

The Project Approach on Environmental Education: An Action Research for Children's Social-Emotional Development

Ulil Abshor¹⁾

Al Hikmah NU School of Education

Abstract

The aim of this study is to increase children's social-emotional development using project approach on early childhood environmental education. The researcher uses applied classroom action research method to explore the project approach on environmental education as multidimensional approach. The project approach is in-depth investigation to a topic which has three phases; 1) planning and getting started, 2) developing project, and 3) reflection and conclusion. This study involved collaborators and 15 children organized in two cycles. The findings are as follows. The children's social-emotional development has been increasing by the end of cycle-2, their social-emotional development level especially in giving respect to others and borrowing or lending toys has been increasing significantly as well as their capability on taking part in large program or agenda. Another finding in this study is the instructional activities during the project approach on early childhood environmental education has been giving children opportunities to interact actively with people around since these are the basic of social-emotional development.

Keywords: project approach, environment, social-emotional

Corresponding author, ¹⁾ gus.ulil@gmail.com

The emergence of environmental problems (natural resources) is closely related to human resources issues. An environment is a unique unit and incorporates with all the living and non-living components that live inside it. When earth's natural resources are depleted and environment is compromised in the form of extinction of species, air pollution, water and soil, and rapid growth in population will create ecological effect or degradation and give consequences for mankind, especially children. This environmental degradation will bring them into vulnerability due to their less opportunity to access education and develop their best potential. According to United Nation Development Programme (UNDP) report on 2014, the Human-resource Development Index of Indonesia ranked in 108th place out of the 187 countries that are included in the report. The report showed that Indonesia's HDI score rose slightly to 0.684 from 0.681 in 2012 and put Indonesia among countries with "medium" HDI score, along with 41 other countries. Indonesia's score was below the world average of 0.702 and the regional average of 0.703 for East Asia and the Pacific. The researcher believes that with environmental education, human resource index will increase and the quality of their lives are improved by living in harmony with the environment.

According to Reinsberg (2015), professionals are sometimes define healthy social-emotional development in young children as early childhood mental health. Healthy social-emotional development includes the ability to: (a) form and sustain positive relationships; (b) experience, manage, and express emotions; (c) explore and engage with the environment. Indonesian Forum on Environment (2012) noted that more than 80% of disaster occurred in Indonesia are hydro-meteorological types such as floods, tropical cyclones, droughts, landslides, and desertification. Among these hazards are the results of natural processes and tend to increase due to global warming and climate change. However, actually these can be anticipated by mitigation because these all are about environmental management. People must be encouraged to be more awareness about their living environment. This encouragement is a holistic approach, including education.

Climate change and global warming, aspects of the sustainability agenda, have captured public and political interest. It is recognized here that there is ongoing debate about climate change and global warming, for example the belief by some sectors that the earth is not warming (Sudhakara & Assenza, 2009). Rather than enter into the debate about whether or

not climate change and global warming is real, this research was undertaken from the viewpoint that we all have role to play in the move towards sustainability, beginning from early childhood.

The sustainability requires social harmony, a balance of the needs of individual with the needs of public. We believe that all of our activities have impact to others. Understanding our impacts on others is a corollary to emotional intelligence. Emotional intelligence has been defined by Salovey and Mayer (1990) as the ability to perceive emotion, integrate emotion to facilitate thought, understand emotions and to regulate emotions to promote personal growth. Recognizing and regulating emotions requires emotional self-awareness and capacity and necessitates the intellectual ability to calculate the implications of different behavioral alternatives. On the other hand, social-emotional development represents the learning a child has attained, and social-emotional competence exist when one has reached a required level of achievement. However, according to Salovey and Mayer (1997) all things being equal, a person's emotional intelligence determine her emotional achievement (p.15).

The Kindergarten of Raudlatul Ulum Trowulan Mojokerto Indonesia has implemented some kinds of instructional design on children's social-emotional development. Unfortunately, it never reaches on desirable attained development standard. Children have not been able to start respecting others, borrow or lend toys from others as well as their lack of capability on taking part in large program or agenda. By using action research, this study aimed to collaborate with the kindergarten teachers and explore the practice of implementing a project approach on environmental education focused on particular children's social-emotional development. This study provides us an exploration of the learning journey of the teacher and children during the project in a kindergarten classroom. Based on the aims of the research above, the research questions are:

1. How can the project approach on environmental education increase the children's social-emotional development?
2. What is the learning journey of the teacher-researcher during the project?

