

Improving Motivation and Results of the Digestion System Learning Using STAD Cooperative Learning Model Assistant Problem Cards

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Abstract

The problem in this study was the low motivation and learning outcomes of science in the material of the digestive system. This type of research is Class Action Research conducted in two cycles, each cycle consisting of two meetings. The action of cycle 2 is based on the results of reflection on cycle 1. Actions in cycle 2 must be different from cycle 1. The technique of collecting data uses tests, student questionnaires, and observations from researchers and collaborators. The research subjects were class VIIC students at Salaman 1 Junior High School in the Academic Years 2018/2019. The results of the motivation study showed an increase from low observation on pre-cycle to 10 students achieving a Very Good Predicate (SB) motivation value in cycle 1 and becoming 18 students who received Very Good Motivation (SB) scores. Knowledge learning outcomes have increased from 40.74% completed KKM (80) in pre-cycle to 77.78% students in cycle I and 88.89% in cycle II. The mean value of knowledge increased from 76.64 in pre-cycle to 76.43 in cycle I and 86.07 in cycle II. The realm of learning outcomes in skills experienced an increase from 55.56% of complete KKM (80) in pre-cycle to 44.44% of students in the first cycle and 88.89% in the second cycle. The average skill score increased from 85.72 in pre-cycle to 88.35 in cycle I and 89.59 in cycle II.

Keywords: *motivation, learning outcomes, STAD, Question Card, worksheet.*

Background

Science subjects study life phenomena so they should be interesting to learn. Moreover, science is a subject that is tested nationally. But in reality for many science subjects there are still many students whose grades are below the KKM. Daily test scores on the previous material -the motion system-, from 28 students in class VIIC who achieve KKM scores were only 11 students or 39.29%, while 17 students or 70.37% did not achieve KKM. Based on observations and teacher notes it is known that student learning motivation is low. The low motivation and learning outcomes are thought to be due to the factors of students who feel burdened and the factors of teachers who have not found the right model to motivate and improve learning outcomes.

Efforts to overcome the low value of motivation and student learning outcomes are carried out using cooperative learning models. Cooperative learning models can improve student performance in academic assignments so that they can increase motivation which will improve academic learning outcomes. The learning model that will be applied is Student Teams Achievement Divisions (STAD). According to Slavin (2015) the STAD learning model consists of 5 main components namely class presentation, teamwork/group work, quiz/test, individual progress score, and recognition.

Based on the description in the background of the problem, the formulation of the problem in this Classroom Action Research is: 1) how the implementation of learning using the STAD cooperative model with Question Card can increase the digestive system learning motivation and results in class VIIC students Junior High School of Salaman 1 in Academic Years 2018/2019?; 2) how much increase in digestive system learning outcomes after learning is given using the STAD cooperative model assisted by Question Cards in class VIIC students Junior High School of Salaman 1 in Academic Years 2018/2019?; 3) how is the behavior change that accompanies the increase in digestive system learning outcomes after being given learning using the STAD cooperative model assisted by the Problem Card in class VIIC students Junior High School of Salaman 1 in Academic Years 2018/2019?

The Classroom Action Research Objectives are: 1) describing the implementation of learning using the cooperative STAD model assisted by the Problem Card can increase the digestive system learning outcomes and motivation in class VIIC students Junior High School of Salaman 1 in Academic Years 2018/2019?; 2) describe improvement in learning outcomes of the digestive system after being given learning using the cooperative model STAD assisted by Question Cards in class VIIC students Junior High School of Salaman 1 in Academic Years 2018/2019?; 3) describe behavioral changes that accompany the increase in digestive system learning outcomes after learning is given using the STAD cooperative model assisted by Question Cards in class VIIC students Junior High School of Salaman 1 in Academic Years 2018/2019?

