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Development of Learning Activity Entitled Life and Environment Following Sustainable Economy Philosophy

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Abstract: Now a days learning activities for environmental education or environmental studies mainly focus on the integration of people's ways of life into the learning activities by examining the social contexts and environment around the learners so that the learners would have direct experience from nature enabling them to learn meaningfully. Besides, at present, the ideas of sufficiency economy philosophy have also been integrated into learning and teaching activities of environmental studies aiming to inculcate the learners to follow the essence of the philosophy which consists of three pillars: moderation, reasonableness and self-immunity and two conditions: knowledge and integrity. The purposes of this research were three fold: to develop the learning activity entitled Life and Environment following the sufficiency economy philosophy for Prathomsuksa 6 students, to compare the learning achievements of the students before and after using the learning activity and to compare the students attitudes towards environmental conservation before and after using the activity. The samples were 30 Prathomsuksa, 6 students studying in the second semester of the 2008 academic year at Sapradoo School, Wichianburi District, Petchaboon Province. The experiment was carried out using one group pretest-posttest design. The research instruments included five learning activity plans, learning achievement tests: pretest and posttest and a questionnaire on attitude towards environmental conservation. The results revealed that the learning activity entitled Life and Environment following sufficiency economy philosophy was effective at 81.67/82.92 which is higher than the 80/80 set-level, the students significantly had higher learning achievement after using the learning activity at the 0.05 level and the students significantly had a higher level of positive attitude towards environmental conservation at the 0.05 significance level.

Key words: Learning activity development, life and environment, sufficiency economy philosophy, teaching activities, environmental studies, Thailand

INTRODUCTION

Thailand's 10th National Economic and Social Development Plan (2007-2011) aims to reform the ideas and values of the Thai society emphasizing on the participation of all organizations in the country's development having the Thai people as the center of the development and using economy as a tool to create happier and better life quality for the people; the plan also changes the development approach from reductionism to integral holism in order to keep the balance among economic, social and environmental developments (ONEDB, 2007). Besides, the 10th National Economic and Social Development plan adopts the King's Sufficient Economy Philosophy as guideline for the development and administration of the country, along with the integral holistic approach which puts people at the center of the development for a happy and peaceful society. People need to be developed equally in all dimensions to have virtue and knowledge which will enable them to think analytically, reasonably and carefully to have moral and ethical awareness, to use the moderation principle for living so that the people are immune and ready for change and to successfully manage natural resources and environment as the foundation for sustainable development of the country.

From the 2007 Thailand Environment Quality Report, some natural resources in Thailand were in good condition. Drought became less severe. Wildlife in the Gulf of Thailand was in fairly good condition. However, there were still many problems with other environmental resources that should be solved urgently and

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continuously. Such problems include natural disasters, deforestation resulting from logging, wildfire and land occupation, coast erosion and biodiversity destruction, particularly in the inner area of the Gulf of Thailand (Natural Resources and Environmental Policy and Planning Office, 2008).

Natural resources and environment have been changing for years both by natural processes and human influences which greatly accelerate the natural processes and cause more severe changes. For example, global warming and climate change become severe problems not only in Thailand but also in other countries all over the world.

In the near future, it is clear that the world population will suffer from severe natural disasters more often than before (Natural Resources and Environmental Policy and Planning Office, 2007). The main causes of these problems are overpopulation and excessive use of natural resources for economic development without considering the restrictions and effects that influence the equilibrium and sustainability of the natural resource and environment capital as a result, the development of human life quality so that people can live happily in the society through the learning processes based on the principles for physical, mental, cognitive and social development of humans is very important. Because the knowledge to be the foundation for self development, working and studying at a higher level which can help solve natural resource and environmental problems sustainable. Therefore, education is a tool for sustainable development and environmental education is an important tool for solving natural resource degradation problems because environmental education is interdisciplinary and holistic in contents and processes and focuses on moral and ethical dimension (Pleampongsarn, 2006). The ultimate goal of environmental education is to develop the environment which is to develop the life quality of the people in general. Environmental education aims to build public awareness of the problems and importance of environment to improve people's daily life behaviors so that they will not cause any problem to the environment and to educate them to have a long living plan and participate in the caring and development of environment (Veeravatnanon, 2003). Environmental Education is the education aiming to change students' environmental behaviors both in personal and social levels so that the students are involved in the reservation of the environment (Johnson and Mappin, 2005). The environmental education processes aim to develop human behaviors so that they are involved in the reservation of environment which is beneficial to human beings (Veeravatnanon, 1998). Research studies and activities on environmental education reveals that although, environmental education are included in curriculums and people are well educated, the environmental problems are still present and seem to be more serious. This is because the education is unable to help create people's awareness and skills in preventing and solving environmental problems. The curriculum lacks the integration and continuation of contents between different levels of the students. Besides, there are not enough appropriate supplementary activities, budgets and personnel and there are also teaching and coordinating problems (Suwannatachot, 2000). In addition, when examining environmental education at the basic education level, it was found that the techniques to improve students' attitude toward environmental reservation were not effective enough. The environmental education mostly focuses on more on the contents than experience. Moreover, there was also no integration and connection of local wisdom and new technology. Students rarely had real practice or hands-on experience, so they were unable to use their knowledge to effectively solve the environmental problems in their area. To solve such problem environmental education should focus on human resource development. The students should be taught to understand about social values and ways of life that support sustainable economic, social and environmental development. Young people should be taught with the learning activities that use sufficient economy philosophy to develop people's body and mind, educating them about natural resources and environment, implanting awareness of environmental problems in them and creating positive attitude toward environmental reservation in them.