Literature Review

Project Approach

Project work is not new in early childhood education. It first gained popularity in the U.S, when advocated and implemented by Dewey and Kilpatrick (Katz & Chard, 1989). It was also known as the “project method” in the 1920s. Under the assumption that children learn best when their interest is fully engaged and centered. The term “project” refers to an extended in-depth investigation or study of a particular topic—uncovering as well as covering the subject of the study:

The investigation includes a wide variety of research processes and procedures that involved individually as well as together and in cooperation with their teacher. The projects are also usually included seeking answers to the many new questions that arise as the investigation proceeds (Katz, Chard, and Kogan, 2014, p.3).

As the role of early childhood education is not only focus on the children knowledge development, Katz, Chard, and Kogan, (2014) considered:

The overall aim of the project approach is to support and strengthen children’s lively and growing minds. In its fullest sense, the term “mind” to include not just knowledge, understanding, skills, curiosity, and the dispositions to go on learning, but also social, emotional, moral, aesthetic, and spiritual sensibilities and understandings. (p.9)

So that the teachers who implement the Project Approach in their classrooms must consider the implications that might emerge. They may have to relinquish some decisions making by empowering the children to control their own learning, allowing children to initiate learning experiences and not giving children the answers; instead teachers act as guide, resource and co-questioner alongside the children (Helm & Gronlund, 2000).

Katz, Chard, and Kogan (2014) also stated that projects can be described as having three general phases that typically merge into each other. Phase 1) planning and getting started, some projects begin when one or more of the children in a group express an interest in something. Some projects begin when the teacher introduces a topic or when a topic is selected by agreement between the teacher and the children. Phase 2) projects in progress, during the second phase of a project, the main emphasis of the teacher’s work is on enabling the children to acquire new information. Phase 3) reflections and conclusions, the

main thrust of the third phase of project work is to help bring the project to completion with group and individual work and to summarize what has been learned (p.22).

Although there are many literatures pertaining to the positive of the project approach, there are few examples of the project approach involving environmental education for children under the age of five. Stuhmcke(2012) found that using a transformative project approach encouraged children to be agents of change for sustainability. His study provided examples of children caring about environmental sustainability and enacting changes based on their care. However, it becomes different view from other developmentalist who had been positioning children as needing to be cared for rather than being able to care.

Environmental Education

Environmental education in early childhood is a holistic concept that encompasses knowledge of the natural world as well as emotions, dispositions, and skills. According to Wilson (1994), environmental education in early childhood includes the development of a sense of wonder; appreciation for the beauty and mystery of the natural world; opportunities to experience the joy of closeness to nature; and respect for other creatures. It also includes the development of problem-solving skills and the development of interest and appreciation in the world around us. These goals acknowledge that learning is more than a cognitive process and that emotions play a particularly important role (Harlan & Rivkin, 2008). Therefore, early childhood educators should provide opportunities for children to experience peace, joy, and fascination with nature because these emotions undergird their developing knowledge, skills, and dispositions (Gardner, 1999).

According to the Belgrade Charter (UNESCO, 1979), the goal of environmental education is “to develop a world population that is aware of, and concerned about, the environment and its associated problems, and which has the knowledge, skills, attitudes, motivations, and commitment to work individually and collectively toward solutions of current problems and the prevention of new ones.” The ultimate goal of environmental education is the development of an environmentally literate citizenry. Environmentally literate individuals understand environmental issues and how human decisions affect environmental quality. In addition, they use this knowledge to make informed, well-reasoned choices that also take social and political considerations into account. As

important as knowledge about environmental issues and their human aspects are, they must be complemented by a positive and caring attitude toward the environment.

For many decades, a focus on learning in the natural environment has been a key part of early childhood education, stemming from Foebel's notion (Provenzo & Eugene, 2008) of the 'kindergarten' (literally translated as children's garden). This provides a solid grounding for education for sustainability, though environmental education in early childhood education has largely been implemented through the gaze of development approach (Edward & Cutter-Mackenzie, 2011).

Social-Emotional Development

According to Boyd and Bee (2010), there are two most influential perspectives on children's social-emotional development; the ethological and the psychoanalytic perspective. The ethology focuses on the study of animals in their natural environments. Ethologists emphasize genetically determined survival behaviors that are assumed to have evolved through natural selection. For example, nests are necessary for the survival of young birds. So that ethologists say, the evolution has equipped birds with nest-building genes. Thus, this ethological perspective was also known as *ecological theories*, perspectives that view development as resulting from degree to which genes help or hinder individual's efforts to adapt to their environments.

