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The contribution of friendly character through cooperative-learning model with example and non-example types (CLM-ENET) on energy concepts

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Abstract. In the Curriculum 2013, character education is likely needed by primary students to realise the benefits of the 2045 gold generation, including 4C competencies; one of which is communication skills. The aim of the research is to analyse the contribution of cooperative learning model with example and non-example types (CLM-ENET) in the primary education level on the energy concepts. The research has already been conducted through Classroom-Action Research (CAR) in the one of fourth-grade students of Sleman, Yogyakarta. The data has been collected by using observation, interview and documentation techniques. The quantitative and qualitative data have ever been analysed via descriptive statistics and students responses regarding to the friendly characters. The research result reports that the implementation of CLM-ENET is able to improve students' friendly characters on energy concept. Students have already given and listened to opinions in their classroom-discussions when they discussed and exemplified about energy conceptions and the formed-changing of energy. In conclusion, the implementation of CLM-ENET is able to improve primary students' friendly-characters on energy concepts.

1. Introduction

In the curriculum 2013 learning uses a scientific approach. Scientific approach is a method of learning that is done through various activities or skills in processing science to obtain results in the form of facts or concepts. The steps in scientific approach are: observing, questioning, associating, experimenting, networking [1-2]. The steps in this approach are in accordance with the guided inquiry method of learning. Learning with a scientific approach, students will actively gain their own knowledge so that students have problem solving skills, communication, social and interpersonal relationships, independence, ethics and aesthetics.

The readiness of teachers in the 2013 curriculum lesson is urgently needed. Thus the readiness and understanding of teachers towards the Curriculum 2013 has become the decisive factor in the success and achievement of the objectives of the Curriculum 2013 [3]. The development of learning tools will also improve the cognitive and character aspects of students [2,4,5]. The character that is accustomed to students is inseparable from the role of the school when the teacher carries out various learning methods that support the growth of students' character in their school [6,7].

Cultural values and character of the nation there are 18, one of which is a friendly character or communicative. Students who have a friendly character always show a desire to greet with a polite



language. Language plays an important role in human life because language is a tool of human communication in everyday life [8]. Language including the media of communication then the language is a mirror of a person's personality means through a person's language can be known personality or character [4]. Thus, language is one area that plays an important role to form a person's character. A person's character does not form in seconds but requires a long process and through a certain effort [9]. Character education should be based on eleven principles, one of which seeks the growth of self-motivation in learners [10,11]. The teacher's skills when learning are also very supportive of achieving student character that gives emotional stability [12,13].

The observation was done in class IV A SD Negeri Percobaan 2. Problems found by students who still throw the garbage into the desk drawer, students who are still late to enter the classroom when the entry bell sounded, students who still have not completed the task given by the teacher, when students discuss in the study group there are still many students who have not giving opinions, there are still many students who have not given their opinions and listened to opinions in class discussions, there are still many students who do not care about their friends who are less able to understand the lesson, the students are less active in social and cultural activities in the classroom and at least the students who speak to teacher to ask. It appears that the students' friendly character in grade IV A is still low and needs to be improved

1.1. Cooperative Learning Model with Example and Non-Example Types (CLM-ENET)

Cooperative learning is developed into several techniques, such as Think Pair Share, Jigsaw, STAD, TGT, Examples non examples and so on [14]. The examples non examples model is chosen in addition to making learners play while learning to interact with other learners, as well as to foster a good cooperative attitude in doing the same goals in classroom learning [15].

This model is a model of learning conducted by groups, teachers invite students to do cooperation between students in learning so that students can build good communication between students that can affect the learning process becomes better and more meaningful. This model has the advantage that it contains elements of the game that can stimulate the spirit of student learning, students also get new experiences and can think creative, critical and active [16,17].

The Cooperative Learning Model with Example and Non-Example Types (CLM-ENET) allows all students to be actively involved in the learning process so as to have a positive impact on the quality of interaction, communication, and problem solving related to the material under study, especially on environmental pollution material. In addition, in students will be formed the ability to think critically, systematically, and independently. In an effective learning process [18], a teacher is not allowed to pour out just about all the material, but it is the students who are required to organize themselves what they hear and see as a meaningful unit of knowledge [19].

1.2. Friendly Character

Based on the Big Indonesian Dictionary friendly is friends / friends are fun in the association, while communicative is a state of interconnected, the language is easily understood so that the message delivered easy and well received. So friendly / communicative is the attitude or action associated with others in which materialized a pleasant atmosphere in cooperation.

Friendly attitude is different from communicative, but in a friendly / communicative attitude shows the ability of a person in conveying his ideas or a thought to others in associating. This character becomes an important capital in the life of society.

People who are friends are people who are easy to get along with others and usually in addition to being able to convey also able to hear what is conveyed by others to then responded appropriately [20]. People who are friendly/communicative usually can be easily accepted in their environment. The indicators of friendly/communicative characters are: giving opinions in classroom work, giving and listening to opinions in classroom discussions, active in classroom social and cultural activities, active in organizational activities at school, active in school social and cultural activities, speaking with teachers, principals, and other school personnel. The curriculum carried out by the school will make the teacher do a variety of learning models that create a comfortable relationship so students will actively

participate in the learning process. Relationships involving students and the school and home environment will create a positive student personality [21].

