The Model for Enhancing Participatory Leadership to Raise Conscious Minds in Conservation of Diverse Plant Genetic for Elementary School Students in Maeka Community: The Plant Genetic Conservation Project under the Royal Initiative of Her Royal Highness Princess Maha Chakri Sirindhorn*

Nanthima Nakaphong Asvaraksha
Naresuan University, Phitsanulok, Thailand
E-mail: nanthiman@nu.ac.th

Abstract

The main objective was responding to the royal initiative of The Plant Genetic Conservation Project under the Royal Initiative of Her Royal Highness Princess Maha Chakri Sirindhorn. The sub-objectives were as follows: synthesize the components of participatory leadership and study the needs for enhancing participatory leadership, develop the model, implement, and analyze the success factors and problems after utilizing the model. The population consisted of 468 elementary school students in the Meaka community. The samples were 74 elementary school students of Banhuaikhian school. Instruments comprised of questionnaire, structured interview guild, participatory leadership assessment form, knowledge test for conservation of diverse plant genetics, conscious mind test, and a record form. Data were analyzed using percentages, mean, standard deviation, t-test, and content analysis.

This research found that: participatory leadership comprised of seven components. A study of the need for enhancing participatory leadership for all components were at a high level. They were arranged as follows: work processing, planning, decision-making, goal setting, expressing opinions, information management and communication, and problem-solving. The developed model comprised of seven components: principle,

*ได้รับบทความ: 5 มิถุนายน 2567; แก้ไขบทความ: 29 มิถุนายน 2567; ตอบรับตีพิมพ์: 30 มิถุนายน 2567
Received: June 5, 2024; Revised: June 29, 2024; Accepted: June 30, 2024

objective, contents, time, experiential learning activity, resources, and evaluation. The model's propriety mean score was at the highest level. A comparison of participatory leadership mean score was at 2.80 (high level) which was higher than the criteria score of 2.50. A comparison of students' knowledge of the conservation of diverse plant genetics before and after had a post-test mean score of 26.90 which was higher than the pre-test mean score of 7.81 (full score of 30). A comparison of the conscious mind mean score of 2.86 (high level) which was higher than the criteria score of 2.50. The success factors comprised of an experiential learning activity cycle with four steps allowed students to practice analytical thinking and a conscious mind of plants' value and benefits. The content was consistent with the community's needs and was useful in diverse plant genetic to remain sustainable. The problems comprised of some students learned faster than others, so, students should be encouraged to participate in helping each other in the group. The students do not know how to use certain equipment, so, should be taught basic skills first to ensure safety while organizing activities.

Keywords: Participatory; Leadership; Conscious mind; Conservation; Plant genetic

1. Introduction

Conservation of plant genetics will also bring benefits to the Thai public. Many activities must be carried out simultaneously. Plant genetics are the same target. One person or one organization cannot do the job completely. It requires many resources including human resources, equipment, location, time, and budget, as well as having to do it continuously without end. In addition, the general public must know until they have a thorough understanding. Seeing the benefits and importance of plant genetics makes plant genetic conservation complete. It especially depends on the consciousness that loves and cherishes resources. As the royal speech "Love of resources is love of country and land." Raising a conscious mind has a conceptual framework for various target groups of people, especially youth, students, and the general public, to know and understand about plant genetic conservation of the country. Recognizing the importance and benefits of resource conservation that bring benefits to the Thai public. (The Plant Genetic Conservation Project under the Royal Initiative of Her Royal Highness

Princess Maha Chakri Sirindhorn 2011-2016, 2011, pp. 6-7).

The conscious mind is a matter of the mind. It is a feeling and thought within a person that can occur and arise through learning. Once the Conscious mind arises, it will remain for life. People with good Conscious minds will behave appropriately with their Conscious minds. Their Conscious mind is used to benefit various things. Conscious minds that are developed in children and youth should have three main aspects. Self-consciousness is the consciousness of self-development to make oneself a more complete person. Others-oriented consciousness is the consciousness of relationships between individuals in a group or society. Social or public consciousness is the consciousness that is aware of the importance of living together or considering others who live together in the same group. (Farthing, 1992, p. 212). Therefore, raising a conscious mind requires enhancing leaders who participate with others, especially students in a group society, or community.

