
Needs for the Integration of Agricultural Subject with Thai Language, Mathematics, and Science Subjects of First Year Elementary School Teaching and Learning Facilitation, Sangkaprachanusorn School.

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This study aimed to explore needs for the integration of Agricultural Subject with Thai Language, Mathematics, and Science Subjects of first year elementary school teaching and learning facilitation, Sangkaprachanusorn School. In-depth interview was used for data collection conducted with 10 committee members of the school who always joined school activities. Obtained data were analyzed by using content analysis.

Results of the study revealed that the informants agreed to the integration of Agricultural subject with Thai Language, Mathematics, and Science subjects. This was due to the following: 1) agriculture should be instilled to students; 2) students would perceive importance of agriculture; 3) students would be familiar with various vegetables; and 4) Agricultural subject could be integrated with other subjects depending on appropriateness of each subject.

Keywords: Integration, Agricultural subject, Thai Language subject, Mathematics subject, Science subject.

Introduction

The 11th Educational Development Plan of the Ministry of Education (2012-2016) set strategies and implementation guideline for the acceleration of the development of quality and standard of students. This focused on the following: 1) improvement of curricular programs, teaching/learning process,

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and measurement/ evaluation of all types of education to be consistent with technological changes; 2) development of teaching/learning facilitation process and activities enhancing skills of students in various forms and systematic/critical thinking, skills in science., mathematics, technology and foreign languages were included; 3) promotion of teaching media production, quality textbooks, and up-to-date learning content; 4) development of teaching media of all levels and types of education which students could learn by themselves; and 5) promotion and development of hygiene of students of all levels (Ministry of education, 2012).

In addition, it included the promotion of virtue, ethics, and civilian being focusing on the construction of learning process, value, pride of being Thai, and public mind which is in accordance with the philosophy of sufficiency economy. Also, it focused on the integration of diverse learning i.e. academy, life skills, arts, music, culture, religion, disciplines, unity democracy, networks, etc. (Ministry of Education, 2012). In fact, the current Agricultural subject is the one which the Ministry of Education contains it in the core courses of basic education – the learning content group on occupation and technology (Ministry of Education, 2008). Regarding its curricular structure, it is found that there is little learning content making Agriculture teachers cannot teach covering all learning content as set in the curricular program. This causes students lack of knowledge and understanding about the matter related to agriculture as well as good attitudes toward agriculture and agricultural occupation.

Therefore, the researchers as Agriculture teachers in the elementary school level under the supervision of Bangkok Education Office have an idea to integrate Agricultural subject with Thai Language, Mathematics, and Science subjects. This will make students gain knowledge about agriculture more than ever. Furthermore, it is the connection of agricultural science with other subjects which it can build good attitudes of students toward agriculture.

Objective of the Study

This study aimed to explore needs for the integration of Agricultural subject with Thai Language, Mathematics, and Science subjects of elementary school teaching and learning facilitation, Sangkaprachanusorn School.

Review of Related Literature

Integrated learning facilitation is the harmonious combination of learning content of two subjects or more under the same objective–meaningful knowledge which can be utilized in the actual daily life activities (Udom, 2005

and Wongyai, 2011). Aside from the implementation in accordance with the 11th Educational Development Plan of the Ministry of Education (2012-2016), needs for integrated curricular programs arises from current social problem conditions: 1) problem-solving and development of various things in daily life activities by the application of diverse Integrate Science; 2) it aims to make learners understand and perceive the relationship between concept of each learning group; 3) to solve the problem in the overlapping of the facilitation of learning activities; 4) the teacher must teach ore knowledge within a specific period of time; 5) the society wants diverse knowledge used for problem-solving; 6) the society needs a happy, intelligent, and good person; 7) the curricular program and the society need the development of teaching technology to cope with rapid social changes; 8) changes in teaching technology e.g. concepts of Multiple Intelligence, Emotional Intelligence, and Child-Centered Learning. Besides, the teacher must adapt styles of knowledge transfer and the facilitation of learning activities to be consistent with social changes (Marthcharat *et.al.*, 2003).