In the psychoanalytic perspective, Freud proposed a series of psychosexual stages that extend from birth through adolescence, during which individuals attempt to satisfy certain basic drives in different ways. Freud believes that the weaning process should be managed in such a way that the infant's need to suck in neither frustrated nor over-gratified (Boyd & Bee, 2010). Later theories, known as neo-Freudians, proposed ideas that built on the strengths of Freud's theory but tried to avoid its weakness. Erik Erikson (1902-1994) is the neo-Freudian theorist who has had the greatest influence on the study of development (Evans, 1969).

We can think of children's emotions as ways in which they react to situations while social development refers to as how they get along with peers and form relationships. Emotional and social development are linked because children's social interactions are usually emotionally charged (Halberstadt, Denham, & Dunsmore, 2001). Erikson, Paul,

Heider, and Gardner (1959) believed that personality develops in a series of stages. In each stage, Erikson believes children experience conflicts that affect development. He believes these conflicts are based on either developing a psychological quality, or failing to develop that quality. Social, emotional development begins with the first of Erikson's Psychosocial Stages, Trust vs. Mistrust. An infant develops trust when he experiences his needs being met in a consistent, nurturing relationship with a primary caregiver. In a secure relationship, an infant can form attachments.

Erikson second Psychological Stage, Autonomy vs. Shame and Doubt, says that toddlers strive to be autonomous. We can help them to get there by supporting them when they struggle and being there for them, but not always doing for them. Toddlers also need to be able to make simple choices that allows them to decide things for themselves and build self-esteem and confidence. In his third Psychological Stage, Erikson says that preschoolers begin to assert their power and control over the world through directing play and other social interaction, allowing them to feel capable and able to lead others.

Table 1. Erikson's Psychological Stage

Age	Psychosocial Stage
<i>Infancy</i> 0-1	Trust vs. Mistrust
<i>Early Childhood</i> 1-2	Autonomy vs. Shame and Doubt
<i>Play Age</i> 3-5	Initiative vs. Guilt
<i>School Age</i> 6-10	Industry vs. Inferiority
<i>Adolescence</i> 10-20	Ego Identity vs. Identity confusion
<i>Young Adult</i> 20-30	Intimacy vs. Isolation
<i>Adulthood</i> 40-50	Generativity vs. Stagnation
<i>Maturity</i> >50	Integrity vs. Despair

Dosser, Balswick, & Halverson (1983) believed the emotional expressions in psychology are observable verbal and nonverbal behaviors that communicate an internal emotional or affective state. Examples of emotional expression are facial movements such as smiling or scowling, or behaviors like crying or laughing. Emotional expressions can occur with or without self-awareness. However, according to early childhood education standard (Indonesia Ministry of Education and Culture, 2014), there are some specific indicators on children social-emotional development. Those are depending on children's chronological ages.

Table 2. Indonesia Ministry of Education's ECE Standard

Area Development	Standard step of attained developments
	3-4 years
Social-emotional	a. Taking part in a large program or agenda b. Imitating certain work by an adult c. Reacting to mistaken or wrong doing d. Showing their feeling verbally e. Starting to capable in toilet activity without others help f. Being patience on queuing g. Starting to show tolerance so they can work together h. Starting to respect others i. Starting to show regret expression when doing wrong j. Developing cooperation k. Understanding the difference of feeling l. Borrowing and lending toys

Methodology

This study implemented classroom action research (CAR) that was embedded with the project approach as an instructional strategy. The three phases of each project were embedded with one cycle of classroom action research. In conclusion, one cycle of classroom action research contains one project. Action research is a form of scrutiny or an action learning activities, which deliberately raise and occur in a class together. The action was given by the teacher or by the direction of teachers conducted by students. Isaac (1990) argued that action research aims to develop new skills or new approaches and solve problems with direct application to the classroom or the world setting.

Arikunto (2011) has developed a simple model of the nature of the cycle of action research process. Each cycle has four phases: Planning, Action, Observation, and Reflection.