Lewin was the first psychologist to study the role of leaders. He believed that participation makes the leader become part of the group. Leaders are aware of what is going on within the organization and are aware of real problems with members (Filly, House and Kerr, 1976). Leadership is a person's ability to deliberately dominate. Enable others to dedicate themselves to the success and effectiveness of the organization. The process of leadership emergence depends on the interaction between the leader and the followers (Green, 1988; House, 1988; Maxwell, 2002). Participatory leadership is the leader's effort to encourage member participates in decision-making and provide the opportunity for final decisions to be adopted by the administration. There is a sharing of power in expressing opinions and ideas. Members have equal authority and responsibilities are distributed. Promoting or supporting independent thinking, problem analysis, goal selection, and planning. Participatory Leaders care about and demonstrate the goals of the organization. As well as sharing information from top to bottom with members appropriately (Sales, 1995; Robbins, 1990; Maier, 1970; Delbecq, 1965).

Maeka community, Phayao province in the North of Thailand. The context has diverse plant genetics including large trees and plants for food. The parents work in

plant agriculture. The students learn how to live with plants. They are aware of the value and benefits of plants. They want to be leaders who have a good conscious mind in the conservation of plants in the community. The model of this research can be used as a prototype model for enhancing participatory leadership to raise conscious minds in the conservation of diverse plant genetic for elementary school students in the Maeka community.

2. Research Objectives

1. Synthesize the components of participatory leadership and study the need to enhance participatory leadership to raise conscious minds in the conservation of diverse plant genetics for elementary school students in the Maeka community.

2. Develop the model for enhancing participatory leadership to raise a conscious mind in the conservation of diverse plant genetic for elementary school students in the Maeka community.

3. Implement the model for enhancing participatory leadership to raise a conscious mind in the conservation of diverse plant genetic for elementary school students in the Maeka community.

4. Analyze the success factors and problems after utilizing the model for enhancing participatory leadership to raise a conscious mind in the conservation of diverse plant genetic for elementary school students in the Maeka community.

3. Methods

This research was conducted according to the procedures involved in Research and Development (R & D) divided into four phases which were consistent with the research objectives as follows:

Phase 1: Synthesizing the components of participatory leadership and studying the needs to enhance participatory leadership to raise a conscious mind in the conservation of diverse plant genetic for elementary school students in the Maeka community.

Resources: the populations were 468 elementary school students in the Meaka community, Phayao province in the North of Thailand. There were four schools comprising 194 elementary school students of Anubanmuang Phayao Banthokwak school, 121 elementary school students of Banmeska school, 107 elementary school students of Banhuaikhian school, 46 elementary school students of Banmaetambunyong school. Samples were 90 elementary school

students. The sample size of 82 was calculated using Yamane's formula at a confidence level of 90% (Yamane, 1973). The researcher prevented data loss by increasing 8 samples (10%). The sampling used a multi-stage method as follows: the first stage, the quota sampling by calculating the proportion for each four schools; the second stage, the lottery sampling using the class level as the unit of randomization; and the third stage, the lottery sampling using the list of elementary school students as the unit of randomization.

Variables: there was a need to enhance participatory leadership.

Research instruments: there was a questionnaire. The creation and quality analysis of the questionnaire were as follows: the researcher studied aims of The Plant Genetic Conservation Project under the Royal Initiative of Her Royal Highness Princess Maha Chakri Sirindhorn. Studied the concepts from documents related to participatory leadership. Synthesized components of participatory leadership. Set definitions of specific terms. Developed seven items of the questionnaire with a rating scale ranging from 3, 2, and 1 level. The criteria needed to enhance participatory leadership of the items at the high, moderate, and low levels. It was given to three experts: two research experts and one measurement expert. They considered the content validity by checking the consistency between the items and the definitions of specific terms. Analyzed the index of item-objective congruence (IOC) and selected items with an IOC value of .50 or higher. It found that the IOC value was 1.00 for all items. The questionnaire was therefore used for data collection.

Data collection: the researcher made an appointment with the samples from all four schools according to the schedule as agreed by the schools.

