# Implementing Hidden Chart Media to Enhance Elementary Students' Learning Outcome in Science

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## Abstrak

The study aims to enhance students' learning outcome in science class by implement cooperative learning model with hidden chart media. Method of study is a classroom action research. The subject is a fifth grade, consisting of 25 students; 14 boys and 11 girls. The research instruments are test sheets, teacher and student observation sheets, and documentation files. The results show an improvement over each cycle. Teacher activity in first cycle was 70.83%, and increased to 79.17%. In second cycle was 91.67%, and increased to 95.83. Student activity in first cycle was 62.50%, and enhance to 75%. In cycle II was 83.33%, and enhance to 87.50%. The student's average score also shows improvement. The base rate is 59.60; increased to 70.72 at UH I, and increased to 79.04 in UH II. Based on these results, it can be concluded that the implementation cooperative learning model with hidden chart media can enhanceprimary students' learning outcomes in science.

**Keywords:** cooperative learning model, *hidden chart*media, science learning outcome

## 1. INTRODUCTION

Learning is a complex student action and behavior. Learning is a change of behavior or appearance with a series of activities such as reading, observing, listening, imitating and so forth (Rokayah*et al.*, 2016; Sardiman, 2007). By creating conducive class conditions during the learning process, the students are expected to be able to understand the concept and one of the important lessons to understand is science.

Science is the work of man in understanding the universe through proper observation of targets, and using procedures according to the rules, which are explained through reasoning to get a conclusion. While learning science is a process of learning the subject of learning in the events that occur in nature through a series of scientific processes to achieve the objectives of learning that has been established and to develop knowledge and understanding science concepts, to develop curiosity and to raise awareness to maintain, preserve and preserve the environment.

Based on data obtained that fifth grade students' science learning outcome is low. This is caused by several things, namely teachers still rarely use varied learning models, teachers still rarely use creative media to facilitate students' understanding of

the material, and teachers rarely engage students actively in learning activities. So, students feel bored and difficult to focus in learning activities, students are difficult to understand the material being studied.

Cooperative learning model is all types of group work led/ directed by teachers in a planned and systematic. Students will be divided into small groups of 4-6 students and learning activities will be directed by teachers so that students can be actively involved during the learning process (Rusman, 2012).

Using hidden chart gives positive impact for students that students become more active in the learning process and to motivate students to be interested and focused in the learning process so that students are able to understand the material being studied and student learning outcomes can increase(Putra, Suarjana, & Widiana, 2015). Media hidden chart is a media type chart that is delaying the delivery content or deliver the material gradually(Sukiman, 2012). Teacher explains the concept of science gradually that implements cooperative learning models that are collaborated with hidden chart media.

Learning outcomes are the behavioral changes that learners gain after learning. In this study, learning outcome is the result of learning science on the basic material of food digestion in humans in the form achievement students after learning (test scores), as well as learning outcomes are indicated by the change in student behavior towards a better (activity students category).

Science as a human effort in understanding the universe through proper observation of targets, and using procedures according to its rules, which are explained by reasoning to obtain a conclusion and commonly referred to as the natural sciences, the science associated with nature that studies about the events that occur in nature. Science learning is the process of learning the subject of learning in the events that occur in nature through a series of scientific processes to achieve learning objective that has been established.Science learning is directed to inquiry and doing so that it can help the students to gain experience and a deeper understanding of the environment. Achievement of science learning objectives is not only based on teacher direction in the learning process, but also active student involvement. One of the learning models that can make the students play an active role in the learning process is the cooperative learning model.

Cooperative learning model is a learning model that focuses on the use of small groups of students to work together in maximizing learning conditions to achieve learning objectives. The students are divided into small groups and directed to learn the subject matter that has been determined. The purpose of establishing cooperative groups is to provide opportunities for students to be actively involved in the thinking process and in learning activities. In this case most of the learning activities are centered on the students, learning the subject matter and discussion to solve the problem.

Implementation learning models that make students active, learning media are also used to motivate

students' interest in learning. The learning media is one of the learning resources that can be human, object, or event that is used to capture, process to reorganize the information so as to encourage the learning process in the students themselves (Arsyad, 2016).

This study uses a chart type that presents the message gradually, that is hidden chart or strip chart(Sukiman, 2012). Messages to be communicated are first poured into a single chart. The information is covered with a piece of paper and presentation of the covering paper one by one opened.

Applying cooperative learning model by using of hidden chart media in the learning process aims to improve science learning outcomes. Teachers as facilitators should always seek updates so that students do not feel tired in the learning process. The brain is very responsive to novelty, so the students are interested to give attention during the learning process and to seek their own information about the lesson material being studied(Ostroff W. L., 2012).This study aims to enhance primary students' learning outcome in science with implementation cooperative learning model by hidden chart media.