1.3. Energy Concepts

The energy concepts studied are about energy sources, changes in energy forms, and alternative energy sources (wind, water, solar, geothermal, organic fuel, and nuclear) in everyday life. The sun is the greatest source of energy for the earth. Solar energy will never be used up. Solar energy is beneficial to all nature, especially living things. Oil and gas are sources of energy that can't be renewed. Other examples are coal, natural gas, and other mining products. Renewable energy sources include animals, plants and water.

Water has tremendous benefits for human life. One of the utilization of water is as a hydro power plant. Water benefits are enormous and affect human life on earth. Therefore, in water users should be balanced with the awareness of keeping the water source on earth. Wasting water is an unwise act.

Water and electricity become human needs that can't be replaced by anything. Daily activities will be disrupted when water and electricity supply is disrupted. In Indonesia, hydroelectric power is one effort that can be done to meet all the electricity supply needs for the community. Reservoirs or dams are one of a series of hydroelectric systems. The water flow from the dam or reservoir is used to drive a turbine that will generate electrical energy. Water is one source of energy that is quite abundant. Water stores considerable energy. The water flows move the mills built near the river. This windmill will be connected to a generator to produce electricity. The faster the flow of water, the faster the wheel rotates. The electricity produced is even greater.

Waterwheel is a transformation of energy from water into electricity. Likewise, when the lamp switch is pressed, electrical energy flows into the lamp so that the electric current turns into light and heat. From the event there is a change of energy form. Electrical energy turns into light and heat energy. Lots of home appliances are experiencing changes in energy form.

2. Methods

Subjects in this study are students of class IV A SD Negeri Percobaan 2 Sleman Yogyakarta. The number of students in this class is as many as 36 people consisting of 18 female students and 18 male students. The object of this research is in the form of variables that are investigated in order to solve the problems that have been formulated that is to increase the value of students friendly character by using Cooperative Learning Model with Example and Non-Example Types (CLM-ENET). The study was conducted in the second semester of 2017/2018.

This research was conducted in class IV A SD Negeri Percobaan 2 Sleman Yogyakarta. This study is a Classroom-Action Research (CAR). This research is collaborative. The research model used in this research is Kemis and Mc. Taggart models. Based on Kemis and Mc. Taggart models, each cycle consists of 4 components: 1) planning, 2) action, 3) observation and 4) reflection. Research is conducted in a repetitive and sustainable cycle, which means that the longer it is expected to increase the change or the achievement of the results. The number of cycles depends on the teacher's success in conducting the action research.

Techniques of collecting data using instruments in the form of observation. Observations are used by researchers because of many important events that can only be obtained during the observation. This is intended to maintain the authenticity and accuracy of data obtained from the field. The observation sheet is used to find out how far students friendly characters have improved. Researchers set 4 indicators to determine the improvement of students' friendly characters. All indicators from this characters can be seen in Table 1.

Table 1. Grid Observation of Student Friendly Characters

No	Indicator	Description
1	Giving opinions in group work in class	Giving opinions in groups Listen to the opinions of friends in groups Help friends in groups
2	Giving and listening to opinions in class discussions	Dare presenting the results of the discussion in front of the class Listen to opinions in class discussions Giving opinions in class discussions
3	Active in social and cultural activities in the classroom	Accept group that has been determined Follow the rules well Pleased on the success of the other group
4	Talk to the teacher	Speak politely to the teacher Answer the teacher's questions as best you can Dare to ask the teacher

3. Result and Discussion

Based on the results of research that has been done from cycle 1 to cycle 2 shows that cooperative learning model with example and non-example types (CLM-ENET) can improve the student-friendly character in class IV A SD Negeri Percobaan 2 Sleman Yogyakarta.

From the results of pre-cycle observations carried out before giving action using the cooperative learning model type non-sample obtained by observation with a percentage of 42.25% or only 15 students who get a good predicate on class-friendly characters. On friendly character observation students in cycle 1, get a percentage of 59.95% or equivalent to 22 students who get a good predicate from 36 students. In cycle 1, there was an increase of 17.70%. This has not yet achieved the desired success criteria of 75% or about 27 students who must get a good predicate so that this research can be said to have not been successful. In friendly character observation students in cycle 2, obtained a percentage of 76.79% which was equivalent to 28 students who had received a good predicate. The increase was 17.24% compared to the first cycle and was 34.54% compared to the pre cycle. In cycle 2, this has reached a predetermined success criterion that exceeds 75% or equivalent to 27 students who get a good predicate so that researchers do not continue the research.

One of the characteristics of friendship is to show remarkable progress if learners are given a cooperative and collaborative approach to research [22]. By using CLM-NET, students form small groups directed to create learning that interact and cooperate with each other in learning done in class so that the character of friendship to student can be increased. CLM-NET that places students in 5-6 member learning groups that have different abilities, gender and ethnicity or race [14]. With the differences set out in teacher groupings by teachers in example and non-example models, students can work together and interact with other students. The result of increasing the friendly character in each cycle is shown in Figure 1.

