

# Development of the Research Management System Based on the Four Noble Truths for School in Phra Nakhon Si Ayutthaya Primary Education Service Area Office 1

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## Abstract

The objectives of this research were 1) to study the current state of research management for school in Phra Nakhon Si Ayutthaya Primary Education Service Area Office 1, 2) to develop a research management system based on the Four Noble Truths for school in Phra Nakhon Si Ayutthaya Primary Education Service Area Office 1, 3) to experiment the research management system based on the Four Noble Truths for school in Phra Nakhon Si Ayutthaya Primary Education Service Area Office 1, and 4) to evaluate the research management system based on the Four Noble Truths for school in Phra Nakhon Si Ayutthaya Primary Education Service Area Office 1. Research and development was designed and was divided into 4 phases. Phase 1 was to study the current state of research management using in-depth interview of 6 key informants with interview form and data were analyzed by content analysis and analytic induction. Phase 2 was to develop a research management system based on the Four Noble Truths and by using 5 experts to validate the system with assessment form and data was analyzed by Content Validity Index. Phase 3 was to experiment the research management system based on the Four Noble Truths using workshop with the target group of 80 people. Research tools were 1) Manual of research management system following PDCA process, 2) assessment form of knowledge in research management system based on the Four Noble Truths, 3) Research quality assessment form for classroom research, 4) Satisfaction assessment form of research management system based on the Four Noble Truths. Data were analyzed by quantitative and qualitative methods. Phase 4 was to evaluate the research management system based on the Four Noble Truths using focus group discussion with 9 experts. Research tool was assessment form of research management system based on the Four Noble Truths and data was analyzed by content analysis. The research results found that: 1. The current state of research management for school in Phra Nakhon Si Ayutthaya Primary Education Service Area Office 1 showed that schools have conducted research consisted of five main systems and 26 subcomponents, which were 1) research management system, 2) operating budget in research system, 3) Research personnel System, 4) Research monitoring and evaluation system, and 5) Research publication system. 2. A research management system based on the Four Noble Truths for school in Phra Nakhon Si Ayutthaya Primary Education Service Area Office 1 was developed and consisted of 1. the research management system integrated with the Four Noble Truths as follows: Dukkha (Suffering): Understanding the problems in research management; Samudaya (Origin of Suffering): Analyzing the causes of problems in research management; Nirodha (Cessation of Suffering): Identifying solutions to the problems in research management; and Magga (Path to the Cessation of Suffering): Implementing the defined strategies for effective research management. 2. The research management system integrated with the principles of quality management using the PDCA cycle consists of four steps: 1) Planning the research management (Plan); 2) Implementing the research management (Do); 3) Monitoring the research management (Check); and 4) Improving and correcting the research management (Act). 3. Result of Content Validity Index of research management system based on the Four Noble Truths was higher than the criteria. 3. Results of the experiment of research management system based on the Four Noble Truths for school in Phra Nakhon Si Ayutthaya Primary Education Service Area Office 1 revealed that 1) the Effectiveness Index (E.I.) of learning about classroom research using the manual for the research management system based on the Four Noble Truths increase at 88.62%; 2) The overall evaluation of

the quality of classroom research revealed that the quality level of classroom research was at good level; and 3) The level of satisfaction with the research management system based on the Four Noble Truths was very high. 4. Results of the evaluation of the research management system based on the Four Noble Truths for school in Phra Nakhon Si Ayutthaya Primary Education Service Area Office 1 revealed that the system was accurate, appropriate, feasible, and beneficial. The knowledge gained from the research was summarized into the MORAL MODEL for the research management system based on the Four Noble Truths.

**Keywords:** Research Management System, Four Noble Truths, Phra Nakhon Si Ayutthaya

## I. INTRODUCTION

Research management is the process of using the resources that an educational institution or organization has in a cost-effective way so that the organization can achieve the objectives and goals that have been set, and is of paramount importance in the development of the research work of the educational institution or organization. In order of priority, allocation of resources, adjustment of the organization's system, including various actions, research management is involved in making the development of research progress according to the goal or can be stopped. In addition, research management counts that it is important for the nation as a mechanism for mobilizing resources, encouraging researchers to focus on researching issues or problems that are important first. Research will not happen if there is no management in accordance with the policy, so the application of management principles or methods to draw out the potential of people in society to create change is very important [1].

