

Situation, Problem, and Need in Teaching and Learning Process based on Research-based Learning Approach of a School belonging Mahasarakham Provincial Administrative Organization

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Abstract

The purpose of this study was to investigate the situation, problem and need related the teaching and learning process based on Research-based Learning Approach of a school belonging Mahasarakham Provincial Administrative Organization. This study a Nakha Wittayakhom School was selected by using the purposive sampling technique to be the sample group. The 25 teachers from 8 learning areas; Mathematics, Science, Thai Language, Social Studies, Religion and Culture, Health and Physical Education, Arts, Occupations and Technology, and Foreign Languages were the sample of this study. The instrument of this study was a 5 rating scales questionnaire which consisted of 3 areas; (a) situation, (b) problem, (c) need. Each area consisted of 4 aspects; 1) an instructional preparation, 2) an instructional activity, 3) a teaching and learning media, 4) an instructional assessment and evaluation.

The results of the study indicated that in the field of situation, there were 3 aspects in high level (3.70-3.95) except the aspect of the instructional activity was in the medium level (2.78). The field of problem; there were 3 aspects in the medium level (3.08-3.19) except the aspect of the instructional activity in the high level (3.51). Finally, all aspect of need was in the high level (3.90-4.14). Moreover, the professional development regarding the integration of research in to the teaching and learning process was also be require.

Keywords: Research-based learning approach, Situation, Problem, and Need Assessment

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INTRODUCTION

The Constitution of the Kingdom of Thailand B.E. 2540 (1997) stated clearly on the part of rights and liberties in education that there are a decentralization of the educational administration to the local government (The Government Gazette, 1997). As a result, there are many schools still remain belong the office of the basic education commission but some school is willing to under the provincial administrative. The provincial administration has the directly responsible to manage the schools which under the provincial administrative including policy, budget, general management etc. Because of each provincial has the different policy that makes the schools belonging them had the different pros. Mahasarakham provincial administrative give more attention to improve the education especially the students' thinking skills. The education policy focus on improve the students for the 21st Century; life and career skills, learning and innovation skills, and information media and technology skills (Worapot Wongkit-rungreng and Atip Jittirerk, 2011).

Moreover, the students' higher order skills are emphasized (Office of the National Education Commission, 2003). One of method to improve all of aspect aforementioned is integrate research based learning (RBL) approach in to the teaching and learning process. However, although they have the policy to improve the education but they still cannot meet the goal of policy. Many report showed that they encounter with a lot of problems about the budget, person, and school management (Institute for Promote Science and Technology,2003; Buaraphan k. etc., 2009; Ditchai Kaenthao, 2013; Sitthisak Chindawong; etc., 2013).

Thailand has recognized in the important of the education. The education has stipulated as a strategic plan of national economic and social development since the first plan until the current (B.E. 2555 - 2559). One of which state that "The education have to develop a community of life-long learning and sustainable" (Office of the National Economic and Social Development Board, 2554). Moreover, many reports show that research is one of equipment of person for analysing, collecting, acquiring knowledge, and solving problems. There are a lot of educators applying research in teaching and learning process and called Research based Learning Approach (RBL). Research based Learning Approach is one of the pedagogy to encourage students learning through the enquiry process, thinking in critically and integrity to new knowledge(Saowapa Vipadee,2012). This method includes using research process or findings as a foundation for learning process pursuing students to enable knowledge and develop their higher order thinking skills. The instructor or teacher should use a variety of teaching methods directed students the creation of desirable features. Therefore, RBL is become one of the teaching strategy which many schools pick up to be the alternated instructional method for promoting the school accomplish the national educational standard.

The educational situation in Thailand is not satisfied. The students learning outcome did not meet the educational goals. Many results of the national study such as O-NET, GAT, PAT of Thai students indicated that Thai students had a tend to decrease from B.E. 2554 to 2556. Moreover, the scores of Thai students from the Program for International Student Assessment Test (PISA) of 2009 were in the rate of lower than the international average (OECD) in all subjects. Many research showed that one of the causes that effect to the quality of Thailand education due to the limitations of

education such as the ration of the teacher and students, class size (Office of Research and Development Office of the Education Council Ministry of Education, 2012). Moreover, the curriculum and the learning process do not support the students' thinking skill process. Almost teachers in Thailand also still used the transferring knowledge rather than encouraging students to develop skills in analytical dare to express their opinions and have the ability to seek answers for themselves (Department of the Ministry Education, 2545). However, the analysis of the cause of the children's educational outcomes Thailand aforementioned was considered as the main problem and cause in a macro level. As a result, making the education process more efficient, we should understand the depth of the problem and its causes in the micro level especially in the different context such as the problem of the school under the provincial Administrative Organization.