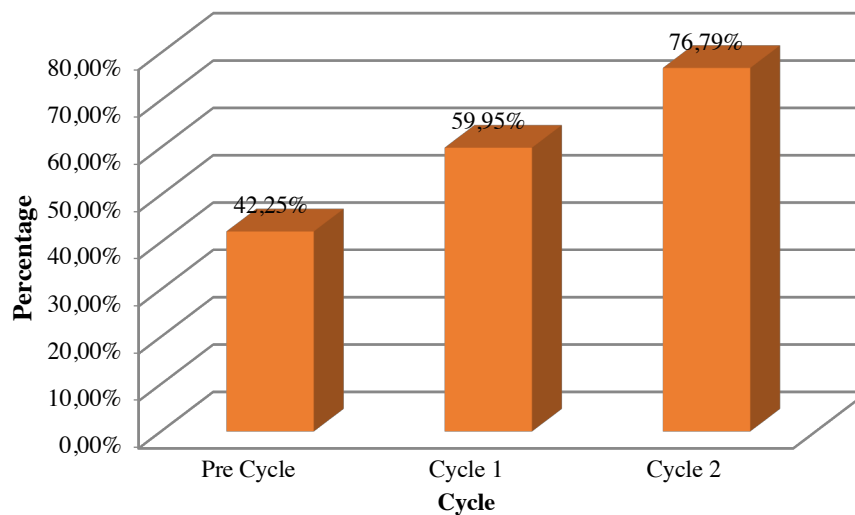


Figure 1. The Character Improvement.

In cycle 1, there has been an increase of 17.70% towards the results of observations of friendly characters of students with the results of observations before being given the action of using models of Examples non Examples. But in cycle 1, the success criteria have not been determined so research needs to be carried out in cycle 2. This cycle 1 planning stage is to communicate with the supervisor and based on the results of the pre silus observation to plan methods, material and learning scenarios. In the action stage, learning uses the example non example method about the concept of energy through computer media and the environment. The observation phase shows that the learning process still has many obstacles. The final stage of reflection, with the shortcomings of learning and the results of interviews found, needs to be done as follows: the teacher needs to convey the learning objectives to students, the teacher needs to supervise the discussion, and motivate students to always give opinions, listen to opinions, help friends when in groups, teachers need to remind the meaning of working together in groups to students, teachers need to provide opportunities for students to convey the results of discussions in front of the class, teachers need to motivate students to be brave in conveying the results of the discussion in front of the class without feeling ashamed and fear of being wrong, the teacher needs to familiarize students with a show of hands when giving an opinion.

Friendly character in cycle 2, has been increased by 34.54%. This happens because the teacher has carried out activities that have been made on the observation sheet of teacher activities and actions that need to be done such as the teacher conveys the learning objectives to students, the teacher oversees the discussion, and motivates students to always give opinions, listen to opinions, help friends when in the group, the teacher reminds the meaning of working together in groups to students, the teacher gives the opportunity for students to convey the results of the discussion in front of the class, the teacher motivates students to be brave in conveying the results of the discussion in front of the class without feeling embarrassed and afraid of being wrong familiarize students to raise their hands when giving opinions, teachers admonish students if students do not pay attention when the teacher provides learning material and class discussions take place, the teacher provides a reference and directs students so that students are easier to express their answer in giving opinions.

After the teacher carries out activities and actions that need to be carried out in cycle 2, the friendly character of the students increases. It is seen that students have given their opinions in group learning, students have given and listened to opinions in class discussions, students have been active in social and cultural activities in the classroom, and students have dared to speak to the teacher to ask questions about not yet understood.

The friendly character improvement that occurs in the classroom shows that every indicator more and more students do it. The friendly character that has taken place in the classroom is expected to

continue in every aspect of his life, both in the school and society. For schools it helps to apply examples non examples of learning models in order to establish friendly character of students in school and in their environment. For teachers in learning, to always replace the study group after several meetings so that students feel not bored and can mingle with other students in the study group. Students are always active and always work well together in discussions so that the study group gets the best value. For further researchers, so that they can develop this research so that students become better at improving their friendly character.

4. Conclusion

Based on the results of classroom action research conducted to improve the friendly character in the fourth grade students of SD Negeri Percobaan 2 Sleman Yogyakarta by using cooperative learning model with example and non-example types (CLM-ENET) can be summarized as follows: The increase of friendly character in fourth grade students SD Negeri Percobaan 2 Sleman Yogyakarta by using cooperative learning model with example and non-example types (CLM-ENET). From improved 14.70% so that needed improvement in cycle 2. In cycle 2, in getting percentage of 76,79% or improved 34,54% in cycle 2, of study was stopped because have reached the desired success criteria that is with percentage of 75%. An understanding of the concept of energy with increasing friendly character greatly helps learning from the side of the students themselves and from the teacher, even for further research. The material presented is expected to be better understood by students because the learning method and also the improvement of friendly characters with a more conducive and pleasant learning atmosphere. Barriers that occur during learning are expected to help further research to vary the course of learning, both in class, in schools and the community.

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