Scope and Delimitation of the Study

1. Explored the community context around Sangkaprachanusorn School. This involved the community traits, community changes, social and environmental condition, occupations, livelihoods, education, and culture/tradition.

2. Explored agricultural occupation of communities around the school. This involved agricultural occupation traits, changes in occupation and importance of agriculture to the community.

3. Explored needs for the integration of Agricultural subject with Thai Language, Mathematics, and Science subjects of first year elementary school, Sangkaprachanusorn School.

Methodology

This study employed qualitative research and in-depth interview was used for data collection.

1. The population in this study consisted of 10 committee members of Sangkaprachanusorn School who always joined school activities.

2. The research instrument in this study was structured interview schedule and it covered 4 parts:

- 1) Socio-economic attributes of the informants;
- 2) Community context around the school;

- 3) Agricultural occupations in the communities around the school; and
- 4) The integration of Agricultural subject with Thai Language, Mathematics, and Science subjects, Sangkaprachanusorn School.

This was based on review of related literature, concepts, theories, and researchers as well as the empirical facts of the communities around the school. Three specialists inspected objectivity and validity of the interview schedule by finding Index of Item-objective Congruence (IOC). It was found that all question items obtained a score of more than 0.50 so it was improved in accordance with suggestions of the specialists.

3. Data collection was done by the researchers and 2 assistances who were co-teachers. The researchers interviewed 10 school committee members (100%) and the assistances made sound/written records and took photos.

4. Obtained data were analyzed by using qualitative research method (mainly content analysis).

Results

1. Socio-economic attributes of the informants

More than one-half (60.00%) of the informants were male and they were 56.40 years old on average. All of the informants had relationships with the communities around Sangkaprachanusorn School. Ten percent of them were vice-president of the community and ten percent of them used to be vice-president of the community. Twenty percent of them were the community presidents while forty percent were community members. Ten percent of them were members of the community farmers group while another 10 percent used to be heads of a group of village. Thirty percent of the informants lived in Chalongkrung community and the rest lived in Paendin Thong-Wat Lumpra Ong (40%), Pracha Uthit community (10%), and Thab Yao community (20%). The informants had been living in their community for 29.60 years on average. One-half (50%) of the informants finished compulsory education. The rest were bachelor's degree graduates (30%) and master's degree graduates (20%). Less than one-half (30%) of the informants had their own business, were farmers (30%), and others (10%).

2. Community context around Sangkaprachanusorn School

Changes in community context around the school from the past up to the present could be sorted based on its details related to social and environmental conditions, occupations livelihoods, education, culture, and tradition as shown in Table 1.

Table 1. Community context around the school in the past and at present

Context	Past	Present
Environment	Natural, good weather, open area, not crowded, the land was separated into pieces for rent, few structures or building	Still be good because it is surrounded by rice fields; becomes to be a big community; crowded; waste water problems; and increased garbage problem due to increased population which results in environmental problems
Society	Not be a community condition; not a crowded community; agricultural society; simple way of life and help one another; brotherhood; group forming to ask for the provision of basic infrastructure; and people in the community know one another	A big community which result in various problems e.g. drugs, theft, gambling; ignorance one another; parents must work hard so they have not enough time to take care of their children; and outside agencies assist the community for development
Occupation	<ul style="list-style-type: none"> - Engaged in agriculture i.e. rice growing, field crop growing, and fish culture - Trading and hired worker 	Diverse occupations. New generations enter workforce markets in the industrial sector more than ever. Meanwhile, many people are engaged in commerce. Rice growing is in the form of commercial farming which has high production costs. Some local people are hired workers on the rice field. People in Thab Yao community still be engaged in agriculture but labors are replaced by farm machinery.
Livelihoods	Agricultural society or rural community, subsistence farming, inconvenient livelihoods, inadequate infrastructure, inconvenient transportation-had no road, transportations is through boats.	People have better livelihoods. Infrastructures are developed. People have their own land but earning a living is more difficult than before. Economic status of people is at a moderate level. People have increase incomes and expenses.