Nakha Wittayakhom School, a representative school under the provincial Administrative Organization, showed that they still had not established on the national education goals. The school executives and teachers had realized to the importance of education for sustainable development, promoting lifelong learning skills, focusing on learning by doing, practicing inquiry skills, teamwork skills, and higher order thinking skills. Moreover, the teachers' needs on the research capacity development, and the integrating research based learning approach in teaching and learning process was also be require. As aforementioned, the school attempted to solve the problem and achieved the goals; they had agreement to using the research based learning approach to be the main idea for creating the learning activities (Nakha Wittayakhom School, 2001). The researcher studied the situation, problems, and needs in teaching and learning process based on research-based learning approach which was appropriate to the school context. This information will be useful and can be applied to conduct the school meet the educational standard especially in professional development. Consequently, the teachers can create the learning activities which enhancing the students' deepen knowledge, inquiry skills, higher order thinking skills, particularly promoting the features of the researchers. Additionally, this can encouraging the students to be a learning person and developing knowledge based society as well.

RESEARCH PURPOSE

The purposes of this research was investigating the situation, problem and need related the teaching and learning process based on Research-based Learning Approach of a school belonging Mahasarakham Provincial Administrative Organization.

RESEARCH DESIGN AND METHOD

Research Design

The research was a survey methodology.

Participants

The target participants consisted of the teachers from Nakha Wittayakhom School, Mahasarakham Provincial Administrative Organization. There were 25 teachers from 8 learning areas; Mathematics, Science, Thai Language, Social Studies, Religion and Culture, Health and Physical Education, Arts, Occupations and Technology, and Foreign Languages.

Research Instrument

The research instrument of this research was a questionnaire which divided into 2 sections. The first section was a 5 rating scales questionnaire which consisted of 3 areas; (a) situation, (b) problem, (c) need. Each area consisted of 4 aspects; 1) an instructional preparation, 2) an instructional activity, 3) a teaching and learning media, 4) an instructional assessment and evaluation. The second section was an open ended questionnaire. This section was conducted to collect data about participants' view on the urgent need of developing integrated research based learning approach in teaching and learning process. The questionnaire was designed and checked for the structural validation and the appropriateness of language used by experts' panel consisted of five educators.

Procedures

This study aimed to explore the situation, problem, and need related the teaching and learning process based on Research-based Learning Approach. The basic data was gathered not only from the literature review but also the teachers' perception. The questionnaire was used to be an instrument for collecting data. It was designed, examined and verified the structural validation, and the appropriateness of language by five experts. It showed the Item of Congruence (IC) between 0.6-1.0. The 25 teachers of Nakha Wittayakhom School were asked to complete the questionnaire which consisted of 2 sections. The first was a 5 rating scale question which related to (a) situation, (b) problem, and (c) need in the areas of an instructional preparation, an instructional activity, a teaching and learning media, and instructional assessment and evaluation. The second section was the open ended questionnaire asking teachers ranking the urgent needs of integrating research based learning approach in teaching and learning process.

Data Analysis

The data analysis was carried out using two different methods as following;

The first was quantitative analysis, which was done by scoring teachers' responses to examine the levels of situation, problem, and need and then reporting these scores with the standard deviation, and mean. Each answer from the questionnaire of the five level rating scales was weighted as follows :

5	means very high
4	means high
3	means medium
2	means low
1	means very low

Results of the suitability were categorized into 5 levels

4.51 – 5.00	means very high
3.51 – 4.50	means high
2.51 – 3.50	means medium
1.51 – 2.50	means low
1.00 – 1.50	means very low

The second was qualitative analysis, which analyse content and generate categories and themes for describing teachers view of the situation in the school.

RESULTS

Regarding the information of situation, problem, and need, the results showed that the teachers recognized to use the research based learning approach but there were problems and needs to develop their potential in the teaching and learning process. The mean scores of each aspect of situation, problem and needs were shown in Table 1.

Table 1: The mean scores of the situation, problem, and needs of the teachers' perception related the Research-based Approach.