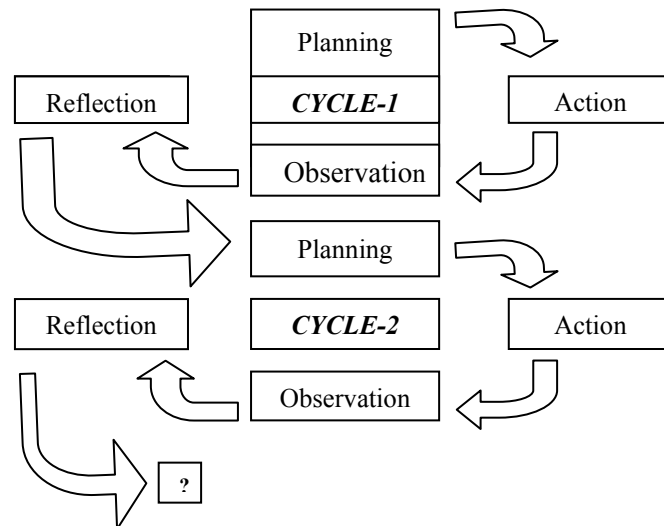


Figure 1. Phase of Classroom Action Research

This study was conducted at Kindergarten of Raudlatul Ulum on the academic year 2014/2015. The Kindergarten of Raudlatul Ulum was established on 2004. It is located in Trowulan Mojokerto in East Java Province, Indonesia. Mojokerto is known as the centre of ancient Majapahit kingdom that is rich of multi cultural resources, including Buddhist monasteries, temples, and ancient underground channels. In 2003, Mojokerto was hit by huge flood which devastated hundreds of houses, farmlands and city's infrastructures. This disaster was finally able to open people's mind that we should be more aware to deal with the environment.

The subjects of research are 15 children, 6 boys and 9 girls, between 3-4 years of age. The main teacher was Mrs. Eka, she is 35 years old and graduated from the Department of Islamic Education at Darul 'Ulum University. I served as a co-teacher and curriculum consultant. Another co-teacher was Ms. Della, she is the researcher's student at Al Hikmah NU School of Education. In this study, I also involved Ms. Fika to help me documenting the whole process. I provided kindergarten teachers with advice on curriculum design and

implementation. I observed their activities in class and discussed the thematic curriculum web, curriculum content, and problems with them.

The children social-emotional development was measured by SEAM (Social Emotional Assessment/Evaluation Measure) method. The SEAM was developed to address the need for psycho-metrically sound social-emotional tools for young children. (Squires & Bricker, 2007). Teachers need to observe children before selecting a response to the item. Each item was accompanied by several examples to give ideas about how the behavior might look. These behaviors might be displayed in different ways depending on child's age, the developmental stage of child, and the expectations of culture and family. During the observation, teachers assessed children in four scoring options (rating scale) include *very true* (4), *somewhat true* (3), *rarely true* (2), and *not true* (1). Inter-rater reliability was used to measure its reliability. It was estimated by measuring agreement between parents and teacher. The coefficient indicates how SEAM produces similar results for the same children regardless of raters within a short period.

The behavioral analysis must necessarily be expressed in a predicate which refers to the declaration of a state, measures of quality. Data on children's social-emotional development during the learning process were analyzed by determining the average value and the percentage then the results would be presented in the form of a bar chart. The analysis carried out at the time of reflection, to conduct further planning in the next cycle. Results of analysis used as reflections in improving learning design, which is used as a material consideration in the determination of appropriate learning models to improve children's social-emotional development. The successful of children's social-emotional development is that percentage to the overall scores achieved by the children reach 75% or more.

Findings and Discussion

The whole classroom action research was started from May 29th to June 9th, 2015. The first cycle of action research was conducted in four different day sessions. The theme "Water Project" was selected because it is the most essential theme on environmental education. We started with conducting teacher planning for the project through developing

such a “topic web” that are related to the same topic in various ways. It was a graphic tool used to organize and structure knowledge.

