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Effectiveness of Activities 3R (Reuse, Reduce, Recycle) in Improving the Ecoliteracy of Students in Elementary School

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Abstract. Action Research class aims to examine activities 3R (Reduce, Reuse, Recycle) students in the learning IPS in class IV SDN Nagasari VI to improve the eco-literacy of students. The research method in use is a class action research consisting of 3 cycles. The data types in this research are quantitative and qualitative data. Data collection techniques using non-test techniques. The study instruments used are observations, field records and documentation. The results showed an increase in the achievement of students skills during the learning process. It is supported by a percentage of data on Cycle 1 which is 62.06% category enough, Cycle 2 is 77.75% good, Cycle 3 is 93.6% very good category. The results of student behavior in Cycle 1 is 53.05% category enough. Cycle 2 is 73.9% good category. While the cycle of 3 is 95.9% category is very good. From the above statement can be concluded that the 3R activities successfully increase the eco-literacy of students at SDN Nagasari VI.

Keywords: 3R (Reduce, Reuse, Recycle), ecoliteracy, elementary school

INTRODUCTION ~ Quality education is needed by qualified generations, To prepare for the hundred-year-old Indonesian nation independent in year 2045. Similarly, the subject of social sciences (IPS) is a part of the subjects in the school curriculum in class IV to the IX class. In this case, the education of IPS must also improve the quality of learning from time to time. Education and teaching is a process of cognitive transfer, attitude transfer (affective). In addition to understanding the concept when students learn (cognitive transfer),Implanted transfer of attitudes in question is the attitude of love environment. Therefore by utilizing garbage in the environment. Environmental disasters such as flooding can be caused by garbage that clogs the drains. Efforts to love the environment should be implanted early when the students are on the primary education bench (Siregar, 2013).

The environmental crisis as a concern in environmental education can be responded through the school. Huckle (2013) states "in considering how schools might assist such reflection and action and thereby contribute to the realisation of sustainable development." responses can also be performed through ecological literacy as expressed by Stevenson, et al (2013) that "direct responses to global environmental crises can slow the tide of environmental degradation, but reversing the trend will require an Environmentally literate citizenry.

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This research is conducted on the basis of the environmental conditions of the attention of academic world including school. Schools have not been able to transmit environmental-charged knowledge so that students do not have ecological intelligence or eco-literacy.Schools tend to be too focused on achieving the ultimate goal of the completion of a curriculum that is in fact likely to not produce intelligent and sensitive students to various phenomena occurring in the surrounding environment.

On the other hand, educators are also less utilizing the environment as a learning source and medium. Most of the educators and community's mindset that learning sources and media are all things that are high-tech like computers and Infocus, as well as online media.

METHOD

Research on "Effectiveness of activities 3r (reuse, reduce, recycle) in improving the ecoliteracy of students in elementary school (Research class IV SDN Nagasari VI District Karawang West District Karawang)" Using class action Research methods. Class action research is the development of action research, which according to Kemmis (Sanjaya, W., 2009 hlm. 24) says, research action is a form of reflective and collective research conducted by researchers in social situations to improve the reasoning of their social practice. In accordance with this opinion, Sanjaya, W. (2009, p. 25) says that action researchers have the main feature of certain

intervention or treatment for improvement in the real world.

The research of class action according to Wiriaatmadja, R. (2010, p. 13) is how a group of teachers can organize their learning practice conditions, learn from their own experiences. They can attempt an idea of improvement in their learning practice, and see the real influence of that effort. The action is given by the teacher or with the direction of the student's teacher. Based on this, Class action research is a research backed by researchers or teachers ' concerns towards the lack of awareness of students on the environment derived from the results of reflection of researchers or teachers in the effort to solve problems and improvements Practice through 3R activities (Reduce, Reuse, Recycle) to increase the ecoliteracy of students.

This research was conducted at SDN Nagasari VI which is located atHusni Hamid No. 13 District of westKarawang, West Java Province. With research time from July until November lesson 2018/2019.This class action research subject was implemented in class IV E. Number of male learners as many as 20 people and female learners as much as 21 people.

