Collaboration learning: project-based learning and local wisdom

N Nurdiansah*, S Kartadinata, E Maryani and N Supriatna
Post Graduate of Elementary Education Department, Universitas Pendidikan Indonesia,
Jl. Dr. Setiabudi 229, Bandung 40154, Indonesia
* nano.nurdiansah@gmail.com

Abstract. The application of the understanding of ecoliteracy in schools is a problem that is widely studied to make students able to live and feel the pleasure of the surrounding environment. This study aims to improve students' understanding of ecoliteracy. This research was conducted using a medote survey of 50 elementary school students in Tasikmalaya District Indonesia. The results of the study illustrate that project-based learning in elementary schools that collaborate with the local wisdom of the Kampung Naga make learning more active, enthusiastic, and happy. The learning situation certainly has an effect on their understanding of ecoliteracy, so it can be concluded that project-based learning that collaborates with the local wisdom of the Kampung Naga has improved the participation of student ecoliteracy.

1. Introduction
Humans are very complex living things in their environment, both physically and socially [8], awareness of the importance of maintaining and preserving the environment is a shared responsibility of the world community. The earth is only one (only one earth) whose survival depends on humans to preserve and preserve the environment. Meanwhile in the present conditions, culture is diminishing, changes in social order are towards a generation that has no policy and pro-sustainability [4]. It is necessary to immediately handle various problems on the earth by using them responsibly and equitably for the survival of the earth delivered through the educational process. if local knowledge can be fostered in education, there will be an increase in contributions to the development of local culture and also the possibility of increasing contributions to the growth of knowledge and development of education if carried out by every community and institution [3].

Philosophically Collaboration is the interaction and lifestyle of individuals who are responsible for their actions, including learning and respecting their abilities and contributing to their peers [7]. Local wisdom-based learning models are motivated by the global environmental crisis, local wisdom has proven its significance in achieving harmonious relations between humans and nature [9]. Project-based learning is a learning method that uses project activities as the core of learning and requires students' creativity in completing projects [10]. Some research results have explained the use of project-based learning and local wisdom-based learning.

The application of science learning with a local wisdom approach influences students' environmental literacy, thus giving the implication that teachers use the context of local wisdom in relevant science material to strengthen the concepts students learn [5]. in another study, it was revealed that local wisdom-based learning can influence the understanding of land ethics [9]. Then, the use of local wisdom-based science learning models through the reconstruction of original science proved to improve the conservationist character of students from low to good / high visibility [6].
In research related to project-based learning, explained that the use of teaching materials and material development using project-based mentors is feasible for thematic use in elementary schools [14]. Project-based learning can also be used to begin the construction of learning from insufficient background knowledge, to be able to strengthen the learning process and afterwards [12]. Then, the project-based learning approach can influence academic achievement, learning determination and learning functionality in a positive way [13]. From some of the above studies related to project-based learning and local wisdom all that is presented is research that is clarifying the value of tie of a local wisdom that does not involve directly in classroom / school learning. In this study, of course, there are differences from previous studies, in this study local wisdom is not only used as a method of value clarification, but they are directly involved in the preparation and implementation of learning in class / school with teachers and students.

2. Method
This study used a survey method for 50 elementary school students in the Tasikmalaya region of Indonesia. The school used as a place of research is a school that has collaborated with the local wisdom of Kampung Naga. The involvement of students in this study has received approval from the school and parents. Assessment of aspects of ecoliteracy participation is carried out with criteria as follows: always = 5, often = 4, rarely = 3, Sometimes = 2, and never = 1. Data on test results and questionnaires calculation of total scores for each respondent are grouped into three intervals class, namely high, medium and low.