Theoretically, this research is expected to be able to offer a solution in science learning, especially the Digestive System in class VIIC students Junior High School of Salaman 1 in Academic Years 2018/2019 through the application of the STAD cooperative learning model assisted by Question Cards so as to increase student motivation and learning outcomes. This research is also expected to be used as a basis for further research.

Foundation Of Theory And Hypotheses Of Action

The theoretical foundation in this study includes the following: learning motivation, science learning outcomes, and Student Team Achievement Divisions (STAD) learning models.

1. Understanding Learning Motivation

Sardiman (2001) says that motivation to learn is the overall driving force in students that creates learning activities that ensure continuity of learning activities and give direction to learning activities so that the objectives desired by the subject of learning can be achieved. Further said that motivation is a power or strength that arises from within students to provide readiness so that the set goals have been achieved.

Uno (2010) states the nature of motivation to learn is internal and external encouragement to students who are learning to make behavioral changes, in general with several indicators or elements that support. It has a big role in one's success in learning. Learning motivation indicators can be classified as follows: (1) the existence of desires and desires succeed; (2) there is encouragement and need for learning; (3) future hopes and aspirations; (4) appreciation in learning; (5) there are interesting activities in learning; (6) the existence of a conducive learning environment that allows a student to learn well

2. Science Learning Outcomes

Learning according to Slameto (2013) is a business process carried out by a person to obtain a change in new behavior as a whole as a result of his own experience in interaction with the environment. Learning outcomes are abilities that students have after receiving their learning experience. These abilities include cognitive, affective and psychomotor aspects. Learning outcomes can be seen through evaluation activities that aim to obtain evidence data that will show the level of students' ability to achieve learning goals.

Nana Sudjana (2009) student learning outcomes in essence is a change in behavior as a result of learning in a broader sense covering the fields of cognitive, affective and psychomotor. There are three aspects of learning outcomes, namely; (1) cognitive aspects are abilities related to thinking, knowing, and solving problems; (2) affective aspects are abilities related to attitudes, values, interests, and appreciation; (3) psychomotor aspects which include goals related to motor skills.

In the 2013 curriculum, especially for the junior high school level, there were a number of changes to the learning of Natural Sciences, including the concept of integrative science. The concept of cohesiveness is demonstrated in Core Competencies (KI) and Basic Competencies (KD), which in one KD has combined the concepts of Natural Sciences from the fields of Biology, Physics, Chemistry, and Earth and Space Sciences (IPBA). This change certainly has an impact on the learning process of Natural Sciences. For this reason, a Natural Science Study Manual is needed so that learning can be oriented to applicative abilities, the development of the ability to think, curiosity, and the development of caring attitudes, as well as being responsible for the social and natural environment. Natural Sciences is also intended for the introduction of the surrounding biological and natural environment, as well as the introduction of various advantages of the archipelago. Students can gain hands-on experience through learning Natural Sciences, so that students can receive, store, process information, build and apply concepts that have been learned, and be trained to be able to find themselves various concepts that are thoroughly studied (holistic), meaningful, authentic and active.

The learning approach used emphasizes process skills, utilizes science, environment, technology, and society as contexts.

The digestive system is taught in class VIII in the odd semester. This material consists of nutrition, structure of the digestive organs, digestive processes, and disorders of the digestive system.

3. STAD Cooperative Model

Priansa (2015) Model is a conceptual framework that is used as a guide in carrying out an activity. Learning model is a conceptual framework that describes a systematic and planned procedure in organizing the learning process of students so that learning objectives can be achieved effectively.

Ibrahim in Trianto (2012) states that cooperative learning models are developed to achieve three learning objectives, namely; academic learning outcomes, acceptance of diversity, and development of social skills. Cooperative learning aims to achieve academic learning outcomes, can improve student performance in academic tasks.

Slavin (2015) states that the Student Teams Achievement Division (STAD) model consists of the following stages of learning activities: 1) Class presentations, 2) Teams/group work, 3) Quizzes/tests, 4) Individual progress scores, and 5) Team recognition/group awards.