Data analysis: Data was analyzed using mean and standard deviation.

Phase 2: Develop the model for enhancing participatory leadership to raise a conscious mind in the conservation of diverse plant genetic for elementary school students in the Maeka community.

Resources: there were five experts: two research experts, two learning management experts, and an expert in the area of administration. The samples were selected using the purposive technique method with the following characteristics 1) occupation: currently working as an instructor at a University for more than five

years, 2) education: doctoral degree in research, learning management, and administration, and 3) experience: ever participated in the projects or activities related to participatory leadership, conscious mind, or conservation of diverse plant genetic.

Variables: independent variables were seven components of the model comprising principle, objective, content, time, activity, resource, and evaluation. The dependent variable was propriety.

Research instruments. there was a structured interview guide and a questionnaire on the propriety of the model's components. The creation and quality analysis of the research instruments were as follows:

1. A structured interview guide. The researcher set objectives. Developed open-end questions of the structured interview guide. It was given to three experts. They considered the content validity by checking the consistency between the items and objectives. The researcher analyzed the index of item-objective congruence (IOC) and selected items with an IOC value of .50 or higher. It found that the IOC value was 1.00 for all items.

2. A questionnaire on the propriety of the model's components. The researcher set objectives. Developed the questionnaire items with rating scales ranging from 5, 4, 3, 2, and 1 level. The criteria meant the propriety of the items at the highest, high, moderate, low, the lowest levels. The questionnaire was given to three experts. They considered the content validity by checking the consistency between the items and objectives. The researcher analyzed the index of item-objective congruence (IOC) and selected items with an IOC value of .50 or higher. It found that the IOC value was 1.00 for all items. The instruments were then used for data collection.

Operation steps: the following steps were used: The researcher studied related concepts and theories from documents about participatory leadership, conscious mind, and conservation of diverse plant genetic. Interviewed five experts for guidelines on the development of the model. The developed components combined the results of students' needs (in the first phase) and experts' guidelines. Analyzed important seven components: principle, objective, content, time, activity, resource, and evaluation. The model was given to five experts who considered the propriety by checking the questionnaire. It was improved according to the experts' suggestions. Then the model was implemented with the

sample group in the third phase.

Data collection: the researcher appointed and interviewed the five experts individually. The questionnaire on the propriety of the model was sent to experts and the responses were obtained within one month.

Data analysis: the data were analyzed using content analysis of the model's components. The propriety of the model was analyzed using mean and standard deviation. A mean of 3.50 and above means the model is appropriate

Phase 3: Implementation of the model for enhancing participatory leadership to raise a conscious mind in the conservation of diverse plant genetic for elementary school students in the Maeka community.

Resources: the population consisted of 468 elementary school students from four schools in the Meaka community. The sample consisted of 74 elementary school students from Banhuaikhian school selected using clustered random sampling with the school used as a unit for random sampling. These 74 students voluntarily participated in the study throughout the student period.

Variables: the independent variable was the model. Dependent variables were outcomes as follows: participatory leadership, knowledge for the conservation of diverse plant genetic, and conscious minds.

Research instruments: the research instruments included a participatory leadership assessment form, a knowledge test for the conservation of diverse plant genetic, and a conscious mind test. The creation and quality analysis of research instruments were as follows:

1. The participatory leadership assessment form with 20 items. Studied the concepts and theories from documents related to participatory leadership. Set definitions of specific terms. The researcher created 20 items with a 3-rating scale of 3, 2, and 1. The criteria meant participatory leadership of the items at the high, moderate, and low. The form was given to three experts: two research experts, and one measurement expert. They considered the content validity by checking the consistency between the items and the definitions of specific terms. Analyze the index of item-objective congruence (IOC) and select items with an IOC value of .50 or higher. It found that the IOC values were 1.00 for all items. The form was improved according to the experts' suggestions and used for data collection.