No.	Items	Situation		Problem		Need	
		\bar{X}	S.D.	\bar{X}	S.D.	\bar{X}	S.D.
Instructional Preparation							
1	Understanding in the learning outcome, core concept and curriculum	4.08	0.49	3.00	0.80	3.80	0.70
		high		medium		high	
2	Creating the lesson plan which congruence with the research based learning approach	3.42	0.70	3.00	0.60	3.80	0.70
		medium		medium		high	
3	Understanding in core concept	4.10	0.60	2.90	0.80	3.76	0.97
		high		medium		high	
4	Having a depend Understanding in concept of research based learning approach	3.44	0.58	3.40	0.60	4.08	0.86
		medium		medium		high	
5	Having the learning objective focus on inquiry and research skills	3.46	0.78	3.63	0.80	4.04	0.84
		medium		high		high	
	Mean	3.7		3.19		3.90	
		high		medium		high	
Instructional Activity							
6	The instructional activity promote students using research process skills	3.00	0.82	3.66	0.90	4.24	0.72
		medium		high		high	
7	The instructional activity promote students do project by themselves	2.80	0.70	3.28	0.84	4.04	0.89
		medium		medium		high	
8	Integrating research process into learning activity	2.80	0.60	3.50	0.90	4.20	1.00
		medium		high		high	
9	Using the related research results in the instructional activity	2.58	0.90	3.72	1.00	4.20	0.90
		medium		high		high	
10	The instructional activity promote students get more understanding about the research methodology	2.72	0.70	3.40	0.90	4.02	0.71
		medium		medium		high	
	Mean	2.78		3.51		4.14	
		medium		high		High	
Teaching and Learning Media							
11	Using the local learning resource and situation related to context incorporate in the instructional activity	3.60	0.90	3.20	0.84	4.12	0.73
		high		medium		high	
12	Using a lot of learning media which congruence to the content and learning objective	3.96	0.68	3.08	0.70	3.90	0.80
		high		medium		high	
	Mean	3.78		3.14		4.01	
		high		medium		high	

No.	Items	Situation		Problem		Need	
		\bar{X}	S.D.	\bar{X}	S.D.	\bar{X}	S.D.
Instructional Preparation							
Instructional Assessment and Evaluation							
13	Giving the students the evaluation's feedback	3.90	0.70	3.20	0.70	3.90	0.90
		high		medium		high	
14	Using many methods and assessment tools in the evaluation process	4.00	0.60	2.96	0.68	3.90	0.80
		high		medium		high	
	Mean	3.95		3.08		3.90	
		high		medium		high	

The results showed that in the field of situation, there were 3 aspects in high level (3.70-3.95) except the aspect of the instructional activity was in the medium level (2.78). The field of problem; there were 3 aspects in the medium level (3.08-3.19) except the aspect of the instructional activity in the high level (3.51). Finally, all aspect of need was in the high level (3.90-4.14).

Additionally, the section of open end questionnaire was the question asking for ranking the urgent problem that need to improve. Teachers' responses regarding their view were qualitatively analysed. The researcher looked the meaningful statements in their responses to the question, code them, and put them into categories. Finally, teachers' views of the problem that urgent needs to improve were grouped into 4 major categories: 1) instructional activity, 2) learning media and resources, 3) professional development, and 4) evaluation and assessment processes. Numbers of teachers responding to each category were presented as percentage in Table 2 and Figure 1.

Table 2: The teachers' view about the urgent problem that need to improve

Items	Frequency	Percentage
1. Instructional activity	55	47.82
2. Learning media and resources	31	26.96
3. Professional development	27	23.48
4. Evaluation and assessment	2	1.74

Regarding the percentage of the teachers' perception found that the percentage of the integrating research methodology into the instructional activity was highest (47.82%). The second was learning media and learning resources (26.96%). The third was the teachers' professional development (23.48%) and the last was the evaluation and assessment processes that correspondence to the present-day (1.74%).