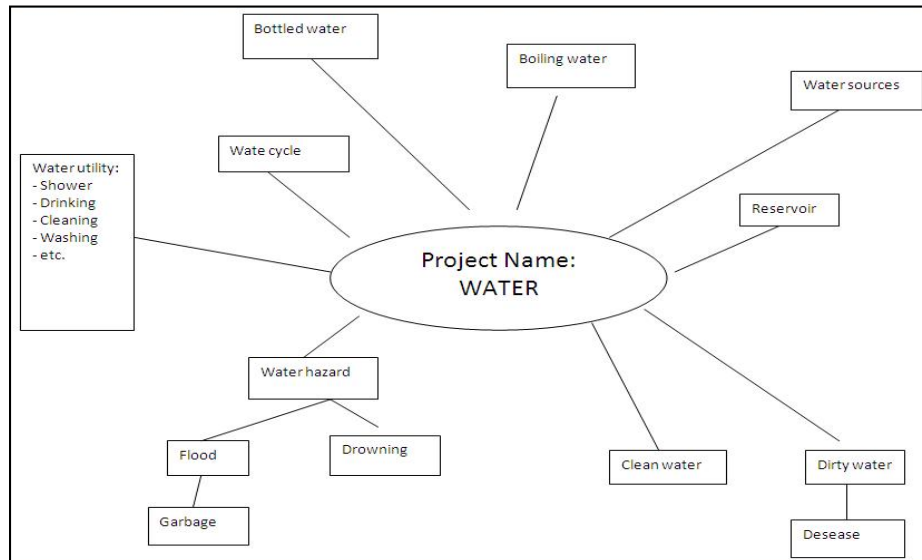


Figure 2. Teacher's web of the topic of water

On the first Cycle-1 session, we invited children to watch animation video about water adventure. It was the first phase of the project approach, which had tried to introduce children to the topic.



Figure 3. Children watched the animation about water adventure

On the second session of Cycle-1, we were on the second phase of the project approach; enabling the children to acquire new information. Children were invited to join a trip to Perum Jasa Tirta, a site of river management of Sungai Brantas. The purpose of this visit was to allow children gained information and experiences from direct source. We made a tour by guidance of official management.



Figure 4. Children observed a dam river

Mrs. Eka made a discussion with the children

Mrs. Eka: Do you know where the water comes from?

Puja: Yes, it comes from water pump. I saw it in my house.

Kenza: No, Puja! You're wrong. It comes from the well.

Putri: Maybe, it comes from yesterday heavy rain, right?

Mrs. Eka: Hmm... all of you have great answer. But actually the water comes from wellspring in the mountain. It is far away from here. Do you remember our yesterday film?

Children: Yes! (All children answered together)

Mrs. Eka: Good.. we must have responsibility to take care our water, because it is connected in the water cycle.

(Observation 01/07/2015)

Furthermore, we challenged children to make a simple water filter on the next day. They were divided into three groups so they could get experience in working together with classmates.



Figure 5. Playing with simple water filter

The final phase of project approach was carried out on the fourth session of Cycle-1. Children were asked to share a thorough understanding of the topic. Teacher gave them a series of cards containing various water pictures. Each of them picked one card and attached it on the suitable sort between “drinkable water” and “non drinkable water” in the wall display. Teacher also gave them opportunity to get direct experience in watering plants in the field by rotation.



Figure 6. Matching the cards and watering plants

During the Cycle-1 of the action research, we observed children on their social-emotional development as properly set by determined criteria. We found that total average of

children's attained development was 78.33% or increased by 17.78%. Children's patience on queuing was the most apparent indicator evidenced on the observation. The weakness of action research on Cycle-1 was the presence of misunderstanding between teacher and collaborators on developing lesson plan as it was a new approach. Some activities need extended time to be done properly. Based on this reflection, we believed that children social-emotional development could be more increased by planning action research on the Cycle-2.

The Cycle-2 was conducted in only two different day sessions. The theme "Garbage Project" was selected as it was very close to children surroundings.