According to the national education plan B.E. 2560-2569 with a vision for all Thai people to be educated and learn throughout their lives with quality and live happily based on the philosophy of a self-sufficient and changing economy in the 21st century, with a strategy related to the Ministry of Education's 6 strategies are as follows: 1) Organizing education for the security of society and the nation, 2) Production and development of manpower, research and innovation to build the country's competitiveness, 3) Develop human potential all age levels, and creating a learning society, 4) Creating opportunities, equity and equality in education, 5) Organizing education to create an environmentally friendly quality of life, and 6) Developing the efficiency of the education management system and under the National Education Plan B.E. 2560 – 2569. This 2<sup>nd</sup> strategy has a strategy that promotes research and innovation and a strategy to create an effective research and innovation ecosystem as follows: 1) Development mechanism for effective research and innovation management, 2) Promotion of cooperation between Various sectors in research and innovation, 3) development system support for researchers and innovators, and 4) creating a culture of research and innovation in society [2], as well as the Office of the Commission, civil servants, teachers and educational personnel has focused and given priority to research by determining the criteria and methods for evaluating the position and scientific status of civil servants, teachers and educational personnel in applying for a promotion or requesting a scientific position as an expert and a special expert in science. Applicants must pass an evaluation. The 3 aspects are the 1st aspect of skill management, learning and class management, the 2nd aspect of student learning results, and the 3rd aspect of academic performance, for the aspect of academic performance. The Office of the Board of Civil Service Teachers and Education Personnel has set the criteria to be required to have research work on learning management or innovative learning management in order to be evaluated [3].

Based on the study data, administrators, teachers and educational personnel that the administrative personnel group of the District Office of Primary Education, Phra Nakhon Si Ayutthaya District 1 prepared a report on the Human Resource Management Policy B.E.2566 found that there are administrative schools that has only 1 scientific expert. In terms of teachers and educational personnel, there are no scientific experts [4]. However, at present, Thailand is still encountering problems that make research and teaching science less advanced than it should be, that is, the lack of a system of research management in educational institutions. Although there are many research experts in the field of education related to research, the system of research management and research budget support of the institution or the field of study It is not yet as strong as it should be. Another fact found is in the field of personnel research, that is, teachers and educational personnel will have to find experts to ask for advice on research on their own, and in terms of monitoring and evaluating the results of research. According to the literature, the departments, especially the education area, should give priority to

research management or the development of the research management system, because it is considered the duty of the various parties involved and only research will develop the education of Nationally, and indeed research, not new job creation, but it is a sincere effort to solve the problems that students face in the management of teaching and learning every day. The mission of teacher development and quality education is to support research and facilitate research to be carried out according to the stated objectives, also known as "research management". Even if the researcher has a lot of knowledge and ability in the field of research, if there is no unit support, it will cause problems. Therefore, the related institutions should provide the following support: 1) Research budget, 2) Aspect Dissemination of research, 3) personnel research, and 4) monitoring and evaluation Research. Research cannot happen because nowadays research is complex and cannot be done by researchers alone. For this reason, there is a need to study and understand the management system. According to research [5], Chamsri mentioned the problem of research management in the country, the most important problem is the research personnel, followed by the problem of insufficient budget for research, the problem of disseminating research results, and the problem of policy and Research projects [6].