4. Question Card

Hamalik (2011) suggests that the use of learning media in the teaching-learning process can arouse new students' desires and interests, generate motivation and stimulation of learning activities and even bring psychological influences to students. By using a question card, students are expected to be more interested, challenged, and responsible.

Learning media used are question cards that are expected to be able to directly help and stimulate students to actively know the subject matter in the digestive system material.

5. Framework of thinking

By applying the cooperative learning model of the Student Team Achievement Division (STAD) in the Digestive system. Science subjects it is hoped that students will always be directly involved in interesting and fun learning. If students are involved and feel happy, they are expected to be interested in the material discussed, namely the digestive system so that it can foster motivation in learning.

6. Action Hypothesis

The formulation of the hypothesis in this study is to use the Cooperative Card-assisted STAD cooperative model in learning that it is expected to be able to: 1) improve the learning effectiveness of class VIIC students in Junior High School Year 2018/2019 in the Digestive System, 2) improve learning outcomes of class VIIC students in Junior High School Year 2018/2019 in the Digestive System, and 3) increase the learning motivation in class VIIC students Junior High School of Salaman 1 in Academic Years 2018/2019 in the Digestive System.

Research Methodology

1. Research design

This research is class action research (PTK) or Classroom Action Research. Classroom Action Research is a type of research to improve the quality of classroom learning. In this study planned two cycles. Each cycle consists of four components, namely: planning, action, observation, and reflection. Planning and action activities are carried out by the teacher as a researcher, observation activities are carried out collaboratively with colleagues (as observers), namely as observers of teacher performance and observations of motivational attitudes, as well as reflection activities to discuss problems that arise from the implementation of actions and to find solutions to solutions. The procedure or action steps in this study include: 1) the planning stage, 2) the stage of implementation of the action, 3) the stage of observation, and 4) the stage of reflection.

2. Research subject

Subjects in this Classroom Action Research are Motivation and Learning Outcomes. Student learning motivation in this study was obtained from student questionnaires and observations which revealed perseverance in facing assignments, resilience in facing difficulties, showing interest in learning, boredom in facing routine tasks, and pleasure in finding and solving problems. Learning outcomes of students who are targeted for research are student learning outcomes in the realm of knowledge and skills.

3. Performance Indicators

The treatment of classroom action research is considered successful if: 1) learning using the STAD-assisted cooperative learning model of the Learning Card can create a conducive learning process, 2) with the STAD cooperative learning model with Question Card can improve the learning outcomes of students' knowledge and skills in material learning System Digestion. The success in this case is marked by an increase in learning outcomes up to 85% of students get a value of ≥ 80 or equal to 3.2 and 3) learning using the cooperative learning model STAD assisted by Problem Cards can increase students' motivation in learning the digestive system material. Success in this case is marked by an increase in student motivation to reach an average score of 3.00.

Findings and Discussion

1. Data and Discussion of Student Learning Motivation Questionnaire

Tabel 1 Comparison of Learning Motivation Questionnaire Results

No	Action	Value Actions on Indicators					Average
		1	2	3	4	5	
1	Cycle I	2,49	2,82	3,00	2,80	2,56	2,74
2	Cycle II	3,04	3,08	3,32	3,10	3,13	3,13
3	Increase	0,55	0,26	0,32	0,30	0,57	0,39

Tabel 2 Comparison of Results Observation of Student Learning Motivation

No	Score	Predicate	Siklus I		Siklus II	
			Jumlah	%	Jumlah	%
1	> 3,25 - 4,00	Very Good (SB)	10	37,04	18	66,67
2	> 2,50 - 3,25	Good (B)	17	62,96	9	33,33
3	> 1,75 - 2,50	Enough (C)	0	0	0	0
4	1,00 - 1,75	Less (D)	0	0	0	0
5	Average		3,02		3,16	

The average of each indicator based on the questionnaire above, generally increases from cycle I to cycle II. The highest increase occurred in indicator 5, which was Happy Looking for and Solving Problems increased by 0.57 from 2.56 to 3.13. Whereas based on observations also increased by 0.14 from 3.02 to 3.16. This is in accordance with the opinion of Uno (2010) which states the nature of motivation to learn is internal and external encouragement on students who are learning to make behavioral changes, in general with several indicators or elements that support. Use of the STAD model and help Question cards can increase student learning motivation.