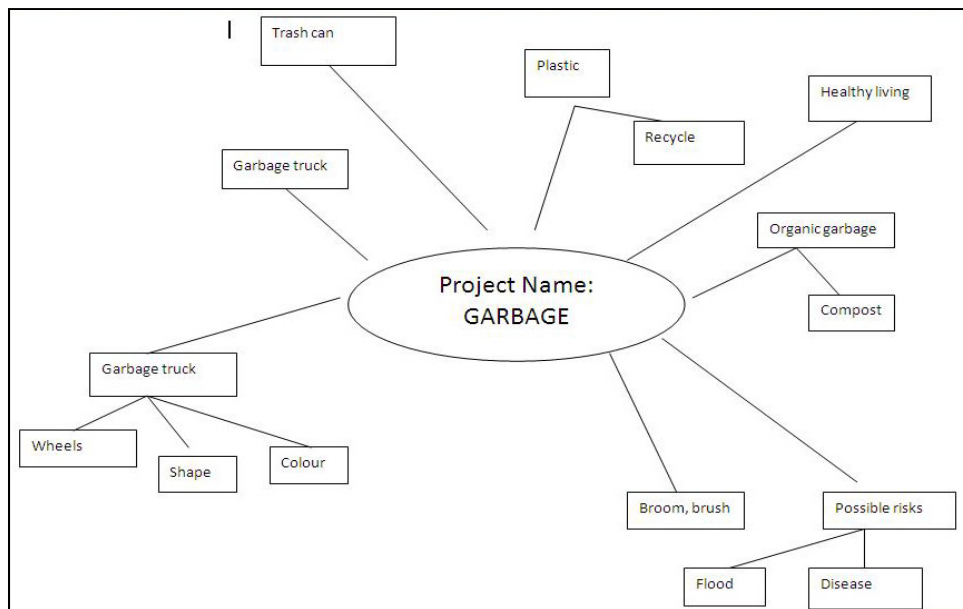


Figure 7. Teacher's web of the topic of garbage

On the first Cycle-2 session, we invited children to watch video about flood disaster caused by scrapheap on rivers. After introducing children to the topic by video discussion, we asked them to observe school environment.



Figure 8. Watching video about flood disaster

In this session, the children's social-emotional development was clearly evidenced. This could be seen when there was a friend blocking the view for watching video, other friends responded immediately, "Do not obstruct our view. You have to respect other friends." They were also very enthusiast to take garbage with their classmates and put it into trash. Finally, they observed the garbage cart, mentioned the color and shape, and counted the wheels. On the second session of Cycle-2, children were invited to make garbage cart picture. They were challenged to develop their creativity in utilizing paper, ice-cream spoon, crayon, and glue.

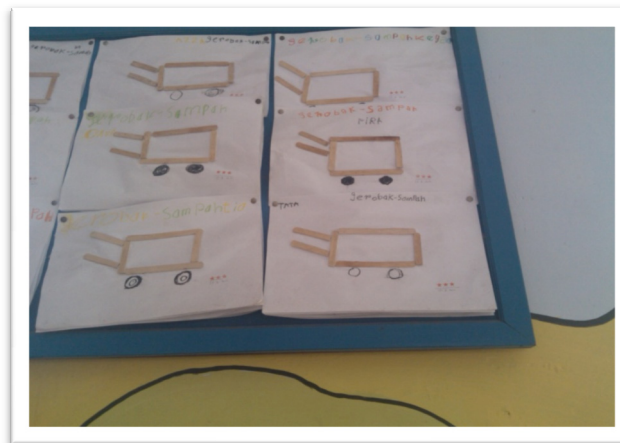


Figure 9. Garbage cart picture

It appeared that during Cycle-2 of the action research, the total average of children's attained development was 82.58% or increased slightly by 4.25%. Children's patience on queuing was the most apparent indicator followed by their respect to others and their capability to borrow or lend toys.

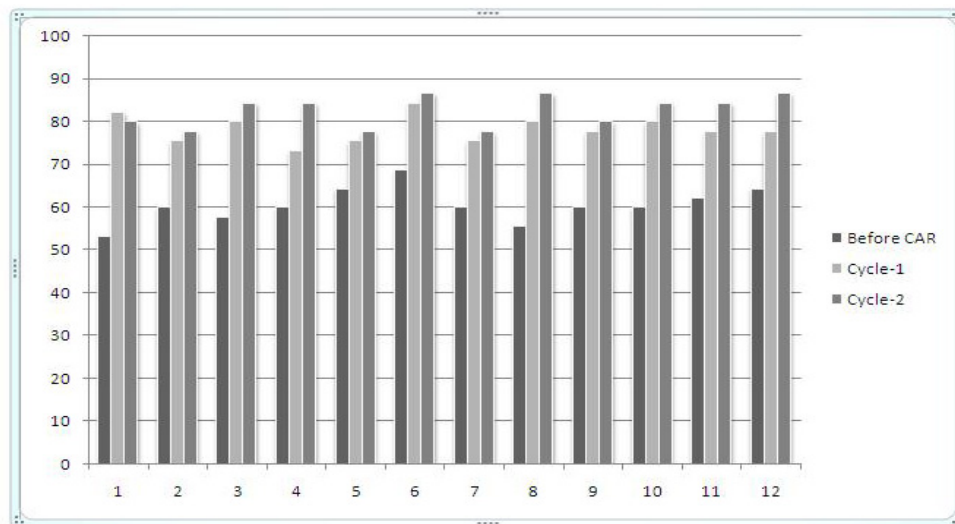


Figure 10. Children social-emotional development

Based on the chart above, it is known that the trend of attained developments by 15 children had been increasing. The highest result found at observation on Cycle-1 whereas the percentage of children social-emotional development was 82.58% at the end of cycle-2, or it had increased 22.03% than before. From the population who had been observed, there were no children had attained developmental level lower than 75%.