## 2. METHOD

This research was conducted in fifth grade elementary school students, with 27 students consist of 14 male students and 11 female students. The type of research used is classroom action research. Classroom action research is a learning activities reflection in the form of an act that is deliberately raised and occurs in a class (Arikunto, 2010). This study consists of two cycles, the first cycle consists of two meetings and one test with the main material of how the green plant makes its food, and the second cycle consists of two meetings and one daily test with the basic material of human and animal dependence on green plants. Instruments in this study consisted of daily test questions, teacher and student observation sheets, and documentation. Data collection techniques in this study are written test techniques, observation techniques, and documentation techniques. Data analysis techniques used are as follows:

### a. Teacher and Student Activity Analysis

Teacher and student activity analysis data is based on the results of the observation sheets that have been filled by observers to see the shortcomings during the implementation cooperative learning model with hidden chart media, where the deficiencies as a reflection for improvement at the next meeting. Data analysis for teacher and student activity calculated the total score obtained, then from the result is processed to get the percentage of activity by dividing score obtained with total score and multiplied hundred percent(Purwanti, 2009), written in formula as follows:

Nilai$=\frac{Scores\ obtained}{score\ maximum} X\ 100\ \%$

(Purwanto, 2009).

Tabel 1.Teacher and student activity category

| No | Percentage | Score | Categorize |
|----|-----------|-------|-----------|
| 1. | 86- 100% | 4 | Very good |
| 2. | 76- 85% | 3 | Good |
| 3. | 60 - 75% | 2 | Enough |
| 4. | ≤59% | 1 | Less |

**b. Individual Learning Outcome**

$S = \frac{R}{N} X\ 100$

Note :

S  = Expected score

R  = Obtained score

N  = Maximum score

**c. Achievement classical**

$KB = \frac{T}{Tt}$ x 100% (Trianto, 2009)

Note :

KB  = Classical achievement

T  = Successful students

Tt  = Total students

**c. Learning outcome improvement**

$$P = \frac{Postrate - Baserate}{Baserate} x100$$

(Zainal Aqib (2011)

Note :

P  : Improvement percentage

Postrate  : Score after implementation learning model

Baserate  : Score after implementation learning model

**3. RESULT AND DISCUSSION**

**a. Planning**

The planning stage is the beginning stage where at this stage the researcher prepares the equipment during the research such as syllabus, lesson plan, worksheet, evaluation questionnaire, teacher observation sheet and students, rubric of assessment of teacher and student observation sheet, encoding and basic score of student, and division of cooperative group.

**b. Implementation**

Implementation cooperative learning model with hidden chart media in this study using two cycles consisting of three meetings that are two action meetings and the last meeting for test.

**c. Students Learning Outcome**

To know the improvement students' learning outcomes in science in the first cycle and the second cycle, an analysis of the results of the end of the cycle to determine the students' learning outcomes individually. Primary students' learning outcomes in science from the first and second tests were improved. The result of science learning of students through cooperative learning model with hidden chart media on the fifth graders elementary school can be seen in table 2.

Tabel 2.Improvement students' learning outcome

| No | Data | Students | Average | Improvement percentage | |
|----|------|----------|---------|--------|--------|
| | | | | Test 1 | Test 2 |
| 1. | Basic score | 27 | 59.60 | 11.12 (18.66%) | 19.44 (32.62%) |
| 2. | Test 1 | 27 | 70.72 | | |
| 3. | Test 2 | 27 | 79.04 | | |

Based on Table 2.can be seen the primary students' learning outcome has increased with a basic score 59.60 to 70.72 on test 1 by percentage of 18.66%. Results test 2 increased from 70.72 to 79.04 with the percentage 32.62%

**d. Teacher and students activity**

Teacher activity data obtained during cooperative learning with hidden chart media in two cycles

Table 3.Teacher activity observation

| Aspect | First cycle | | Second cycle | |
|--------|-------------|-----|--------------|-----|
| | I | II | I | II |
| Score | 17 | 19 | 22 | 23 |
| Percentage (%) | 70.83 | 79.17 | 91.67 | 95.83 |
| Category | Enough | Good | Very good | Very good |

Based on the Table 3, can be seen teacher activity during the learning process has increased. In the first cycle of first meeting the percentage obtained is 70.83% with enoughcategories and increased at the second meeting to 79.17% with good category. In the second cycle of the first meeting also increased from the previous meeting which amounted to 91.67% with very good category. At the next meeting is the second cycle of II meeting to 95.83% with very good category.