From the above mentioned importance and situation, it is reflected that there should be a systematic and efficient research management system developed by the researchers, who apply the principles of Buddhism as an interesting concept to develop. To make the school's research management system more effective and efficient, that is the Four Noble Truths that the Lord Buddha showed in the Tripitaka, Book 21, page 43. There is a section that says, "Suffering is the cause of suffering, the cessation of suffering, and the Noble Path consists of 8 elements. It means that there are 4 elements: 1) The fact that through suffering (Dukkha), 2) The fact that everything is born due to reason (Samudaya), 3) The fact that by means of ending suffering (Nirodha), and 4) The fact that by way of ending suffering (Magga) by these Four Noble Truths. It is possible to sort out the relationship in terms of reason and what a person can study and practice as follows: 1) The reason is that suffering is a manifestation, a result, and the cause of suffering is a cause, with an end to suffering, a result, and a method to end suffering, 2) The aspect of a person's duty is that suffering is a problem that must be understood, then the cause of suffering is something that must be eliminated, and the end of suffering or the solution of the problem is something that must be assured and the method of action. In order to solve the problem, the person must be considered responsible for taking action on his own, 3) Compared to basic science, it is the step of analyzing the problem thoroughly, the step of collecting data, the step of finding the hypothesis of the problem, the step of establishing a hypothesis, finding a possible conclusion, and the step of taking measures or practices to achieve the goal of solving the problem [7]. Shisa Kanyawiriya and Sirin Kanyawiriya presented the Four Noble Truths to apply the Four Noble Truths to the sustainable development of organizations with the principles of Buddhism. Let's apply it at all levels of the organization's management to achieve sustainability and happiness at work as follows Recognizing the problems that occur in the organization (Dukkha), finding the real cause of the problem (Samudaya), setting goals to solve the problem (Nirodha), and planning and implementing the right method (Magga). It can be seen that the principles of Four Noble Truths can be applied in the development of the organization and can create happiness and success for the organization in a sustainable way [8].

In addition, in developing the research management system to be more effective and efficient, the researcher adopted the quality management cycle with PDCA as a guideline that can be applied to develop the research management system, which consists of 4 steps as follows 1) Planning (Plan) sets goals, methods and standards required, 2) Practice (Do) Act and follow the plan, 3) Checking (Check) the results to see if the goals have been achieved or not, and 4) Corrective action (Act), analyze the results to find the defect and to improve the work plan. PDCA is an effective tool in the development of research management system. Developed a spatial research management system at Mahavithaya Technology Rajamongkol Srivichai in order to improve the quality of education and drive it to become a university serving the society by implementing a design system according to the PDCA quality management cycle as follows: [9] Step 1 Planning (Plan) Analyzing the research management system and mechanism by setting goals, objectives and indicators of the research to develop the area, analyzing stakeholders and participation, setting activities and working calendar, Step 2 Implement (Do), follow steps throughout the research management system upstream Mid-stream and downstream, Step 3 Checking the results of management and research management (Check) including taking lessons after action

(After action review) in each activity to learn and improve performance Evaluation system and mechanism Management of Research Management Unit for Spatial Development, Step 4 Improvement of system, mechanism and research management (Act), improvement of work plan through the process of building understanding and exchanging learning with the Office of Funding Research Support and experts. As a result of the system design, there are 4 systems as follows: 1) Budget management and research fund allocation system, 2) System development potential researcher, 3) Progress monitoring and evaluation report system, and 4) Support system for disseminating research results to use [10], based on the importance of the situation and the problems mentioned above, the researcher was interested in developing a research management system based on the 4 principles for the office of the primary education area of Phra Nakhon Si Ayutthaya District 1 in order to solve the problem. to be more effective.

## II. RESEARCH OBJECTIVES

The objectives of this research were 1) to study the current state of research management for school in Phra Nakhon Si Ayutthaya Primary Education Service Area Office 1, 2) to develop a research management system based on the Four Noble Truths for school in Phra Nakhon Si Ayutthaya Primary Education Service Area Office 1, 3) to experiment the research management system based on the Four Noble Truths for school in Phra Nakhon Si Ayutthaya Primary Education Service Area Office 1, and 4) to evaluate the research management system based on the Four Noble Truths for school in Phra Nakhon Si Ayutthaya Primary Education Service Area Office 1.

## III. RESEARCH METHOD

Research and development was designed and was divided into 4 phases. Phase 1 was to study the current state of research management using in-depth interview of 6 key informants with interview form and data were analyzed by content analysis and analytic induction. Phase 2 was to develop a research management system based on the Four Noble Truths and by using 5 experts to validate the system with assessment form and data was analyzed by Content Validity Index. Phase 3 was to experiment the research management system based on the Four Noble Truths using workshop with the target group of 80 people. Research tools were 1) Manual of research management system following PDCA process, 2) assessment form of knowledge in research management system based on the Four Noble Truths, 3) Research quality assessment form for classroom research, 4) Satisfaction assessment form of research management system based on the Four Noble Truths. Data were analyzed by quantitative and qualitative methods. Phase 4 was to evaluate the research management system based on the Four Noble Truths using focus group discussion with 9 experts. Research tool was assessment form of research management system based on the Four Noble Truths and data was analyzed by content analysis.

