

CLIS (CHILDREN LEARNING IN SCIENCE) MODEL ON SCOURS OF SCIENCE STUDENT PROCESS ON LEARNING SCIENCE OF SCIENCE KNOWLEDGE IN ELEMENTARY SCHOOL**¹Rekha Putri Apriliani, ²Mirna Alvia, ³Rina Agustin, ⁴Restu Lesmana, dan ⁵Galih Dani Septiyan Rahayu**

Program Studi Pendidikan Guru Sekolah Dasar IKIP Siliwangi

galih040990@ikipsiliwangi.ac.id

ABSTRACT

Science process skills are important in science learning. Models who are entitled to offer to improve students' science process skills is a model CLIS (Children Learning in Science). This study aims to determine the effect of the model CLIS (Children Learning in Science) of the science process skills of elementary school students in the fourth grade II Cieurih material changes in states of matter. This research uses pre experimental research with research design in the form of one group pretest-posttest research design. The population is all the fourth grade students of SD Cieurih II. The instrument used is a skill test of students' science process with 10 question items. Five multiple choice questions are groundless and five are stuffing. The results of this study show that CLIS model (Children Learning in Science) can improve students' science process skills.

Keywords: Model CLIS (Children Learning in Science), Science Process Skills, Change states of matter

INTRODUCTION

Science subjects in elementary schools aim to enable students to understand the concepts of science, have process skills, have an interest in learning the natural surroundings, be scientific, able to apply science concepts to explain natural phenomena and solve problems in everyday life, love nature, and realize the greatness and majesty of God. One of the components in science learning is students' science process skills. Scientific process skills are the thinking skills in learning that are necessary in scientific activities. With the skills of the science process, students can build a new idea when interacting with peers or with teachers.

In order to improve students' science process skills, it is better to use a model that can make it easier for students to learn and develop their science process skills. One feasible model offered to improve students' science process skills is the CLIS model (Children Learning in Science). The CLIS model is the concept of learning to create a learning environment that involves students in observational and experimental activities.

Based on the background of problems that have been described above, then the formulation of the problem to be studied in this study are as follows. "Is there a significant increase in the science-grade process skill of 4th students on material of perfection by using the CLIS model (Children Learning in Science)?"

Children Learning in Science Model

The CLIS model (Children Learning in Science) was developed by the Driver's led group of learning in science in Britain '(Tytler, 1996 in Samatowa, 2006: 70). "CLIS (Children Learning in Science) means children learn in science". The CLIS model (Children Learning in Science) by Handayani (2002: 8), "A framework for creating an enabling environment for teaching and learning activities involving students in observation and experimental activities using student worksheets". In this learning model students are given the opportunity to express ideas or ideas about the topics discussed in the lesson, exchange ideas and compare ideas between one student and the other and discuss to equate perceptions which students are then given the opportunity to reconstruct after comparing the experimental results and observation so that students are able to apply in keadan or new situation in everyday life.

Galih (2013) express scientific process skills are skills that develop students' ability to understand a knowledge with deep understanding and emphasize skills for acquiring knowledge. Through learning activities, students can learn the skills of the science process. Scientific process skills that can be developed while learning takes place include observing, classifying, asking questions, and experimenting and using tools while experimenting. students' science process skills used in this study are observation, classification (classifying), prediction (prediction), using tools, and communicating. The limitation in using the skills of the science process is based on the research subject of the fourth grade students of primary school.

METHOD

The method used in this research is pre experimental research method with research design used is in the form of one group pretest-posttest research design. The subject of this research is the fourth grade students of Cieurih II elementary school. According to Soengeng (2016) pre experimental research with one group pretest-posttest design is a research using minimal control with design drawing is as follows

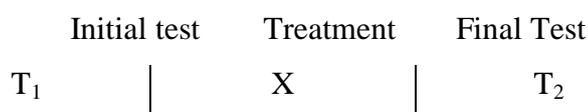


Figure 1. One-pretest-posttest research design

From Figure 1. Soengeng (2016) explains that the steps of one group pretest-posttest

RESULTS AND DISCUSSION

Results

The Sig.2 tailed value for the experimental group is 0.000. The test is one way so that the value of Sig.2 tailed divided by two that result 0. Because the value 0 is smaller than the value of α , then H_0 is rejected and H_a accepted. Thus it can be concluded that there is a significant improvement in the science class of 4th graders skill on heat transfer material by using CLIS learning model (Children Learning in Science).