3. Agricultural occupations in the communities around Sangkapra chanussorn School

Currently, agricultural occupations there still are important to the community. In the past, rice growing was the most important occupation there. This was followed by fish culture, fighting cock rearing, field crop growing, toxin-free farming, goat and cattle rearing, agricultural yield selling, mixed farming, natural farming, and vegetable growing for household consumption, respectively. (Figure 1).

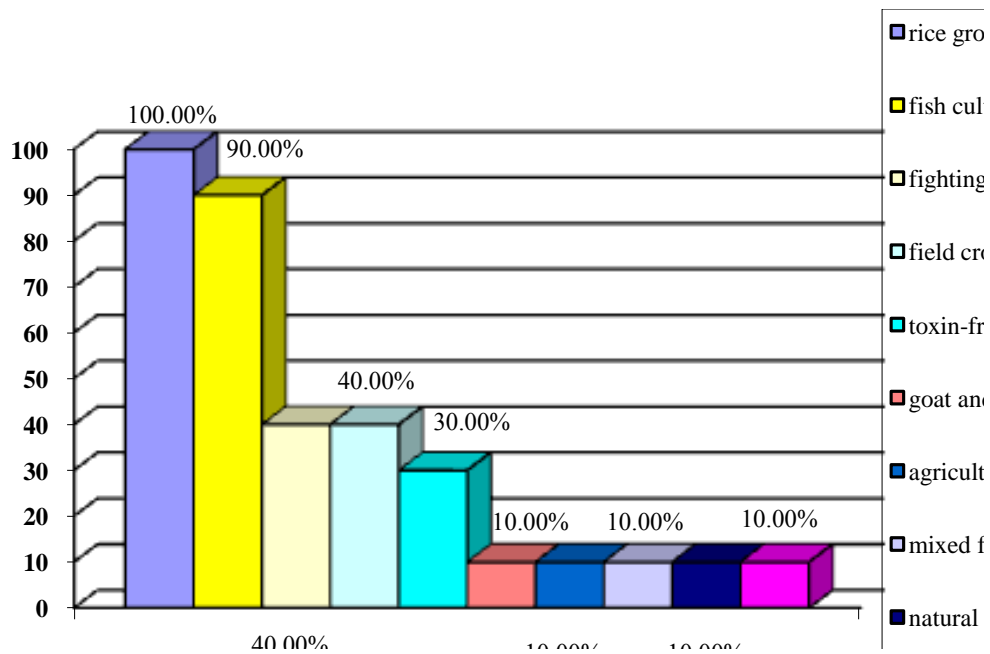


Figure. 1 Agricultural trait in the communities around Sangkaprachanusorn School

At present, however farming in the communities around the school has been changing as follows: 1) decreased farmland; 2) rice growing is in the form of commercial farming; 3) home grown vegetables for household consumption; 4) vegetable garden project supported by concerned agencies; 5) rice growing is done 2-3 times per year; 6) an increase in chemical using (rice growing); 7) the occurrence of land leasing for farming; 8) high agricultural production costs; 9) a decrease in farming; 10) a decrease in animal husbandry due to disturbance to people in the community; 11) farm machinery is introduced; and 12) many local people become to be hired workers. (Figure 2).