## IV. RESULTS

The research results found that:

1. The current state of research management for school in Phra Nakhon Si Ayutthaya Primary Education Service Area Office 1 showed that schools have conducted research consisted of five main systems and 26 subcomponents, which were 1) research management system, 2) operating budget in research system, 3) Research personnel System, 4) Research monitoring and evaluation system, and 5) Research publication system.

2. A research management system based on the Four Noble Truths for school in Phra Nakhon Si Ayutthaya Primary Education Service Area Office 1 was developed and consisted of 1. the research management system integrated with the Four Noble Truths as follows: Dukkha (Suffering): Understanding the problems in research management; Samudaya (Origin of Suffering): Analyzing the causes of problems in research management; Nirodha (Cessation of Suffering): Identifying solutions to the problems in research management; and Magga (Path to the Cessation of Suffering): Implementing the defined strategies for effective research management. 2. The research management system integrated with the principles of quality management using the PDCA cycle consists of four steps: 1) Planning the research management (Plan); 2) Implementing the research management (Do); 3) Monitoring the research management (Check); and 4) Improving and correcting the research

management (Act). 3. Result of Content Validity Index of research management system based on the Four Noble Truths was higher than the criteria.

3. Results of the experiment of research management system based on the Four Noble Truths for school in Phra Nakhon Si Ayutthaya Primary Education Service Area Office 1 revealed that 1) the Effectiveness Index (E.I.) of learning about classroom research using the manual for the research management system based on the Four Noble Truths increase at 88.62%; 2) The overall evaluation of the quality of classroom research revealed that the quality level of classroom research was at good level; and 3) The level of satisfaction with the research management system based on the Four Noble Truths was very high.

4. Results of the evaluation of the research management system based on the Four Noble Truths for school in Phra Nakhon Si Ayutthaya Primary Education Service Area Office 1 revealed that the system was accurate, appropriate, feasible, and beneficial. The knowledge gained from the research was summarized into the MORAL MODEL for the research management system based on the Four Noble Truths.

## V. DISCUSSION

1. According to the Four Noble Truths of research management, it was found that there are 5 areas in the school-affiliated office of the primary education area of Phra Nakhon Si Ayutthaya District 1: management in research, budget support in research, and operating budget in research, research advisor, assessment in research, liberation of knowledge sharing Takmacha, Worachai Vibhu Uprakota [11] conducted a research on the guidelines for promoting research in the classrooms of administrative schools affiliated to the district office of primary education in Chanthaburi District 1. It was found that administrative schools have administrative tasks. By encouraging teachers to conduct research in the classroom, and educational administrators having a policy for teachers to conduct research in all classes, and also encouraging teachers to develop knowledge about research methods, supporting resources used in conduct research for teachers and create motivation for teachers to conduct research And also follow up the teacher's research work systematically and continuously and related to Ayansola Olatunji Ayandibu [12] researched on the challenges of research management in universities and found that higher education institutions: HEI) experienced problems related to digital transformation, resulting in higher education institutions (HEIs) having to solve problems in research management. A policy has been set and a quality research management structure has been developed To encourage research personnel to produce more quality research and innovation, it is also consistent with Raja Mohd Ali, R. H., Azid, N., Md-Ali, R., Busthami Nur, A. H., & Suri, M [ 13] which conducted a research on the budget management model for research. The results of the research found that this research was conducted to manage the research budget to support the budget for students. The researcher prepared a management model. Budget Name KKPLive Budget KKPLive Budget This can help manage the university's research budget effectively