Government and all organizations both in public and private sectors should realize and be aware of the importance of sustainable natural resource and environmental conservation. The integration of sufficient economy philosophy into learning activities is aimed atimplanting the thinking principles of sufficient economy philosophy into the students, encouraging them to behave according to the principles, which include three characteristics: moderation, reasonableness and immunity and two conditions: knowledge and integrity. The students participate in the activities themselves and the activities emphasize mainly on the learning through the local learning sources and use knowledge searching and critical thinking processes. The environmental learning activities and learning sources should be various and students should be allowed to choose the activities to participate in by themselves according to their own interest and capacity. The activities should allow students to think, practice and gain knowledge by themselves. The contents should be integrated, the after examining strand

two of the science learning stands and standard, titled Life and Environment in managing learning and teaching of environmental education, leaning activities should be managed by relating contents to daily life situations with an emphasis on allowing students to learn real natural resource and environmental problems from local communities. The report on natural resource and environmental problems in Petchaboon Province revealed that the problem in this area included deforestation resulting from business, industry and tourism expansion, flood and land slide, land degeneration, drought and garbage. Besides in the area, there are also the problems of illegal logging, insufficient water resource, chemical contamination and garbage. Therefore, it is necessary that people and all organizations participate in the environmental reservation, protection and development for better environment. Due to the importance of environmental education and the excessive use and misuse of natural resources and environment which cause the natural resource degradation and environmental problems, the researcher is interested in developing the learning activity entitled Life and Environment Following Sufficient Economy Philosophy for students to learn and understand environment use natural resources usefully and have environmental awareness and positive attitude towards sustainable environmental conservation which will be one of the ways for promoting the use of education and environmental processes for natural resource and environmental conservation and protection.

Research objectives: The purposes of the research on the development of learning activity entitled Life and Environment Following Sufficient Economy Philosophy for Prathom 6 students from Ban Sapradoo School, Wichainburi Distirict, Petchaboon Province are as follows:

- To develop the learning activity entitled Life and Environment Following Sufficient Economy Philosophy for Prathom 6 students to have the efficiency level at 80/80
- To compare learning achievement of Prathom 6 students before and after using the learningactivity entitled: Life and Environment Following Sufficient Economy Philosophy
- To compare the attitude toward environmental conservation o Prathom 6 student before and after using the learning activity entitled Life and Environment Following Sufficient Economy Philosophy

MATERIALS AND METHODS

Design and sample

Participants: The participants were 265 Prathom 6 students studying in semester 2 of the 2008 academic year in Sapradoo Academic Development Centre, Wichianburi District, Petchaboon Province, under the administration of Office of Educational Service Area 3, Petchaboon.

Sample group: The sample group consisted of 30 Prathom 6 students studying in semester 2 of the 2008 academic year in Srapadoo School, Wichianburi District, Petchaboon Province, under the administration of Office of Educational Service Area 3, Petchaboon, selected by using purposive sampling method.

Research instruments: There are 3 tools used in this research:

- Five learning activity plans entitled Life and Environment Following Sufficient Economy Philosophy
- Forty item achievement test
- Thirty item attitude questionnaire on environmental conservation

Five learning activity plans: The researcher created five learning activity plans with a post-test at the end of each plan and then allowed three specialists to validate them. The researcher revised the plans according to the comments and suggestions from the specialists and then implemented them in a pilot study with the Prathom 6 students in Lamnarai School, Wichianburi District, Petchaboon Province. The lesson plans were approved and ready for experimentation.

Achievement test: The researcher created the 40 item test with 4 choices and asked three specialists to evaluate and validate the test. The test was revised following the suggestions and comments of the specialists. Then the test was used in a pilot study with the Prathom 6 students in Lamnarai School, Wichianburi District, Petchaboon Province. The test was approved and ready for experimentation.

Attitude questionnaire: The attitude questionnaire was on environmental conservation consisting of 30 questions with five answer options. The questionnaire was evaluated for validity by three specialists, revised accordingly and trialed in a pilot study in Lamnarai School, Wichianburi District, Petchaboo Province. Finally, the attitudes questionnaire on environmental conservation was approved and ready for experimentation.