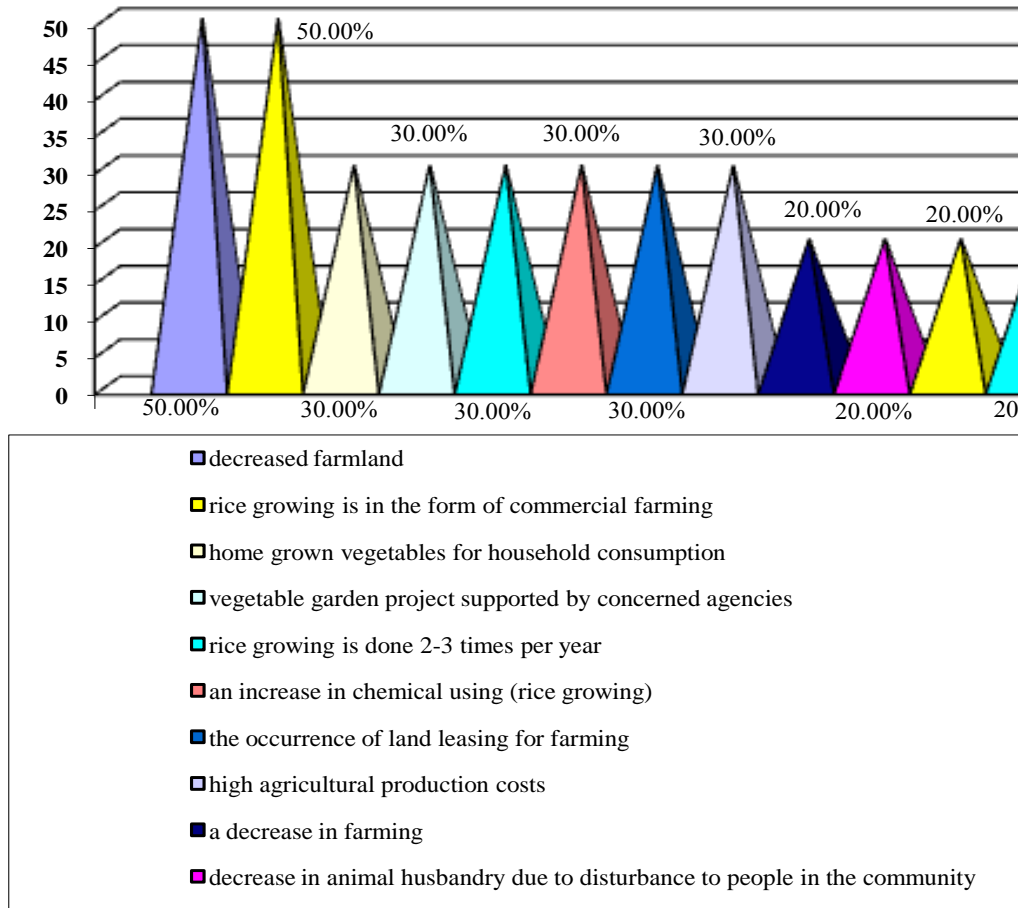


Figure. 2 The changing nature of agriculture in the community around Sangkaprachanussorn School

4. Needs for the integration of Agricultural subject with Thai Language, Mathematics, and Science subjects, Sangkaprachanussorn School

The informants claimed that Agricultural subject is important because of the following: 1) students can apply it to daily life activities (60%); 2) students are aware to thrift and home grown vegetables (40%); 3) the school is located in farmland areas (30%); 4) students perceive the name of various kinds of vegetables and they can choose to consume it (20%); 5) students have experience in agriculture (10%); 6) agriculture can instill the mind of students (10%); 7) Thailand is an agricultural country (10%); 8) students know steps of good agricultural practice (10%); and 9) students perceive value of vegetables and want to grow it (10%).

The following were scope of the teaching/learning facilitation of Agricultural Subject of first year elementary school students: 1) teaching students to know the name of vegetables (60%); 2) instilling students about agricultural knowledge (50%); 3) teaching students about animals (30%); 4) teaching students how to grow vegetables in a pot (30%); 5) teaching students to realize importance of agriculture (20%); and 6) teaching students to grow vegetables in a small container (20%), respectively.