2. Development of a research management system according to the Four Noble Truths for the school-affiliated district office of primary education in Phra Nakhon Si Ayutthaya District 1. The researcher found that there are 4 guiding principles Integrate with the operation process of the research management system for the school-affiliated district office of primary education in Phra Nakhon Si Ayutthaya District 1 as follows: 1) Integration of the results development system and management of research (Management in Research System) With the Four Noble Truths, we found that suffering is understanding problems in research management, Samuthai is the cause of problems in research management, Niroth is the way to solve problems, and the path of research management is Problem solving management research. 2) Results development system budget support research (Operating Budget in Research System) integration with the 4 principles It is found that suffering is understanding the problems of budget support research, Samuthai is analyzing the causes of the problems of budget support research, Niroth is determining the solution to the problems of school budget research, Path is following the guidelines of budget research. 3) The results of the development of the Research Advisor System, integrated with the Four Noble Truths principles, found that suffering is understanding the problems of the research advisor system. Analyzing the causes of the problems of personnel consulting in research Niroth is determining the solution of personnel consulting in research Path is following the guidelines of personnel consulting in research. 4) Monitoring and evaluating the results of the development system assessment in research system (Assessment in Research System) integration together with the Four Noble Truths found that

suffering is understanding the problems of monitoring and evaluating research results, Samuthai is analyzing the causes of problems of monitoring and evaluating research results, Niroth is Determine the solutions to the problems of the monitoring and evaluation of the research The path is to follow the guidelines of monitoring and evaluating research results. is to analyze the cause of the problem of publishing research, niroth is to determine the solution to the problem of publishing research, path is to follow the guidelines of publishing research, in line with Matipa Brahmi, Boon Cheid Channisat, & Peerawat Chaisuk [14] conducted a research on academic management style according to the Four Noble Truth principles for teachers' offices, education area, primary education, Samutprakarn District 2. The results of the research found that there are elements The 5 main elements are 1) Principles, 2) Objectives, 3) Procedures, 4) Academic management according to Four Noble Truths principles. 5) Evaluation results are in line with Khattiyapol Chaichachana, Kasem Sangnon, and Sutthiphongs Srivichai [15] conducted a research on academic management guidelines in the context of the 2019 Corona virus epidemic according to the Four Noble Truth principles of management. It was found that the office of the educational institution, the area of education, primary school, Phra Nakhon Si Ayutthaya District 1. There are two actions, namely: 1) Management supervision using school and project basis, and 2) summary report of supervision results by studying information about social change and changing the supervision style of teachers and developing a supervision system using a mentoring supervision model, exchanging learning experiences in managing supervision with outside educational institutions, and carrying out supervision reporting results. Made an article and presented the concept and application of the Four Noble truths in the management of inclusive education. It was found that suffering is the recognition and realization of problems in the inclusive education system. is finding the cause of a problem, such as a lack of resources or inadequate communication that analyzed to produce sustainable results [16].

3. The research management system based on the Four Noble Truths for school in Phra Nakhon Si Ayutthaya Primary Education Service Area Office 1 was integrating the Four Noble Truths principles together with the principles of quality management with the PDCA cycle. The results of the research management system development based on the 4 principles for the school-affiliated in Phra Nakhon Si Ayutthaya Primary Education Service Area Office 1, integrated with the principles of quality management with the PDCA cycle can be summarized as follows: Main component 1 of the research management system (Management in Research System) integrated with the principle of quality management with the PDCA cycle can be summarized as follows: Step 1 Planning and management of research (Plan: P) has 4 sub-components 1) Formulate research management policy, 2) Prepare annual work plan, 3) Prepare research project, and 4) Establish organizational structure to conduct research Step 2 Conduct research management (Do: D) 1 sub-element Is to carry out the research management according to the action plan. Step 3: Checking the research management (Check: C). There are 1 sub-components, which are monitoring and evaluating the results of the research management. Step 4: Improving and correcting the research management (Act: A). There are 1 sub-components, which are development and improvement management research main component 2 Operating Budget in Research System (Operating Budget in Research System) integrated with the principle of quality management with the PDCA cycle can be summarized as follows: step 1 Planning budget support for research (Plan: P) has 1 sub-elements 1. Policy Management Research, 2) Planning and Targeting Budget Support Research. Step 2 Implementation Budget Support Research (Do: D) There are 1 sub-components, which are allocating budget support research. Step 3 Monitoring Budget Support Research (Check: C) has 1 sub-elements, which are monitoring and evaluation budget support research. Step 4: Improvement and revision budget support research (Act: A) has 1 sub-elements, improvement and development budget support research. The Research Advisor System is integrated with the principles of quality management with the PDCA cycle as follows: Step 1 Planning the Research Advisor System (Plan: P) has 2 sub-components: 1) Planning and selection of teacher research advisors, 2) Determining the duties of teacher advisors in research, Step 2: Conducting the work of research advisors (Do: D). There is 1 sub-component, namely: Step 3 Review of Counseling Research. There is 1 sub-component of the operation of the personnel consulting in research (Check: C) which is to monitor the operation of the research consultant in the 4th step, to improve and correct the personnel consulting. Research (Act: A) has 1 sub-components, which is to improve the performance of teacher advisors in research. The main component 4 is the monitoring and evaluation system of research results (Assessment in Research System) integrated with the principle of management. Work quality with the PDCA cycle can be summarized as follows: Step 1 Planning

