeding biology with a contextual approach are schools, agriculture, families, communities, plantations, and fisheries. While the contexts used and selected by students in learning biology the concept of increasing food production using a contextual learning approach are agriculture, community, schools, plantations, and fisheries.

3. Students can learn biology through the stages of a contextual learning approach, namely the stages of activating prior knowledge (activating knowledge),

acquiring new knowledge (acquiring knowledge), understanding knowledge (understanding knowledge), practicing knowledge (appliying knowledge) and reflecting (reflecting). knowledge).

4. Students' ability to master concepts is increased by using CTL. In the concept of crossing students' mastery of concepts by 83% while in the concept of increasing food production by 86%.

5. Barriers experienced by students in learning biology contextually are related to just

a. Activating initial knowledge, students are not used to expressing their knowledge before learning, to overcome this problem the teacher needs to arouse students' enthusiasm to express their knowledge by using the brainstorming method.

b. The acquisition of new knowledge, students in practicum activities still seem less serious, for that teachers need to conduct intensive guidance.

c. Understanding knowledge, in discussion and presentation activities not all students are involved, to overcome this the teacher needs to give enthusiasm and encouragement to students who have not been actively involved in discussion activities.

d. Practicing knowledge, students' creativity has not been maximized in practicing the results of their knowledge, to overcome this, teachers need to design learning models that stimulate students' creativity in practicing the results of their knowledge.

B. Suggestion

Contextual learning of biology with the zahoric model will work well as the results of this study, it's best

1. Teachers need to identify the right context before learning that is in accordance with the concepts being studied.

2. Activities that can be carried out to express students' knowledge are discussions and brainstorming models.

3. Biology teachers should design learning activities that can encourage students to learn biology directly with experts and can motivate students to produce simple products.

C. Research Limitations

1. There is no assessment descriptor at the time of observation of practicum activities

2. Teachers do not really understand the concept of contextual learning

3. Students still seem not serious in learning biology contextually

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