2. The knowledge test for conservation of diverse plant genetic with

30 multiple choice items and a full score of 30 points. The researcher studied concepts and theories from documents related to the conservation of diverse plant genetic, set the test objectives, and developed the test blueprint. The researcher created 35 items with three multiple-choice choices. The test was given to three experts: two research experts, and one measurement expert to check the content validity by checking the consistency between the items and objectives. The index of item-objective congruence (IOC) was analyzed and selected items with an IOC value of .50 or higher. It found that the IOC values were between .67-1.00. The knowledge test was modified according to the experts' suggestions. The knowledge test was tried out with 30 elementary school students. The answers were checked with the criteria for correct answers to be given 1 point, and incorrect answers to be given 0 points. Then the difficulty was analyzed. The criteria for the difficulty value (p) ranged between .20 and .80. The discrimination was analyzed with the criteria for the discrimination value (r) of .20 or higher. 30 test items were selected and 5 items were eliminated. The reliability was analyzed with Kuder & Richardson's formula (1937). The criteria for the reliability value were almost equal to 1; which meant high reliability, and almost equal to 0; which meant low reliability. It found that the reliability value (r) was 0.91 showing that the test was highly reliable and could be used for data collection

3. The conscious mind test with ten items. The researcher studied concepts and theories from documents related to the conscious mind. Set the definitions of specific terms, and created ten items with a rating scale of 3, 2 and 1. The criteria meant the conscious mind of the items at the high, moderate, and low levels. The conscious mind test was given to three experts: two research experts, and one measurement expert. They considered the content validity by checking the consistency between the items and the definitions of specific terms. Analyze the index of item-objective congruence (IOC) and select items with the IOC value of .50 or higher. It found that the IOC values were 1.00 for all items. The conscious mind test was improved according to the experts' suggestions and then used for data collection.

Data collection: the model was implemented using a pretest-posttest experimental research design.

Data analysis: data were analyzed using percentage, mean, standard deviation, and t-test of the score for outcomes.

Phase 4: Analyze the success factors and problems after utilizing the model for enhancing participatory leadership to raise conscious minds in the conservation of Diverse Plant Genetic for elementary school students in the Maeka community.

Resources: there were eighteen samples as follows: one community leader, two villagers, one director, two teachers, and twelve elementary school students. The samples were selected using purposive techniques. They were stakeholders who participated in this project.

Variables: the independent variable was the model. The dependent variable was success factors and problems.

Research instruments: the research instrument consisted of the record form. The creation and quality analysis of the form were as follows: the researchers studied concepts and theories from documents related to success factors and problems, set objectives, and developed items. The form was given to three experts: two research experts, and one measurement expert. They considered content validity by checking the consistency between the items and the objectives. Analyzed the index of item-objective congruence (IOC) and selected items with an IOC value of .50 or higher. It found that the IOC value was 1.00 with all items. Used for data collection.

Data collection: the researcher appointed the stakeholders to participate in a focus group at Banhuaikhian School.

Data analysis: content analysis was used to analyze qualitative data.

4. Results

1. The results of synthesizing the components of participatory leadership from 17 experts' concepts related to participatory leadership found seven components. A study of the need to enhance participatory leadership to raise conscious minds in the conservation of diverse plant genetic for elementary school students in the Maeka community found that all seven components were at a high level with an overall mean score (mean=4.78, SD=.41). There were arranged in the following order: work processing, planning, decision-making, goal setting, expressing opinions, information management and communication, and problem-solving, respectively as shown in the table below.

Table 1 needs to enhance participatory leadership to raise conscious minds in the conservation of diverse plant genetic for elementary school students in the Maeka community (n= 90).

participatory leadership	Mean	S.D.	Level	Rank
1. Participate in goal setting	2.78	.47	High	4
2. Participate in planning	2.83	.37	High	2
3. Participate in work processing	2.87	.35	High	1
4. Participate in problem-solving	2.70	.48	High	7
5. Participate in decision-making	2.81	.39	High	3
6. Participate in expressing opinions	2.73	.56	High	5
7. Participate in information management and communication	2.76	.46	High	6
Total	**2.78**	**.41**	**Hight**	**-**

1.00-1.49 mean low, 1.50-2.49 mean moderate, 2.50-3.00 mean high

2. The result of development the model for enhancing participatory leadership to raise conscious minds in the conservation of diverse plant genetic for elementary school students in the Maeka community comprised of seven components as follows:

Component 1: principle; comprised of three principles as follows: participatory leadership, the conscious mind, and the conservation of diverse plant genetic.