Monitoring and evaluation of research results (Plan: P) has 2 sub-components, namely 1) meeting guidelines for monitoring and evaluation of research results in schools 2) appointing a committee to monitor and evaluate research results Step 2 Implementation Monitoring and evaluation of research results (Do: D) has 1 sub-elements, namely monitoring the progress of research. Step 3: Monitoring and evaluation of research results (Check: C) has 1 sub-elements, evaluation results. Qualitative research step 4 Update Monitoring and evaluation of research results (Act: A) has 1 sub-elements, which are summary and report results of monitoring and evaluation of research results. Main element 5: System of dissemination of research (Liberation of Knowledge Sharing System) Integration with the principles Quality management with the PDCA cycle can be summarized as follows: Step 1: Planning, dissemination of research (Plan: P). There are 1 sub-elements, namely policy formulation and dissemination of research, Step 2: Implementation, dissemination of research (Do: D) There are 1 the sub-component is to establish a committee responsible for research dissemination. Step 3: Checking and disseminating research (Check: C) Research (Act: A) has 1 sub-elements, which is the publication of research results and the follow-up of the publication of research results. In accordance with Somdej Bhimaikul [17], he conducted research on the development of information systems for the management of research at the Faculty of Education. Chiang Mai Rajabhat University with Google Sites program with the goal of developing an information system for research management with the Google Site program using the Quality Deming Cycle (PDCA). The results of the research showed that the information system for research management has a good level of quality and efficiency in line with peace. Ngamsert [18] conducted a research on the system mechanism and guidelines for quality assurance studies on the effectiveness of the PDCA process based on the quality cycle. Productivity and feedback and effective management system for quality assurance and education of the institution 2) Process, there are 3 stages of implementation: personnel development, operational planning and creating a database information system in research operations 3) Evaluation Quality education consists of 4 steps: 1) Preparation for quality assessment, 2) Quality assessment, 3) Reporting quality assessment results, and 4) Implementation of quality assessment results for improvement and development that always ready for operation [19].

## VI. KNOWLEDGE FROM RESEARCH

The research entitled on development of the research management system based on the Four Noble Truths for school in Phra Nakhon Si Ayutthaya Primary Education Service Area Office 1. The body of knowledge from this research, the researcher presented the body of knowledge from the development of the research management system based on the Four Noble Truths for school in Phra Nakhon Si Ayutthaya Primary Education Service Area Office 1. Western and modern management science together, namely the 4 Noble Truths (Eastern management science) and the principles of quality management with the PDCA cycle (Western management science) integration in the operation of the research management system based on the Four Noble Truths for school in Phra Nakhon Si Ayutthaya Primary Education Service Area Office 1.

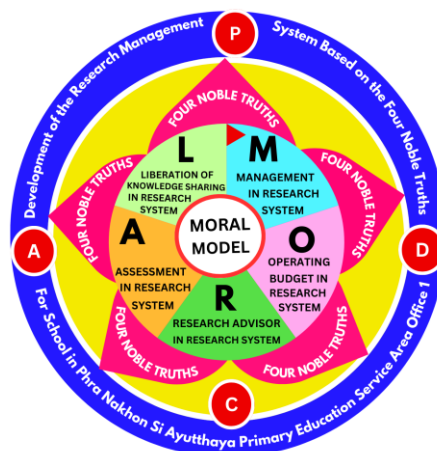


Figure 2 Knowledge from Research of HS2C Model

Source: Suphatsara Wantamat (2024)

The body of knowledge from this research is the body of knowledge obtained from the research and development of the research management system based on the Four Noble Truths for school in Phra Nakhon Si Ayutthaya Primary Education Service Area Office 1. The researcher concluded that it is "MORAL Model" as follows.