2. Data and Discussion of Learning Outcomes in the Knowledge Sphere

Tabel 3 Comparison of KKM Achievement of the Inter-Cycle Written Test

No	Subject	Pre-cycle		Cycle I		Cycle II	
		Sum	%	Sum	%	Sum	%
1	Achieve KKM	11	40,74	21	77,78	24	88,89
2	Not achieve KKM	16	59,26	6	22,22	3	11,11
3	Average Value	76,64		76,43		86,07	

From the KKM achievement table the written test can be seen that the learning outcomes of class VIIIIC have increased from pre-cycle to cycle I. From initially 11 students or 40.74% achieved complete KKM in pre-cycle to 21 students or 77.78% achieved complete KKM in cycle I and becoming 24 students or 88.89% achieving complete KKM in cycle II.

3. Data and Discussion of Learning Outcomes in Skills

Tabel 4 Comparison of KKM Skills Between Cycle Skills

No	Subject	Pre-cycle		Cycle I		Cycle II	
		Sum	%	Sum	%	Jml	%
1	Achieve KKM	15	55,56	12	44,44	24	88,89
2	Not achieve KKM	12	44,44	15	55,56	3	11,11
3	Average Value	85,72		88,35		89,59	

From the table of results of skills assessment, it can be seen that the learning outcomes of class VIIIIC have increased from as many as 15 students or 55.56%

completed KKM in pre-cycle to 24 students or 88.89% completed KKM in cycle II. The completion of the KKM in the first cycle had decreased but the average value had increased from pre-cycle to cycle I and cycle II. From the original 85.72 in the cycle to 88.35 in the first cycle and to 89.59 in the second cycle. The decrease in cycle I may be due to students still not used to using the STAD learning model.

Based on the data and discussion above it can be concluded that the use of the cooperative model STAD assisted by the Problem Card can improve the learning outcomes of the knowledge and skills domain in the digestive system of class VIIC. This is in accordance with the opinion of Slameto (2013) which states that learning is a business process carried out by someone to obtain a change in new behavior as a whole as a result of his own experience in interaction with the environment. So that learning outcomes are influenced by learning experiences obtained from interactions with their environment. The use of the STAD model and the use of question cards provide learning experiences for students.

Conclusion

The cooperative model of STAD with the help of Question Cards can improve the learning process in class VIIC of Junior High School so as to provide learning experiences for students.

The STAD cooperative model with the help of the Question Card is able to improve the learning outcomes of the knowledge class of VIIC students in Junior High School from 11 students or 40.74% KKM completed in pre-cycle to 24 students or 88.89% in the second cycle so as to achieve classical learning. The STAD cooperative model with the help of Question Cards also improves the skills learning outcomes of class VIIC students in Junior High School from 15 students or 55.56% KKM completed in pre-cycle to 24 students or 88.89% in cycle II so as to attain complete classical learning. The average skill score increased from 85.72 in pre-cycle to 89.59 in cycle II.

The STAD cooperative model with the help of the Question Card was able to increase the learning motivation of class VIIC students at Junior High School from lack of motivation based on observations on pre-cycle to 3.02 in the first cycle and to 3.16 in the second cycle.

Suggestion

Learning STAD-assisted Card Problem models can increase the motivation and learning outcomes of the Digestive System in students in class VIIC students Junior High School of Salaman 1 in Academic Years 2018/2019 if learning takes place according to the learning syntax. Teachers and students must adhere to the learning syntax.

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