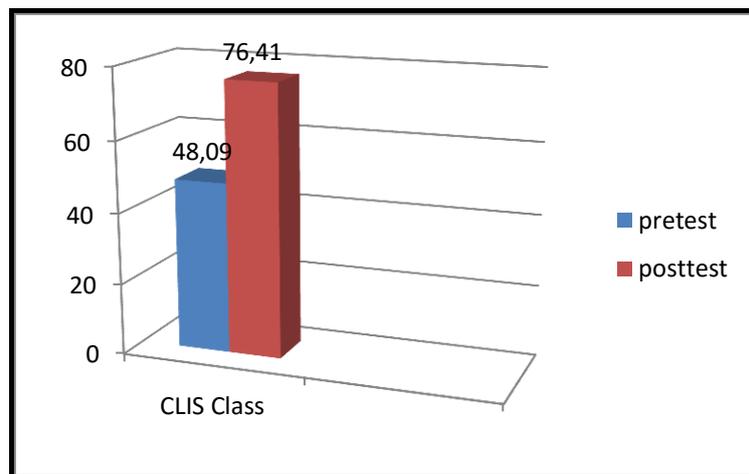


Figure 1. Average Pretest and Posttest Value

Discussion

The findings found in the first day of learning are the students shy when expressing their ideas. This happens because students are not used to expressing ideas or ideas. Therefore, the CLIS model (Children Learning in Science) is well suited to be able to train students to express their ideas or ideas so that students are not shy anymore. This is in line with one of the advantages of the CLIS model (Children Learning in Science) proposed by Ismail (2011) which states that with the CLIS model the children's ideas will be easier to be raised during the lesson.

In addition, the other findings are when students discuss with the group. Students look confused when teachers divide them into groups. Even when they are in groups they work individually so that teachers must explain first how to discuss in the group. This also happens because students are still unfamiliar with learning using the CLIS model (Children Learning in Science).

When the lesson begins, the students are quite enthusiastic. Enthusiastic students to study either superior group students, moderate groups and groups of actors look the same. This can be seen from the students' responses to the questions of teachers and also the students are actively involved and excited in conducting experimental or experimental activities. The importance of varied learning makes students interested in learning. Such learning-that alone makes students feel bored and saturated. This requires teachers to think and more innovate in creating a varied learning environment. As Watson (Winataputra, 2007) argues that teachers' creativity in manipulating learning and student conditioning processes can create a new learning environment, while it can help students positively in the learning process. Furthermore, one of the educational requirements proposed by Edi Suardi (Sadulloh, 2007: 109), that:

An educator must know the principles and use of educational tools. He should know also to choose which is suitable for this child in certain situations. For that he must be able to determine how the path or procedure to educate how should he use or travel.

The obstacle faced at the first meeting is the unavailability of the source book as a reference to the students' scientific concepts to match the results of the discussion. The importance of teachers to check or prepare the things needed for teaching, so that the teaching-learning process can run well and learning can be done optimally.

The findings during the second day of learning are that students are not shy anymore to express their ideas or ideas. When the teacher asks the students to answer in a loud voice. Students also have started to get used to groups, when asked to group them directly understand and immediately gathered with his group friends who then discussed.

The findings during the posttest took place were the students did not understand the questions. In fact there are some students who do not know what is the reason and how to reveal the reasons. The step to anticipate it is with the teacher explaining the posttest issues. In addition students have difficulty in expressing the reason in good Indonesian, sometimes there is tucked local language in the students' reason. This happens because students are not familiar with the use of Indonesian language.

Of the five stages of the CLIS model (Children Learning in Science), the stage that is considered the most difficult when implemented is the stage of idea stabilization. Teachers sometimes forget to solidify students' ideas, so that when this stage passes students will return to the original concept that is difficult to change. Therefore, at this stage the teacher must be

able to master it properly. This is in line with Sutarno (2008: 8.33), "Another difficult thing is the shift from applying ideas to the consolidation of ideas".

CONCLUSION

Based on the data, the results of data analysis and discussion that have been done about the influence of CLIS model (Children Learning in Science) to the science process skill of fourth grade elementary student on heat transfer material, it can be concluded there is improvement of science grade students skill class 4th grade in material transfer heat by using the CLIS model (Children Learning in Science).

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REFERENCES

- Handayani, S. Dkk. (2002). *Pengembangan Model Pembelajaran Children Learning in Science (CLIS) Tentang Konsep Hewan dan Benda untuk Meningkatkan Keterampilan Berpikir Rasional Siswa Kelas III SD Kutoharjo I Kabupaten Rembang*. Laporan Penelitian FKIP/UPBJJ-UT Semarang.
- Ismail, A. (2011). *Penerapan Model Pembelajaran Children Learning in Science (CLIS) berbantuan Media untuk Meningkatkan Keterampilan Proses Sains dan Penguasaan Konsep Siswa pada Pokok Bahasan Fluida*. Bandung: Tesis Jurusan Pendidikan IPA UPI.
- Rahayu, Galih Dani Septiyan. (2013). Pengaruh model pembelajaran inkuiri dalam meningkatkan keterampilan proses sains siswa pada materi gerak benda dipengaruhi oleh bentuk dan ukuran. Tersedia di <http://repository.upi.edu/5225/> diakses 14 Desember 2017.
- Sadulloh, U, dkk. (2007). *Pedagogik*. Bandung: Cipta Utama.
- Soengeng, A.Y. (2016). *Dasar-dasar penelitian*. Yogyakarta: Magnum Pustaka Utama.

Usman Samatowa. (2006). *Bagaimana Membelajarkan IPA di SD*. Jakarta: Depdiknas.

Winataputra, U, S. (2007). *Teori Belajar dan Pembelajaran*. Jakarta: Universitas Terbuka