The types of data contained in this class action study are quantifying and qualitative data. Data sling techniques using non-test techniques, The study instruments used are observations, Field Records and documentation. The data analysis techniques in this study used

qualitative analytical techniques, One of the models is an interactive analysis technique developed by Miles and Huberman. The interactive analysis, consists of three components of activity that are interconnected with each other: Data reduction (display) data, and draw conclusions based on the observation results of student activity. This research is said to be successful when the results of a minimum of 80% with good categories.

RESULTS

Researchers conducted observations on March 2, 2018 related to the implementation of utilizing the environment as a source and medium of learning in class IV. Later researchers and the collaborators team made reflections and thought about the alternative problem solving.

At this stage, researchers compiled RPP instruments and other learning devices.Cycle I carried out on July 18, 2018 the material discussed is the theme 3 is to care about the living creatures sub-theme is 3 "Come, Love the Environment" on learning 1 (one) curriculum 2013 in grade IV Elementary School. Implementation of learning begins with greeting the teacher then ask the news and check students attendance. The class was continued with the prayer led by students who came early.All students sang the song Garuda Pancasila and who led one of the girls that day picket as a strengthening of the importance of instilling the spirit of nationalism.At the last stage of opening activities students are used to conduct literacy activities.

On the implementation of the student's core activities follow the teacher's instructions on the explanation of pictures and students also read the available text about an environmentally caring figure. Teacher also provides reinforcement about loving the environment as a way to preserve the environment that is throwing waste into place, Save on paper use, Caring for and maintaining plants and animals wherever we are.Through 3R activities (Reduce, Reuse, Recycle) students perform environmental observations. Then in group of students also guided how to sort out organic and inorganic waste and how to handle garbage.

According to Gunawan (4:2006)How to manage the correct garbage in accordance with the new paradigm of waste management is by minimizing the garbage through the 3R systemThat is: reduces consumption that is not very important. Reuse selects and reuses the goods that can still be worn. While Recycle is garbage.

In this case the community is encouraged to move to the new paradigm of waste management with the implementation of the 3R through the garbage bank. Waste Bank is used as a place for sorting and recycling of garbage can be beneficial economically.The activities of this garbage bank include sorting, submitting garbage to bank weighing waste.

Meanwhile, according to Sugiana (2016)Garbage to be discarded should be separated, Garbage to be discarded should be separated.How to handle liquid and solid waste is expected not to cause pollution with the known ecological principle of the term 3R is :Recycling, the Recycle process for garbage that can be degradable for garbage can be unravel as compost. This compost is combined with the selection of earthworm, so it can be obtained good results.Reduce is a reduction of materials/savings. For example, if you want to shop to market or supermarket from home carrying bag. Do not ask for plastic bag from shop or supermarket if only discarded. Reuses, The Reuse process is done for garbage that cannot be degradable and can be reutilized. The Reuse process is done for garbage that cannot be degradable and can be reutilized. For example the used syrup bottles are used again to store the drinking water syrup again.

For example the used syrup bottles are used again to store the drinking water syrup again, So it is known how student activity during the learning process takes place.Based on the observation cycle I showed that the indicator has not reached 80%. This is seen from the observation of the activity of the students ' skills during the new learning process reaches 62.06% with the category is enough because when the student garbage is still confused distinguish between organic and inorganic waste,While the observation results of students behavior during the new learning process 53.05% with less category.It is seen students 'concern for the environment is still very less in terms of reducing the use of plastic waste and students have not been aware that to preserve the environment a part of worship.The improvement is done with 3R activities (Reduce, Reuse, Recycle), one of which is processing to produce waste recycling products from waste material-organic from ice cream sticks and used aqua bottles.