3. Results and Discussion
Kampung Naga is a traditional village in Tasikmalaya, West Java, Indonesia which is unique in environmental management with a sustainable principle [1]. Their knowledge can be used as a source of learning for elementary school students to increase the participation of ecoliteracy students. The implementation of project-based learning involving the local wisdom of Kampung Naga is a concept of collaborative learning between schools and local communities. This collaboration is a concept that directly involves Kampung Naga local wisdom in classroom / school learning, so that students, teachers, and representatives of Kampung Naga indigenous communities carry out learning activities at the same time and place. In this collaboration, representatives of Kampung Naga local wisdom community act as guest teachers on subjects / themes that will be discussed by teachers and students in the class / school.

In the first stage of collaborative learning this is a planning activity, in this activity the teacher analyzes the material that can be used as material for collaboration with Kampung Naga local wisdom. Next, the teacher designs the learning design that will be delivered to students together with representatives of the Kampung Naga local wisdom community. After completing the learning design, the teacher/school sends a letter of application to the local wisdom, then the local wisdom will confirm the activities to be carried out. In the last activity is a discussion between the teacher and representatives of local wisdom related to the material that will be presented by them.

The second stage is the implementation of learning in class. At this stage learning is opened first by the teacher, and the teacher introduces to students the representative of the Kampung Naga community. As in project-based learning, the teacher gives questions to students about environmental problems and students are asked to provide answers and responses to the teacher's questions. From the answers given by the students, special notes were made by the teacher as the material for making the project. Next the teacher and students form and agree on the project that will be done in the project-based learning. The next stage is making a project implementation schedule that will be done by students. At this stage the joint discussion was also conducted with the Kampung Naga community representatives, then learning was directly switched to the representatives of the Kampung Naga community as the main resource persons.

Furthermore, the Kampung Naga community representatives explained how they used to plant trees as a way to preserve their lives and their existence. At this stage learning is carried out directly in the vicinity of which trees will be planted. Learning directly practices tree planting that starts from land acquisition, opens trees from plastic, saves trees in prepared holes, closes trees that have been put into holes, and procedures for giving fertilizer to trees, all of which are done together - students, teachers and community representatives of Kampung Naga.
Fig 1. Collaborative learning activities in the classroom and outside the classroom

When the activities in the garden are taking place, then the class teacher as many as 4 people who act as observers do their job of observing tree planting activities carried out by students to ensure that what is done by students is appropriate as done by the local wisdom community of Kampung Naga. At the last stage the teacher shares the experiences gained by students during the learning process, then the teacher reinforces the ecoliteracy of the activities that have been done. Next the teacher conducted a survey of students regarding their participation in maintaining the environment through farming activities, as for the survey results as follows.

| No | Category | Frequency | Percentage (%) |
|----|----------|-----------|----------------|
| 1. | Height   | 35        | 70%            |
| 2. | Medium   | 15        | 30%            |
| 3. | Low      | 0         |                |

Based on Table 1, it can be seen that the majority of respondents 15 (30%) included in the moderate category in the level of echoliteration from the aspect of participation, and 35 (70%) included in the high category and no respondents included in the low level at the echoliteration level of aspects of participation. In learning activities, many students carry out activities with themselves, so that this becomes an experience they feel themselves. Thus, through farming activities with project-based learning has a positive effect [2] for the ecoliteracy participation of students. The project-based learning approach has also been able to create a learning environment with knowledge built by themselves [11] even though in this case it collaborated with the local wisdom of Kampung Naga.

On the third which is the last stage of collaborative learning the use of project-based learning with the local wisdom of Kampung Naga is a stage of reflection on the learning process that has been carried out. In this activity there was a discussion between class teachers with Kampung Naga local wisdom, discussion of the discussion was the activity of learning that had been done together. One stage or part of the learning design prepared by Kampung Naga was not carried out, namely strengthening, but this was entered at the stage carried out by the teacher at the end of the lesson.

4. Conclusions
The stages of collaborative learning between schools and Kampung Naga local wisdom through project-based learning are divided into three stages, namely the stages of planning, implementation, and reflection. Learning collaboration between schools and Kampung Naga local wisdom through project-based learning has also made active students actively participate in creating a comfortable and beautiful environment in their schools. This is also the stage of introduction of environmental safeguards to students to improve their ecoliteracy intelligence.
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