Component 2: objective; elementary school students' participatory leadership participated in seven components as follows: 1) goals setting, 2) planning, 3) work processing, 4) problem-solving, 5) decision-making, 6) expressing opinions, and 7) information management and communication.

Component 3: contents; conscious mind in the conservation of diverse plant genetic considering of 1) creating a forest fire protection barrier, 2) making fertilizer from plants, 3) plant breeding 4) labeling plants, 5) caring for plants, and 6) create a plant learning center.

Component 4: time; considering six content aspects for five hours. The total time was thirty hours.

Component 5: learning activity consisting of experiential learning activity comprised of four steps as follows: 1) concrete experimental, 2) reflective observation, 3) abstract conceptualization, and 4) active experimentation

Components 6: resources consisting of; diverse plant genetic in the Maeka community

Component 7: evaluation comprised of four components as follows: 1) instruments, 2) method of evaluation, 3) evaluator, and 4) scoring criteria.

The overall mean propriety of the was at the highest level (mean = 4.83, S.D. =. 38). The mean propriety of all seven components was at the highest level. Components such as objective, contents, resource (mean = 5.00, S.D. =. 00), principle, time, learning activity, and evaluation (mean = 4.80, S.D. =. 45) as shown below.

Table 2 the propriety of the components of the model for enhancing participatory leadership to raise conscious minds in the conservation of diverse plant genetic for elementary school students in the Maeka community (n = 5).

Components	propriety		
	Mean	S.D.	Level
1. principle	4.80	.45	highest
2. objective	5.00	.00	highest
3. contents	5.00	.00	highest
4. time	4.80	.45	highest
5. learning activity	4.80	.45	highest
6. resource	5.00	.00	highest
7. evaluation	4.80	.45	highest
รวม	**4.83**	**.38**	**highest**

3. The result of implement the model for enhancing participatory leadership to raise a conscious mind for the conservation of diverse plant genetic

for elementary school students in the Maeka community.

3.1 A comparison of participatory leadership with score criteria 2.50 (high level) found that the elementary school students had a mean score of participatory leadership 2.80 higher than the stated criteria of 2.50 which is statistically significant at the .01 level which was consistent with the research hypothesis. The mean participatory leadership is arranged in order as follows: work processing, goal setting, Planning, opinion expression, Information management, communication, problem-solving, and Decision-making, respectively as follows

Table 3 comparison of participatory leadership with score criteria 2.5 (n = 74).

Participatory leadership	Mean	S.D.	MD	t	Sig.
1. Goal setting	2.89	.31	.39	10.78**	.00
2. Planning	2.83	.37	.33	7.83**	.00
3. Work processing	2.90	.29	.40	11.83**	.00
4. Problem-solving	2.71	.45	.21	4.09**	.00
5. Decision-making	2.68	.46	.18	3.49**	.00
6. Expressing opinions	2.80	.39	.30	6.75**	.00
7. Information management and communication	2.77	.42	.27	5.48**	.00
Total	**2.80**	**.30**	**.30**	**8.587****	**.00**

Test value = 2.50; **statistically significant at the .01 level

3.2 A comparison of knowledge for conservation of diverse plant genetic between the pre-test and post-test found that elementary school students had a total mean knowledge of post-test of 26.90 higher than the pre-test of 7.81 (full score of 30) with statistical significance at the .01 level which was consistent with the research hypothesis as shown below.

Table 4 a comparison of knowledge for conservation of diverse plant genetic between pre-test and post-test (n = 74).

Knowledge	Test	Mean	S.D.	Paired Differences		
				MD	t	Sig.
1. Creating a forest fire protection line	Pre	1.23	.75	3.16	29.99**	.00
	Post	4.39	.79			
2. Making fertilizer from plants	Pre	1.26	.68	3.18	38.35**	.00
	Post	4.45	.64			
3. Plant breeding	Pre	1.41	.72	3.21	32.61**	.00
	Post	4.62	.56			
4. Labeling plants	Pre	1.35	.65	3.13	32.37**	.00
	Post	4.49	.66			
5. Caring for plants	Pre	1.45	.66	3.23	42.57**	.00
	Post	4.68	.52			
6. Create a plant learning center	Pre	1.12	.59	3.16	29.99**	.00
	Post	4.28	.75			
Total	**Pre**	**7.81**	**2.21**	**19.09**	**61.52****	**.00**
	Post	**26.90**	**1.88**			

Total full score = 30; **statistically significant at the .01 level

3.3 A comparison of the conscious mind with score criteria 2.5 (high level) found that the elementary school students had a conscious mind mean score of 2.86 higher than the criteria score of 2.50 with a statistical significance level of .01 which was consistent with the research hypothesis.