At 2 teachers cycle activities accompany students to observe the environment, and show examples of waste treatment already done in school. Guiding students in analyzing environmental issues related to waste management. Then teachers guide students to design waste management projects and search the relevant material resources with the group by observing from various sources such as Internet, books, magazines, or people who are experts in the field of recycling waste.Once selected one draft, then arrange the working steps to make the product from the waste. In groups, students create a project to produce waste recycling products from organic waste material from ice cream sticks and used aqua bottles.

Based on some improvements to cycle 2, the observation shows that students ' active behavior and skills in the implementation have increased during the learning process.But on the skill convey the importance of reducing the

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volume of personal waste (reduce) is (78.7%) With a good category so that the 3 cycle repair is required to match the expected.

In the cycle of activities 3 teachers demonstrate the making of compost step by step, the observation shows that students ' active behavior and skills in the implementation have increased. Based on the results of observation of the students ' Skill/skills during the learning Cycle 3 experienced a very drastic increase of 93.6% with the category very good, While the observation of the students ' behaviour during the learning Cycle 3 experienced a significant increase of the percentage (95.9%) With very good category.In other words have reached the target of 80% so that no repair of the cycle is required.

Table 1. Results of student skills achievement during learning process

Aspects	CycleI	CycleII	CycleIII
	%	%	%
Convey the importance of reusing reusable goods	67	83	100
Convey the importance of personal waste volume (reduce)	58.5	78.7	93.3
Explaining the importance of participating in recyclable waste (recycle)	62.2	78.7	90.9
Can fold the bag with a clean (reuse)	58.5	76.8	99.4
Utilizing a replacement pouch (reduce)	67.7	83.5	90.9
Dispose of garbage in the place according to organic and un-organic type (recycle)	58.5	65.3	87.2
Average	62.6	77.75	93.6
Category	Fair	Good	Excellent

Based on the data in table 1, the results of the achievement of students 'skills during the learning process each cycle has increased.In Cycle 1 The average percentage is only 62.2% with enough categories so it still needs improvement to the next cycle.Cycle Action 2 is carried out according to the design of the learning implementation, in addition to the achievement data of students skill during the learning process shows good results with a percentage of 77.75% but has not reached the is expected to be 80%.In the 3rd cycle, this achievement has been very good, namely 93.6 so that the cycle action only comes to cycle 3 and is not resumed.

The student achievement Data during the learning process based on each cycle observation can be seen in the table below.

Table 2. Results of student behavior achievement during the learning process

Aspects	Cycle I	Cycle II	Cycle III
	%	%	%
Memperbaiki benda yang rusak	51.8	75	93.9
Mengurangi penggunaan sampah plastic	54.3	71.3	100
Membuang plastik dan daur ulang di tempat sampah an.organik	59.8	78.7	89.6
Tidak membuang sampah sembarangan	49.4	65.2	100
Tidak membuang sampah sembarangan	50.6	77.4	100
Menyadari memelihara lingkungan bagian dari ibadah	48.2	76.2	100
Average	53.05	73.9	92.1
Category	Poor	Good	Excellent

Based on the data in table 2, results of student behavior achievement during the learning process of each cycle have increased.In Cycle 1 The average percentage is only 53.05% with poor category so it still needs improvement to the next cycle.Cycle Action 2 is carried out according to the design of the learning implementation, in addition to the achievement data of students, behavior during the learning process shows good results with a percentage of 73.9% but has not reached the expected of 80%.In the 3rd cycle, this achievement has been excellent, namely 92.1% so that the cycle action only comes to cycle 3 and is not resumed.

CONCLUSION

Teacher in Class IV E at SDN Nagasari VI made the syllabus and RPP on the IPS learning process by implementing the Eco-literacy of students through the concept of 3R (Reduce, Reuse, Recycle).

This class action study was conducted with 3 cycles, namely cycles 1, 2 and 3.

Learning has been conducted 3 cycles to know the ability of students can distinguish organic and inorganic waste,Making products from inorganic waste (Recycle) as well as making compost from organic materials.