MORAL Model refers to the educational institution's research management system that integrates the Four Noble Truths principles of quality management and the PDCA cycle, consisting of 5 main systems and 26 sub-components as follows.

M stands for Management in Research System

O stands for Operating Budget in Research System  
supporting research)

R stands for Research Advisor System.

A stands for Assessment in Research System

L stands for Liberation of Knowledge Sharing System.

## VII. RECOMMENDATIONS

### A. Recommendations for Policy

1. Educational institutions should establish policies that support school research related to the Four Noble Truths. Educational institutions should adopt a research management system based on the Four Noble Truth, increase educational skills and understanding of effective research and consider the long-term impact of research on school development.

2. Institutions should have a clear and concrete plan for research management and be able to follow the plan effectively.

### B. Recommendations for Implementation

1. Educational institutions should establish rules and guidelines for research management according to the four noble truths principles for the school affiliated in Phra Nakhon Si Ayutthaya Primary Education Service Area Office 1 to be clear and effective.

2. Educational institutions or agencies should use the research management system based on the Four Noble Truths for the school-affiliated in Phra Nakhon Si Ayutthaya Primary Education Service Area Office 1 to develop the research of teachers and educational personnel in order to produce research results in Quality and effective classes.

3. Administrators should have a research management system according to the Four Noble Truths to support research in the teacher's classroom to encourage teachers and educational personnel to continue to operate, which will lead to the highest achievement for students.

### C. Recommendations for Further Research

1. Research management system development should be done by integrating other principles of Buddhism together with research management system.

2. A research management system based on the Four Noble Truth principles should be developed for the school-affiliated in Phra Nakhon Si Ayutthaya Primary Education Service Area Office 1, as a guide for conducting research in educational institutions so that it is appropriate and meets the needs of students.

## CONCLUSION

The research entitled on development of the research management system based on the Four Noble Truths for school in Phra Nakhon Si Ayutthaya Primary Education Service Area Office 1. Results found that: 1. The current state of research management for school in Phra Nakhon Si Ayutthaya Primary Education Service Area Office 1

showed that schools have conducted research consisted of five main systems and 26 subcomponents, which were 1) research management system, 2) operating budget in research system, 3) Research personnel System, 4) Research monitoring and evaluation system, and 5) Research publication system. 2. A research management system based on the Four Noble Truths for school in Phra Nakhon Si Ayutthaya Primary Education Service Area Office 1 was developed and consisted of 1. the research management system integrated with the Four Noble Truths as follows: Dukkha (Suffering): Understanding the problems in research management; Samudaya (Origin of Suffering): Analyzing the causes of problems in research management; Nirodha (Cessation of Suffering): Identifying solutions to the problems in research management; and Magga (Path to the Cessation of Suffering): Implementing the defined strategies for effective research management. 2. The research management system integrated with the principles of quality management using the PDCA cycle consists of four steps: 1) Planning the research management (Plan); 2) Implementing the research management (Do); 3) Monitoring the research management (Check); and 4) Improving and correcting the research management (Act). 3. Result of Content Validity Index of research management system based on the Four Noble Truths was higher than the criteria. 3. Results of the experiment of research management system based on the Four Noble Truths for school in Phra Nakhon Si Ayutthaya Primary Education Service Area Office 1 revealed that 1) the Effectiveness Index (E.I.) of learning about classroom research using the manual for the research management system based on the Four Noble Truths increase at 88.62%; 2) The overall evaluation of the quality of classroom research revealed that the quality level of classroom research was at good level; and 3) The level of satisfaction with the research management system based on the Four Noble Truths was very high. 4. Results of the evaluation of the research management system based on the Four Noble Truths for school in Phra Nakhon Si Ayutthaya Primary Education Service Area Office 1 revealed that the system was accurate, appropriate, feasible, and beneficial.

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