Table 5 a comparison of the conscious mind with a criteria score of 2.5 (n =74).

Conscious mind	Mean	S.D.	Paired Differences		
			MD	t	Sig.
	2.86	.12	.35	24.98**	.00

Test value = 2.50; **statistically significant at the .01 level

4. The result of utilizing the model for enhancing participatory leadership to raise a conscious mind in the conservation of diverse plant genetic for elementary school students in the Maeka community. A study of the success factors found that an experiential learning activity cycle with four steps allowed students to practice analytical thinking and a conscious mind of plants' value and benefits. Also, participatory leadership training for the conservation of diverse plant genetic from real experiences in the Maeka community area. The content was consistent with the community's needs and was useful in diverse plant genetic to remain sustainable. The objectives for enhancing participatory leadership are clear.

The problems found that some students learned very quickly, while some were very slow, they should be encouraged to participate in helping each other in the group. Elementary school students do not know how to use certain types of equipment, so should be taught basic skills first to ensure safety while organizing activities. Organizing outdoor activities causes danger to the body, so one should prepare methods to help immediately.

5. Discussion

1. The participatory leadership comprised of seven components: goal setting, planning, work processing, problem-solving, decision-making, opinion expression, information management, and communication. The elementary school students' need to enhance their participatory leadership for all seven components was high. Mae Ka community had many diverse plant genetic. A majority of parents were farmers. The elementary school students learned how to live with plants. They love and care for diverse plant genetics in the Maeka community. Participatory leadership in the community's plant management, such as how to grow and care for plants, providing

knowledge about plants to other people, etc. These activities help conserve plants and maintain a balanced ecosystem and sustainability. The villagers were naturally happy. This was consistent with Maier (1970), House & Mitchell (1978), and Donnelly (1987) who stated that participatory leadership allows members to participate in decision-making, participate in discussions and participate in administration, support independent opinions, problem analysis, goal selection, and planning. Leaders take care of their members. Including demonstrating the organization's goals. as well as sharing information with others.

2. The model for enhancing participatory leadership to raise conscious minds in the conservation of diverse plant genetic for elementary school students in the Maeka community comprised of seven components as follows: principle, objective, content, time, experiential learning activity, resource, and evaluation. The overall mean propriety was at the highest level. The principle was participatory leaders as leaders who share power in present opinions and decisions. The members have equal authority and authority was distributed to members to be responsible thoroughly (Sales,1995). The elementary school students' participatory leadership participated in seven practical skills as follows: goal setting which led to the conservation of diverse plant genetic, planning to achieve goals, work processing with determination, problem-solvings creatively, intelligent decision-making, expressing opinions freely, and managing information to be appropriate and friendly communication with others (Likert, 1961; Flippo, 1966; Maier, 1970; Reddin, 1970; Mitchill, 1973; House & Mitchell, 1978; Blake & Mouton, 1982; Donnelly, 1987; House, 1988; Hoy & Miskel 1991; Osborn,2003; Claremont, 2004). The experiential learning activities were learning through real experiences that created positive emotions in conserving plant genetic. Reflection through the question 'How do you feel positive emotions?' Designing new activities that created new experiences and positive emotions in the Maeka community. Lead group members to practice new activities together. The new knowledge changed, expanded knowledge widely, and up to date with current events. This was consistent with Kolb (1984) that experiential learning was a learning process holistic and diverse. Learner development consists of issues related to how students learn, growth, and development of experiential

learning emphasizing the important role of real practice that includes learning from real experiences.

3. The comparison of outcomes as follows: participatory leadership, knowledge for the conservation of diverse plant genetic, and conscious minds.