The reflection result of this class action research that the implementation of the student Eco-literacy is a program used as a tool for environmental education development so that elementary students care about the surrounding environment both in school and At home, So that need support from various parties by utilizing garbage by students through the concept of 3r with reduce that is the effort to reduce the garbage accumulation. Reuse is an attempt to re-utilize materials or goods so as not to be garbage, Recycle is to reuse after the process of processing waste.

REFERENCES

Banks. (1977). *Teaching strategis for the social studies Inquiri, valuing, and*

decision-making. seattle. university of washington: addison wesley publishing company.

Effendi, R. d. (2009). *Pengembangan pendidikan IPS SD.* Direktorat Jenderal Pendidikan Tinggi Departemen Pendidikan Nasional.

Gunawan, G. (2006). *Mengolah Sampah Jadi Uang: Panduan Mengeruk Keuntungan dari Bisnis Pengolahan Sampah.* Jakarta: Trans Media.

Gunawan, R. (2013). *Pendidikan IPS filosofi, konsep dan aplikasi.* Bandung: Alfabeta.

Hermawan, R. (2007). *Metode Penelitian Pendidikan Sekolah Dasar.* Bandung: UPI Press. Indikka, K. (2012). *Pengembangan green behavior pada siswa melalui penggunaan media audio visual dalam metode pembelajaran examples non examples pada mata pelajaran IPS .* Bandung: Tidak dipublikasikan.

Huckle. (2013). Eco-Schooling and sustainability citizenship: Exploring issues raised by corporate sponsorship. The curriculum Jurnal. 24 (2), h. 206-223. http://dx.doi.org/10.1080/09585176.2 013.779286.

National Counsil for Social Studies. (1994). *Expectance of Excelence: Curriculum Standards for Social Studies.*Washingt on D.C : NCSS.

Rusmawan. (2017). *Ecoliteracy Dalam Konteks Pendidikan Ips.* Sosio Didaktika: *Social Science Education.* 4 (2), 39-50.

Sanjaya, W. (2009). Strategi Pembelajaran Berorientasi Proses Pendidikan. Prenada: Jakarta.

Sapriya. (2009). *Pendidikan IPS Konsep dan Pembelajaran 2.* Bandung: PT Remaja Rosdakarya.

Siregar, T. & Walukow, A.F.(2013). *Penjabaran Konsep Reduce,Reuse, Recycle dan Participation Di Sekolah dengan Memanfaatkan Sampah Sebagai Perwujudan Program Pendidikan Lingkungan Hidup.* (Jurnal Ilmu Pendidikan Indonesia Vol.: 1 Nomor:1, 1 Februari 2013 ISSN: 2338-34402.

Skeel, D. (1995). *Elementary social studies; chalanges for tomorrow's world .* USA: Harcourt Brace & Company .

Solihatin, E. R. (2007). *Cooperative learning .* Jakarta: Bumi Aksara.

Stone, M and Barlow, Z. (2005) *Ecological Literacy: Educating Our Children for a Sustainable World.* San Fransisco: Sierra Club Books.

Sugiana, Yudi. (2016) Tersedia di: http://www.sridianti.com/pengertian -recycle-reuse-reduce-repair-dalam-ekologi.html

Supardan, D. (2014). *Pendidikan Ilmu Pengetahuan Sosial: Perspektif Filosofi, Kurikulum dan Pembelajaran.* Bandung.

Supriatna, Nana, dkk. 2007. *Pendidikan IPS Di SD. Bandung*: UPI Press.

Tasrif. (2008). *Pengantar Pendidikan Ilmu Pengetahuan Sosial*. Yogyakarta: Genta. Press.

Puspitawati, Y & Rahdriawan, M. (2012). Kajian Pengelolaan Sampah Berbasis Masyarakat dengan Konsep 3R (Reduce, Reuse, Recycle) di Kelurahan Larangan Kota Cirebon.

Pembangunan Wilayah & Kota. 8 (4), 349-359.

Wiriaatmadja, Rochayati. (2010). Metode Penelitian Tindakan Kelas. Bandung: PT Remaja Rosdakarya.