The poor of children social-emotional capability usually caused by the abstract instructional process, they do not get direct meaningful experience. According to Asmawati (2008) children at pre-school stage are in the exploration period, they have great curiosity. Project approach on environmental education allows children to get opportunity on understanding in-depth topic. They also get chance to construct their social values, save into their minds and implement to their daily activities.

In the instructional process through project approach on environmental education, teachers could apply and use all of learning source as well as their way of teaching. There

was no limitation to the teacher in using methods, set of specific teaching techniques or strict procedures. As Katz, Chard, and Kogan (2014) believed that project approach emphasizes the teacher's responsiveness to the individual children as well as to all of the children in the class. Teacher can encourage them to interact with people, objects, and aspects of their environment in ways that have personal meaning for each of them.

At the end of Cycle-2 there were three indicators that reach the highest average of the development (86.67%), which was an indicator to be patient to wait their turn, began to appreciate others and borrow and lend toys. Based on the findings from the field, these indicators could be increased by the selection of appropriate activities. It was also in accordance with the opinion of Susanto (2010) which stated that the action research focuses on improving the activities in the learning process. For example, a field visit activity allows children to experience standing in line directly into the vehicle. The video about the provision of assistance to the flood victims was able to build an understanding of children related to respect for others. Furthermore, when children were invited to make a simple water filter and draw garbage carts, this activity was able to develop the children's behavior on borrowing and lending toys or equipment each other.

Conclusion

Based on the data analysis, it can be concluded that the project approach on early childhood environmental education could raise children social-emotional development at Kindergarten of Raudlatul Ulum Trowulan Mojokerto Indonesia. The percentage of children social-emotional development was 82.58% at the end of cycle-2, or it had increased 22.03% than before. Furthermore, the children's social-emotional development level especially in giving respect to others and borrowing or lending toys had increased to 86.7%, meanwhile the children's ability to take part in a large program/agenda had reached 80%. From the population that had been observed, there were no children had attained developmental level lower than 75%.

Another finding in this study was about the learning journey of the teacher-researcher. The whole process in this study has been catalyst for paradigm shift in my own teaching

philosophy. The study was a mutually reinforcing cycle of transformation between children and teachers. It was also found that the project approach on environmental education supported children compiled their ideas about ways to show that they cared for the environment. The children came to the understanding that water is a finite resource which they have to share each other. This behavior is an important achievement in children's social-emotional development.

It is recommended, that environmental education should begin in early childhood education. The environmental education is not often embedded within early childhood curricula, so that early childhood educator must engage more fully with transformative education approaches. We also recommend another researcher to conduct further study with larger scope, many more samples or variables. Thus, social-emotional development is a kind of multi complex study, related with other children's development such as physical body, cognitive, morality, language as well as art and creativity.

References

- Arikunto, S. (2011). *Prosedur Penelitian* [Research Procedure]. Jakarta, Indonesia: Rineka Cipta.
- Asmawati, L., Novita, D., Pujiastuti, S. I., Tatminingsih, S., Syamsiatin, E. & Setiawan, D. (2008). *Pengelolaan Kegiatan Pengembangan Anak Usia Dini* [The Management of Early Childhood Development Activities]. Jakarta, Indonesia: Universitas Terbuka.
- Beneke, S. J. (2010). *The Effects of The Project Approach on Children in Inclusive Early Childhood Classrooms*. (Unpublished doctoral dissertation). University of Illinois, USA.
- Boyd, D. & Bee, H. (2010). *The Growing Child*. Boston, MA: Pearson Education, Inc.
- Creswell, J. W. (2008). *Educational Research*. (3rd ed.), Canada: Pearson Education International.
- Dosser, D., Balswick, J. & Halverson. C. (1983). Situational context of emotional expression. *Journal of Counselling Psychology*, 30, 375-387.
- Edward, S., & Cutter-Mackenzie, A. (2011). Environmentalising early childhood education