3.1 The elementary school students had a mean score of participatory leadership higher than the score criteria with statistically significant at the .01 level. The participatory leadership's components were to support members to participate in every step of the operation. Choose a goal and plan how to work together. Think of ways to solve problems together. Gather a variety of information and communicate clearly. Leaders let members make the decisions. This was consistent with Likert (1961) who allowed members to participate in planning and decision-making operations at every step. They feel self-worth. The relationship between leaders and members was straightforward and friendly. It builds trust in each other. Inspired to work to their potential.

3.2 The elementary school students had total mean knowledge of post-test higher than pre-tests with statistically significant at the .01 level. The experiential learning activities were four steps as follows: concrete experimental, reflective observation, abstract conceptualization, and active experimentation. This was consistent with Kolb (1984) who said that an experiential learning cycle had four steps as follows: Creating new concrete experiences such as case studies, problems in the community, simulation, etc. Reflection results from analyzing positive-negative differences, and communicating the values, attitudes, and beliefs of each learner to others. Creating new abstract concepts that can observed, understanding the connections with others.

3.3 The elementary school students had a mean score of conscious mind higher than the criteria score with a statistical significance level at.01. The activities were exercises in analyzing positive feelings toward participating in the conservation of diverse plant genetic. For a long time of thirty hours; the elementary school students have been connected Maeka community and shared expectations. After that, they changed their behaviors and have a better conscience mind. This was consistent with Mitchill (1973) that changing the attitude of members creates a sense of belonging to the organization. Participatory Leadership emphasizes

providing opportunities and changing the members' attitudes. The members feel connected to the organization, have shared expectations, and create harmony.

4. The success factors found that an experiential learning cycle with four steps allows students to practice analytical thinking and a conscious mind of plants' value and benefits. Including participatory leadership training in for conservation of diverse plant genetic from real experiences in the Mae Ka community area. This was consistent with Luckman (1996) that experiential learning was a process that helped learners build knowledge, skills, and value from their own direct experiences. Also, Dewey (1983) defined experiential learning as a cycle of practical experimentation. It was learning that comes from actual practice. The learners were the creators of new knowledge or changed themself to fulfill their new roles.

The problems found that some students learned very quickly, while some students learned slowly, so should be encouraged to participate in helping each other in the group. This was consistent with Likert (1961) studied the model of participatory leadership using motivation from group members. It was found that allowing members to participate in decision-making and play a role in working together. It made them feel valued, built good relationships within the group and motivated them to perform to their best potential.

6. Suggestions

The elementary schools participating in the royal initiative of The Plant Genetic Conservation Project under the Royal Initiative of Her Royal Highness Princess Maha Chakri Sirindhorn; or other elementary schools should be used as a prototype model for enhancing participatory leadership to raise conscious minds in the conservation of diverse plant genetic or other natural resources such as weather, river, mineral, wild animals etc. in the community.

7. Knowledge Assets

The model for enhancing participatory leadership to raise a conscious mind in the conservation of diverse plant genetic for elementary school students in the Maeka community comprised of seven components as follows: principle, objective, contents, time, experiential learning activity,

resource, and evaluation. The outcome comprised of participatory leadership, knowledge for the conservation of diverse plant genetic, and conscious mind