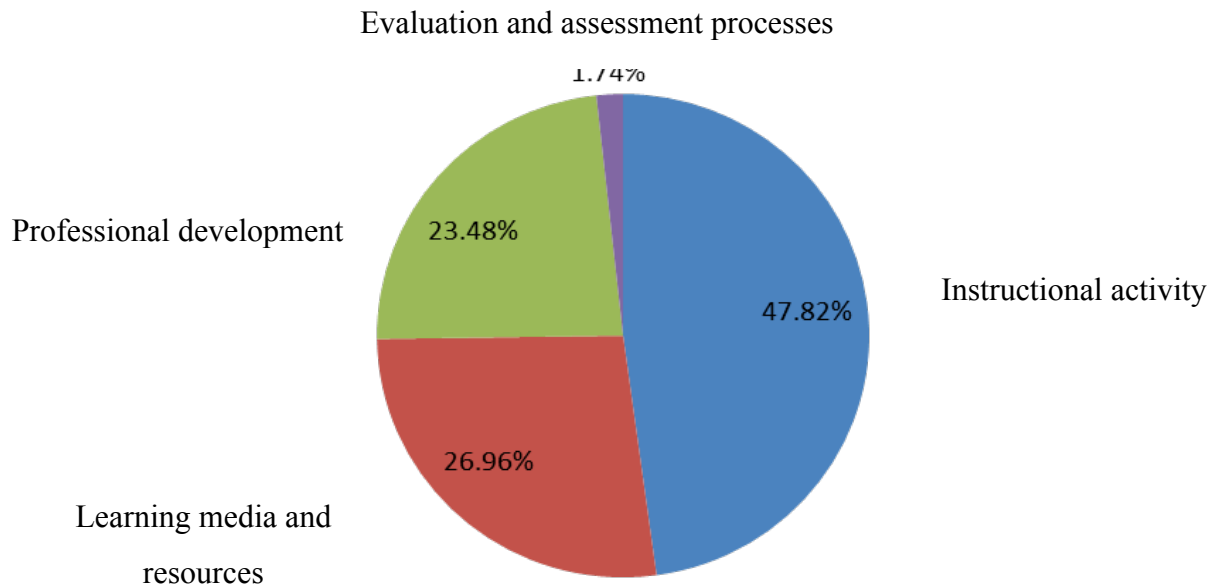


Figure1: The percentage of teachers' view on the urgent need of developing integrated research based learning approach in teaching and learning process.

Concerning the Instructional activity, some teachers' responses indicate that they need to know how to use the instructional related research based learning approach into the classroom. The teachers' quotes were as follow:

"I lack of the confident to use the instructional activity related the research based learning approach in to the classroom although I had the training program about research based learning approach."

Teacher# I

"I use the repeated instructional activity because I have no idea to create the new activity."

Teacher# II

Regarding the learning media and resources, the teachers stated that the school do not have enough the media and equipment. The teachers' quotes were as follow:

"I try to use the laboratory in the science classroom but the equipment is not enough such as beaker, thermometer, and the chemical."

Teacher# III

"There are a lot of computers and projector in the classroom that I think it is enough for all of students. However, when I assign students to use the computer for doing the assignment, I found that a lot of them have a problem such as broken, and cannot access to internet etc."

Teacher# IV

Regarding the professional development, the teachers stated that the school do not have enough the media and equipment. The teachers' quotes were as follow:

“I need more professional development especially the constructing the learning media.”

Teacher# V

“In Thailand, the educational policy is often changing in every area including teaching learning process; evaluation and assessment process that encourage me need more professional development.”

Teacher# VI

Regarding the evaluation and assessment processes, the teachers emphasized that they need to development their assessment processes that correspondence to the present-day. The teacher’s quote was as follow:

“The national test in the present day focus on the intellectual skill more than knowledge so I think we can practice student to familiar with the test by using the similarly test in the classroom.”

Teacher# VII

CONCLUSIONS AND DISCUSSIONS

Regarding the situation related the teaching and learning process based on research-based learning approach, the data showed that in the aspect of instructional preparation ($\bar{X} = 3.70$), teaching and learning media ($\bar{X} = 3.78$), and instructional assessment and evaluation ($\bar{X} = 3.95$) were in high level but in the aspect of instructional activity ($\bar{X} = 2.78$) was in medium level. The information indicated that the teachers had awareness in the important of the learning and teaching process based the research based learning approach. They tried to construct the activities, using a lot of media and assessment methods conform to the research based learning approach in their classroom. However, the teachers had not enough knowledge and lack of the depth understanding in the research based learning approach as a result they could not applied to the teaching activities as well. It was found that the teachers were trying to integrate research-based learning approach to the teaching and learning process in the classroom. It met the requirements of the Education Act of 2542, as amended Act 2545, Chapter 4, Section 24, Item 5 which stated that the learning process must support learners and teachers using research as part of the learning process. The instructors have to create and facilitate a learning environment, learning media and resources for learning and get more a deepen knowledge including the ability to use research as part of the learning process (Office of the National Education Commission, 2003). This study consisted with the study of Buaraphan k. etc. (2009) found that most teachers in the metropolitan had a level of compliance keep up with the educational reform on high levels. Therefore, they should encourage using the research based learning approach in the learning and teaching process.