The informants indicated that the integration of Agricultural subject with Thai Language, Mathematics, and Science subject should be done due to the following: 1) instilling students knowledge about agriculture; 2) students are aware of the importance of agriculture; 3) students know various kinds of vegetable; 4) Agricultural subject can be integrated with other subjects; 5) novel teaching which can interest students; 6) students' ancestors are engaged in agriculture; 7) students are encouraged to have critical thinking; 8) Agricultural subject is interesting and can be integrated; 9) students will not forget that Thailand is an agricultural country; 10) students should realize that agriculture is the production of food for man; and 11) the communities around the school are not urban communities. (Figure 3).

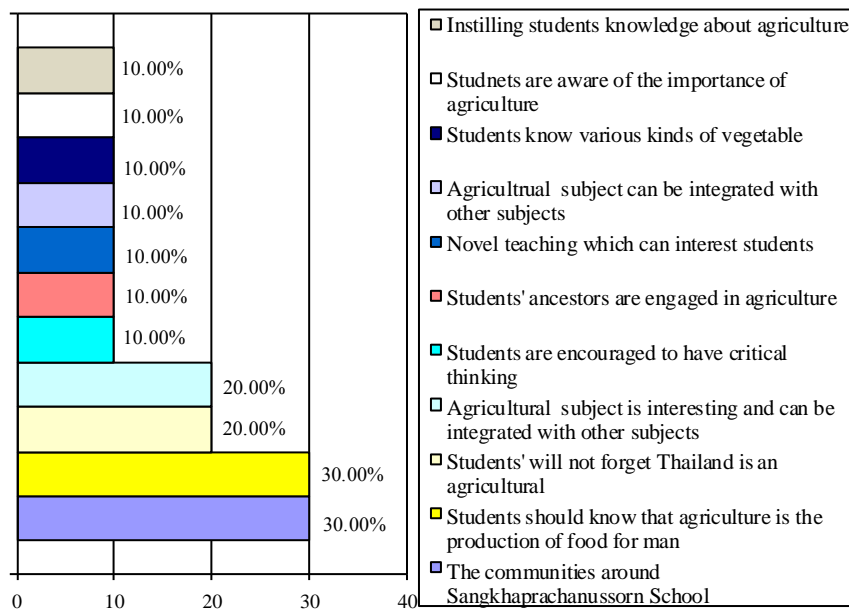


Figure 3. Reasons why Agricultural subject should be integrated with Thai Language, Mathematics, and Science subjects

Conclusion

The informants claimed that the facilitation of agricultural teaching/learning is essential. This is because students are able to apply it in daily life activities especially home grown vegetables, thrift, and nutrition. Besides, the informants stated that it is good to integrate Agricultural subject with Thai Language, Mathematics, and Science subject because it instill students knowledge about agriculture and its importance.

Discussions

According to result of the study, it can be seen that the past context condition of the communities around Sangkaprachanussorn School was the agricultural community. At present, however, it becomes to be the urban community due to an increase in population and the farmland is decreased. Comparing these communities with neighboring communities such as Hua Takae, it is found to be different. This is because these communities are located in farmland areas and it is not close to main roads. In addition, Bangkok Metropolitan and office has determined these communities to be the Green Zone for agricultural conservation. Also, livelihoods of the people there is like the traditional agriculture community. That is, there are Lampa Ong temple as the center of community activities and tradition inherited from the past. In addition, the communities areas around the school are belong to the temple. Thus, area development is limited due to rules and regulations of the temple.

Furthermore, results of the study reveals that it is essential to facilitate agricultural teaching/learning. This is because students can apply it to their daily life activities in terms of thrifts self-reliance, and nutrients. Importantly, Agricultural subject should be integrated with Thai language, Mathematics, and Science subjects because it can instill students knowledge about agriculture and its importance to man.

Suggestions

Based on results of the study, the following are suggestions:

1. The researcher should accelerate the preparation of learning content and lesson plan of the integrated subject for first year elementary school.
2. The researcher should try out the integrated subject teaching in accordance with the lesson plan.
3. Sangkaprachanussorn School should seriously support the idea on the integrated subject for first year elementary school until the research is finished.

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