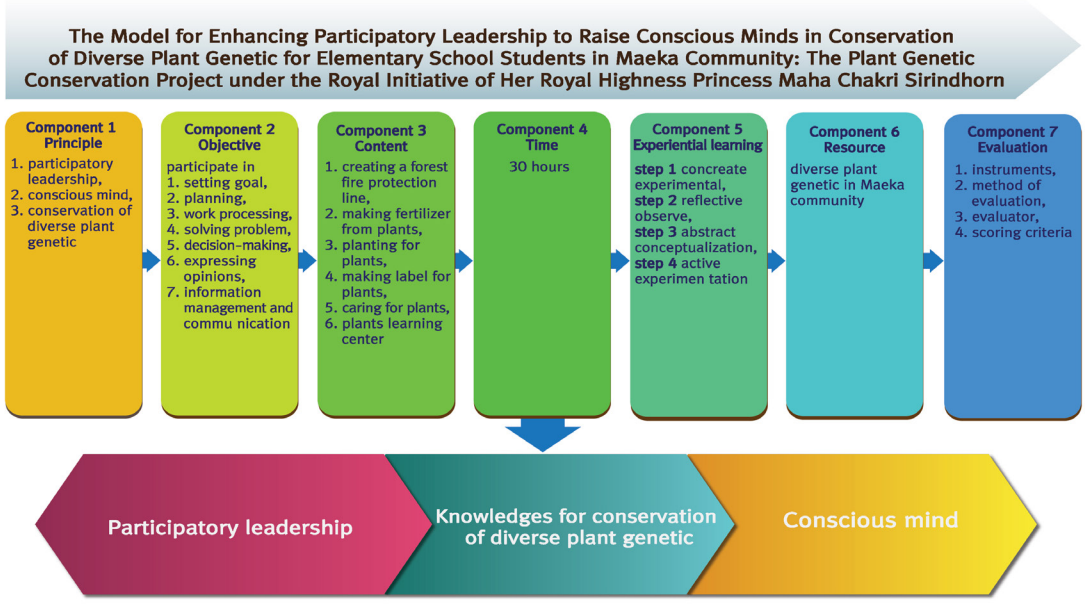

Figure 1 Body of Knowledge

8. Knowledgement

The researcher would like to express her deepest appreciation for funding resources from the University of Phayao, Thailand.

References

Blake, R. R. & Mouton, T. S. (1982). A comparative analysis of situationalism and 9,9 management by principle. *Organizational Dynamics*, (10), 20-43.

Claremont EAP. (2004). *Characteristics of a participatory leader in Impact Manager supplement.* Retrieved from http://www.claremonteap.com

Delbeq, A. L. (1965). *Managerial Leadership styles*. UK: McGraw-Hill.

Dewey, J. (1983). *Experiential and education*. New York: Collier.

Donnelly, J. R. (1987). *Fundamentals of management*. Homewood, Illinois: Business.

Farthing, G. W. (1992). *The Psychology of Consciousness*. New Jersey: Prentice Hall.

Filly, A. C., House, R. J. & Kerr, S. (1976). *Managerial process and organization behavior.* New York: Scott and Foresman.

Flippo, E. (1966). *Management: A behavioral approach*. New York: Allyn & Bacom.

Green, M. F. (1988). *Leader for a new era.* New York: Macmillan.

House, R. J, & Mitchel, T. R. (1978). Path-goal theory of leadership. *Journal of Contemporary business*, 3(7), 1-97.

House, R. J. (1988). *Power and personality in organizations*. Connecticut: JAI Press.

Hoy, W. K. & Miskel, C. G. (1991). *Educational Administrator: Theory Research and Practice.* New York: McGraw-Hill.

Kolb, D. A. (1984). *Experiential learning*. New Jessey: Prentice-Hall.

Kuder, G. F., & Richardson, M. W. (1937). The Theory of Estimation of Test Reliability. *Psychmetrika*, (2), 151-160.

Likert, R. (1961). *New patterns of management*. New York: McGraw-Hill.

Maier, N. R. F. (1970). *Problem solving discussion and conferences.* New York: Wilay.

Maxwell, J. C. (2002). *Developing the leader within you*. Nashville: Thomas Nelson.

Mitchill, T. R. (1973). *Motivation and participatory: An integration*. San Francisco: Joss.

Osborn, M. & Osborn, S. (2003). *Analyzing leadership behavior*. India: Wiley Dreamtech.

Reddin, W. J. (1970). *The 3D management style theory.* New York: Mc Graw-hill.

Robbins, S. P. (1990). *Organizational behavior.* (9th ed.). New Jersey: Prentice-Hall.

Sales, S. M. (1995). *Leader & the leadership process: Reading, self-assessment & applications*. New York: Irwin/McGraw-Hill.

The Plant Genetic Conservation Project under the Royal Initiative of Her Royal Highness Princess Maha Chakri Sirindhorn 2011-2016. (2011). *Operational guidelines*. N.P.: n.p.

Yamane, T. (1973). *Statistics: An Introductory Analysis*. (3rd ed.). Massachusetts: Allyn & Bacon.