- curriculum through pedagogies of play. *Australian Journal of Early Childhood*, 36(1), 51-59.
- Erikson, E. H., Paul I. H., Heider. F., & Gardner, R. W. (1959). *Psychological issues* (Vol. 1). International Universities Press.
- Evans, R. I. (1969). *Dialogue with Erik Erikson*. New York, NY: Dutton.
- Gardner, H. (1993). *Frame of Mind: The Theory of Multiple Intelligence*. New York, NY: Basic Book.
- Goleman, D. (1995). *Emotional intelligence: Why it can matter more than IQ*. New York, NY: Bantam Books.
- Halberstadt, A. G., Denham, S. A., & Dunsmore, J. C (2001). Affective social competence. *Social Development*, 10(1), 79-119.
- Harlan, J. & Rivkin, M. (2008). *Science experiences for the early childhood years: An integrated affective approach*. New Jersey: Englewood Cliffs, Prentice Hall.
- Helm, J. H. & Gronlund, G. (2000). Linking standard and engaged learning in the early years. *Early Childhood Research and Practice*, 2(1), Retrieved from <http://ecrp.uiuc.edu/v2n1/helm.html>.
- Helm, J. H. & Katz, L. G. (2001). *Young Investigator: The project approach in early year*. Teacher College Press, Columbia University.
- Helm, J. H. & Katz, L. G. (2001). *Young investigator: The project approach in early year*. Teacher College Press. Columbia University.
- Helm, J. H., & Gronlund, G. (2000). Linking standards and engaged learning in the early years. *Early Childhood Research and Practice*, 2(1), Retrieved from <http://ecrp.uiuc.edu/v2n1/helm.html>.
- Indonesian Forum on Environment. (2012). *Menjadi Environmentalis Itu Mudah* [It is Easy to Become an Environmentalist]. Surabaya, Indonesia: Author.
- Indonesian Ministry of Education and Culture (2014). *Early childhood education standard*. Jakarta, Indonesia: Author.
- Isaac, S. (1990). *Handbook in research and education*. San Diego: Science ITB.
- Katz, L. G. & Chard, S. C. (1989). *Engaging children's mind: The project approach*. Norwood, NJ: Ablex Publishing Corp.
- Katz, L. G. & Chard, S. C. (1994). *The project approach*. Champaign, IL: Eric

- Clearinghouse on Elementary and Early Childhood Education.
- Katz, L. G., Chard, S. C & Kogan, Y. (2014). *Engaging children's mind: The project approach*, (3rd ed.). California, CA: Praeger.
- Provenzo, Jr. & Eugene, F. (2008). *Kindergarten history of kinderganten. Encyclopedia of the social and cultural foundation of education*. Thousand Oaks, CA: SAGE, 458-60.
- Reinsberg, K. (2015). *What is social-emotional development?* Retrieved from <http://www.abilitypath.org/areas-of-development/social-emotional/what-is-social-emotional.html>.
- Salovey P. & Mayer, J. D. (1990). Emotional intelligence. *Imagination, cognition, and personalit*, 9, 185-211.
- Salovey P. & Mayer, J. D. (1997). What is emotional intelligence? In P. Salovey & D.J. Sluyter (Eds.). *Emotional development and emotional intelligence*. New York: Basic Book.
- Squires, J., & Bricker, D. (2007). *An activity-based approach to developing young children's social emotional competence*. Baltimore, MD: Brookes Publishing.
- Stuhmcke, S. M. (2012). *Children as change agents for sustainability* (Unpublished doctoral dissertation). Queensland University of Technology.
- Sudhakara, R. B., & Assenza, G. B. (2009). The Great climate debate. *Energy Policy*, 37(8), 2997-3008.
- Susanto. (2010), *Konsep penelitian tindakan kelas dan penerapannya* [The Concept of classroom action research and it's application]. Surabaya, Indonesia: Lembaga Penerbitan FBS Unesa.
- UNESCO-UNEP. (1979). *The belgrade charter. Connect: UNESCO-UNEP Environmental education newsletter*, Vol. 1:1: 1-2.
- United Nation Development Programme. (2014). *Human development report*, New York, NY: Author.
- Wilson, R. (1994) *Environmental education at the early childhood level*. Washington, D.C: North American Association for Environmental Education.