Data collection and analysis: The researcher collected data from 30 sampling students by pre-testing the students, teaching the students using the learning activity entitled Life and Environment Following Sufficient Economy Philosophy for 3 h a week for 4 weeks totaling 12 h and post testing the students after the lessons. The researcher carefully examined the data, divided them into categories and analyzed them by using descriptive statistics such as percentage, mean and standard deviation. The hypotheses were tested by using t-test.

RESULTS AND DISCUSSION

The results of the analysis for the efficiency of the learning activity entitled Life and Environment Following Sufficient Economy Philosophy are shown in the Table 1. From Table 1, it was found that the mean score of the post tests of the learning activity plans was 49 which is 81.67% of the total score and the mean score of the post-achievement test was 33.17 which is 82.92% of the total score. It could be concluded that the learning activity plans have the efficiency level of 81.67/82.92 which is higher than the 80/80 set level. The analysis of leaning achievement before and after using the plans was shown in Table 2. From Table 2, it was found that the achievement test result of the students after the experimentation was significantly higher than before the experimentation at the p-value of 0.05.

The analysis of students' attitude towards environmental conservation before and after the experimentation are shown in Table 3. From Table 3, the results revealed that the students' attitude towards environmental conservation after the experimentation was significantly higher than before the experimentation at the p-value of 0.05. The results of the research are outlined and discussed as follows: the efficiency level of the learning activity plans is 81.67/82.92 which is higher than the 80/80 set level.

This shows that the plan is effective helping the students to learn and achieve the learning objectives. This is because the learning activity plan was systematically created and the integration of sufficient economy philosophy into the learning activities and the use of local learning sources around the school in the activity successfully help make the leaning activity plan interesting and effective. The students learning achievement after the experimentation is higher than before the experimentation at the significance level of 0.5. The result confirms that the learning activity plan is highly effective. The students had higher achievement level because through the learning activity plan, the students were allowed to learn through the leaning and teaching activities that emphasized knowledge searching and science processes. The students were allowed to participate in all processes of the activities. They explored the community and indicated the community problems by themselves. Since the students were allowed to do the activities by themselves and each of them has his or her role in the activities, the students enjoyed themselves. They could express their ideas and were responsible for the community's environment. The direct experience of the local sources outside classroom generated enjoyment, fun and better learning and understanding than the mere lessons in class. This is in line with Paget's idea on intellectual development which states that when students are allowed to learn things by doing by themselves, they can have their own idea and thought (Simpson and Marek, 1998). The learning by linking academic topics to real-world connections, allowing the material to be made more meaningful, tangible and relevant could help improve students learning achievement (Parlo and Butler, 2007).

Table 1: Mean, standard deviation and percentage of scores from post-tests of the five plans and the achievement test

Test	Total score	Mean±SD	Percentage
Post-tests at the end of the plans	60	49.00±2.08	81.67
Achievement test	40	33.17±2.42	82.92

Table 2: Learning achievements of the students before and after using the plans

Achievement	n	Mean±SD	df	t	p-value
Before experimentation	30	24.50±2.64	29	-28.46	0.000*
After experimentation	30	33.17±2.42			

Table 3: Attitude of the students before and after the experimentation

Attitude	n	Mean±SD	df	t	p-value
Before experimentation	30	2.74±1.72	29	-21.39	0.000*
After experimentation	30	4.24±1.42			

The students attitude towards environmental conservation after the experimentation was higher than before the experimentation at the $p<0.05$. This is because the learning activity plan emphasizes real practice and direct experience with the integration of sufficient economy philosophy into the activities aiming to implant positive attitude into the students so that they would see the value of environment through various kinds of learning activities. The learning activities entitled Life and Environment on changing students behaviors. That management for natural resources and environment based on conversation and sustainable development. According to Kobierska *et al.* (2007), the main goal of environmental education is to develop in children and people an attitude of responsibility for environment. Since sufficient economy philosophy's principles are exercised in the learning activity plan, the students attitude toward environmental reservation is higher after the students were taught.

CONCLUSION

It is said that the learning activity plan was efficient at 81.67/82.92 which was higher than the set level (80/80). Moreover, the achievement and attitude towards environmental conservation of the students after using the plan were significantly higher than before using the plan at the p-value of 0.05. It can be clearly seen that the learning activity entitled, Life and Environment Following Sufficient Economy Philosophy was efficient and the achievement and attitude towards environmental conservation of the students were higher after learning through the learning activity. Therefore, it can be concluded that the integration of Sufficiency Economy Philosophy into lessons on Environmental Studies is highly effective as it can help improve students' achievement and attitude significantly. Thus, the teachers or lecturers on Environmental Education or Environmental Studies in any institution should consider or adopt this as an alternative way to teach their students about the environment surrounding them.

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