Data of student activity increased during cooperative learning with hidden chart media in two cycles. Data can be seen in table 4.

Tabel 4.Students activity observation

| Aspect | First Cycle | | First Cycle | |
|--------|-------------|-----|-------------|-----|
| | I | II | I | II |
| Score | 15 | 18 | 20 | 21 |
| Percentage (%) | 62.50 | 75 | 83.33 | 87.50 |
| Category | Enough | Enough | Good | Very good |

Table 4.describe the percentage of student activity increases at each meeting. In the first cycle of meeting I, the percentage of student activity is 62.50% with enough category. At the next meeting it increased to 75% with

enough categories. In the first cycle of the first meeting, the percentage of student activity becomes better than the previous meeting and got 83.33% with good category. At the second meeting of cycle II, the percentage of student activity increased to 87.50% with very good category.

### e. Students' Learning outcome in Science

Based on the test that has been given to the students for two cycles, then the data obtained as follows.

Table 5.Students' learning outcome

| No | Data | Achievement | | Classical Achievement |
| | | Success | Unsuccessful | |
|---|---|---|---|---|
| 1. | Basic score | 10(40%) | 15 (60%) | TT |
| 2. | Test 1 | 16 (64%) | 9 (36%) | TT |
| 3. | Test 2 | 22 (88%) | 3 (12%) | T |

Padatabel di atas, dapatdilihatsebelumditerapkan model pembelajarankooperatifdengan media *hidden chart*, ketuntasanklasikalhasilbelajar IPA siswaialah 40%. Dan setelahditerapkan model pembelajarankooperatifdengan media *hidden chart*, ketuntasanhasilbelajarmeningkatmenjadi 64% pada UH 1 dan 88% pada UH 2. Hal inimenunjukkanbahwadenganmenerapkan model pembelajarankooperatifdenganmedia *hidden chart*dapatmeningkatkanpemahamansiswatentangmateri yang sedangdipelajarisehinggahasilbelajarsiswameningkatsertajumlahsiswa yang tuntasjugaikutmeningkat.

In Table 5, can be seen before applied cooperative learning model with hidden chart media, classical achievement science student learning result is 40%. And after applied cooperative learning model with hidden chart media, the result of learning completeness increased to 64% at test 1 and 88% in test 2.This shows that by

applying cooperative learning model with hidden chart media can improve students understanding about the material being studied so that student learning outcomes increase as well as the number of students who complete also increases.

Based on describing all of data, incrising students' learning outcomes certainly cannot be separated from student interest in learning. The lesson learned is not in accordance with student interests, students will not learn well because there is no attraction for students to learn(Salmeto, 2013). However, if the lesson material interests students, students will find it easier to understand and store information during the learning activities. Motivation factor is very influential on the process of learning and motivation is one factor that helped determine effective learning(Alfiliansi, 2014). Increasig student learning outcomes can be assumed because the learning model used is a cooperative learning model that provides opportunities for students to work in small groups so that students become

more active in learning activities and contribute their thoughts in learning activities. This is coupled with the use of hidden chart media that makes the presentation of lesson material becomes more actively.

## 4. CONCLUSION AND RECOMMENDATION

Based on the description of research results and discussion, obtained the conclusion and suggestions as follows:

### a. Conclusion

Based on the results and discussion this study, it can be concluded that the implementation cooperative learning model with hidden chart media can enhance primary students' learning outcome

1. Learning outcomes that have an enhancethat is the average score base score of 59.60 to 70.72 in test in first cycle. On second test average score also increased from the average value of test in first cycle, which is 70.72 to 79.04. Overall, there is an increase in student learning outcomes 32.62%.
2. Percentage of teacher activity that has increased. The increase of the average percentage of teacher activity at the first cycle meeting was 75% and increased at the second cycle meeting with an average percentage 93.75%.
3. Percentage of increased student activity. The increase of the average percentage of student activity in the first cycle meeting was 68.75% and increased at the second cycle meeting with an average percentage of 85.42%.

### b. Recomendation

Based on the above conclusions, the following recommendations are presented related to the application of cooperative learning model with hidden chart media on science learning as follows:

1. Teachers and schools
   The results of this study can be used as input materials in enhancing science learning as well as guidance to teachers to improve learning better, especially in using cooperative learning model with hidden chart media or other appropriate models in the implementation learning process.
2. The next researcher
   For researchers who are interested to follow up this research is expected to pack the media hidden chart in accordance with the needs of learning in one meeting so that the presentation of information to be effective and students make students able to better understand the material being studied.

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