As regards of the problems related the teaching and learning process based on research-based learning approach, the data showed that in the aspect of instructional preparation ($\bar{X} = 3.19$), teaching and learning media ($\bar{X} = 3.14$), and instructional assessment and evaluation ($\bar{X} = 3.08$) were in medium level but in the aspect of instructional activity ($\bar{X} = 3.51$) was in high level. Because of the teachers lacking of a development related the research based learning approach directly, they also got the policy from the school director and applied to their classroom by themselves. A lot of

professional development could not response their requirement and lack of the continuity. Additionally, most of training program for professional development focusing on the theoretical framework that could not promote the teachers understand thoroughly to the activities which used in the classroom (Pattharachai Patthanasuwanna, 2005). Many of training programs in Thailand were not emphasize in practical, lack of concerning in the actual context of the school. Therefore, the professional program should shift to the workshop focusing on sharing ideas, brainstorming to find the idea for applying new knowledge to their classroom (Verawut. Makasiranon, 2006).

Considering the needs related the teaching and learning process based on research-based learning approach, the data showed that all aspect were in high level; instructional preparation ($\bar{X} = 3.40$), instructional activity($\bar{X} = 4.14$), teaching and learning media ($\bar{X} = 4.04$), and instructional assessment and evaluation($\bar{X} = 3.90$). The results suggested that teachers realizing to the importance of self-development to improve their knowledge in order to keep pace with the world changing including the core concepts, learning and teaching pedagogy, teaching strategies. They tried to promote their potential to meet the requirement of the educational act B.E.2542. It stated that the education had emphasized to enhance the students to have the desired characteristics, ensure to improve the students' achievement, promote students higher order thinking skills, and had a high quality of life. Consistent with the direction and goals of education reform in the 21st century which required that make Thai people having the skills for life and career , learning and innovation, and information, media, and technology and get more the competencies needed in the 21st century as well. (Worapot Wongkit-rungrenng and Atip Jittirerk, 2011) Moreover, the report of the Institute for Promote Science and Technology (2003) stated that the teachers in Thailand needed the self-development in high level including the areas of learning media, learning and teaching pedagogy, and evaluation and assessment process. Additionally, Buaraphan k. etc. (2009) said that the teachers in the area of metropolitan need more professional development belonging to the educational reform that emphasized the student center. Therefore, the government and the related organisation should give priority to continuity teacher development and meet the demands of the teachers and provide education more effectively.

Furthermore, the result of analysis the priority of the issues which teacher urgent need to development showed that the first issue was the integration of research in to the teaching and learning process (47.82%). As a result of the teacher's lack of insight understanding, they lack of the confidence in integrating research to teaching and learning process, therefore, is why we need to develop in this issue. This was consistent with the studies that suggested most of Thai teachers lack the knowledge and skills to do the research and believe that the research is a difficult burden (Nantarat Charoenkul, 2008). Therefore, they wanted to improve teaching and learning process which integrating the research simultaneously, Teachers also need more knowledge, skills, instructional strategies to cope with the world changing for making the effective classroom(Buaraphan k. etc., 2009; Sitthisak Chindawong; etc., 2013) The second was an issue of learning medias and learning resources (26.96 %). Many reports showed that most schools still lack of educational technology, and teaching materials that affected the teacher's level of self-development needs in this issue (Nantarat Charoenkul, 2008; Worasit Nomnualsri, 2012; Ditchai Kaenthao, 2013). The third was the professional development (23.48%). Most of teachers had

awareness in the world changing and national educational reform that made them changing their strategies in teaching. The conceptual framework for learning in the 21st century has clearly stated that the students need to have knowledge in core subjects, have skills in life and work, skills in media and technology, and skills in learning and innovation (Worapot Wongkit-rungreng and Atip Jittirek, 2011) as well as various forms of measurement and evaluation, focusing on higher-order thinking and critical thinking. Aforementioned was the force to made teachers want to develop themselves continuously, which is consistent with the findings suggested that many teachers want to develop themselves continuously (Pattharachai Patthanasuwanna, 2005; Sitthisak Chindawong; etc., 2013). The last issue was the evaluation and assessment processes that correspondence to the present-day(1.74%). As the result of the paradigm of the evaluation process shift from knowledge into the intellectual skills, many of the national tests of Thailand emphasized to thinking skills. The teachers were aware that students will higher score, if they familiar with the test also. Therefore, teachers have a need to develop-themselves ability to generate the intellectual tests and use in the classroom. This was consistent with researches that suggested many teachers need to develop their own in the assessment process (Buaraphan k. etc., 2009; Sitthisak Chindawong; etc., 2013)

RECOMMENDATIONS

This study was implemented in the specify area; Nakha Witayakhom School, Mahasarakham which represent the school belonging the Provincial Administrative Organization. This is a basic study which the data gained from this study will be the basic information using for enhance the learning process and doing the school academic plan for promote the school potential.

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