PROGRAM FOR DEVELOPING THE COMPLETENCIES OF INFORMATION TECHNOLOGY MANAGEMENT IN BASIC EDUCATION INSTUTIONS OF SECONDARY SCHOOL ADMINISTRATORS IN THE NORTH-EAST

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Abstract

 This aims of this research were the following 1) To study elements of information technology management competency development for the management of secondary school administrators in the Northeast 2) To create and improve information technology management competency development programs for the management of secondary school administrators. In the Northeast and 3) To evaluate information technology management competency development program for the management of secondary school administrators. In the Northeast, that developed this research. This research and development was performed 3 phases: Phase 1: Studied of development program elements, including: Analysis of related documents and research Expert interviews and exploratory research the population included 933 school administrators, among whom included school administrators in secondary schools in the Northeast, 335 people were acquired at multiple stages random, used a 5-level estimation scale query to analyze data using frequency, percentage, average, and standard deviations. Phase 2: Created and developed program Education of Information Technology Management Competency Development Program for Secondary School Administration in the Northeast According to interviews with seven experts to draft the program, Review the draft program using experts, created and confirmed program by experts. Phase 3, evaluated the program, experiment with 30 school administrators, analyzed data using averages and standard deviations.

The research results were as below:

 1. There were 5 elements of Information Technology Management Competency for Management of Secondary School Administrators: information technology strategy plan, organizational structure, information technology infrastructure. Leadership and Personnel.

 2. Information Technology Management Competency Development Program for School Management of Secondary School Administrators In the Northeast consisted of principles, objectives, contents, development processes and measurements and evaluations Completed the 2-day period using the Information Technology Management Competency Development Manual for the school management of secondary school administrators. in the Northeast 5 units included: Practicality and sharing of learning.

 3. Results of the use of information technology management competency development program for the management of secondary school administrators in the Northeast found that secondary school administrators participating in the research had the capacity to manage information technology for the administration of the school after participating in an increased trial of the program. The effectiveness index of information technology management development for the management of secondary school administrators in the Northeast was 0.7204 or 72.04% and the knowledge and experience gained in general was the most inclusive development.

**Keywords:** Development Program, Competency, Information Technology Management

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1.Introduction Education is an important factor for preparing people and society to face change to be able to accept and adapt to change in order to live happily in society. Education can also help and solve problems that arise in society, economy and politics, where the state has always recognized the importance of education as affecting the development of civic capacity. As seen in the Constitution of the Kingdom of Thailand. B.E. 2007 Section 49 stipulates that individuals have equal rights to receive basic education for at least twelve years that the state must provide thoroughly and quality B.E. 1999 Article 10 is defined in accordance with the In regards to basic educational rights and opportunities, by requiring the development of education for Thai people to receive a widely higher quality education and standards, thoroughly and fairly (Ministry of Education, 2007, page 2). In accordance with the Ministry of Education's Information and Communication Technology Master Plan People are given the opportunity to learn throughout their lives with the use of information and communication technology systems, and educational communications aim to enhance the quality of education, where learners can access learning resources anytime, anywhere by leveraging the modern integration of electronic tools used in everyday life. It is convenient to communicate with each other, also known as "Ubiquitous Learning", as well as to create classrooms of the future to create an environment that allows students to be at the center of education in 3D: 1) Access to learning resources is to increase the potential of research and access to online learning resources is to increase the potential of research and access to online learning resources.2) Learning anytime, anywhere is to enhance the learning experience without continuity by using modern personal devices (BYOD : Bring Your Own Device) 3) The variety of learning is to increase the ability and freedom to choose a variety of methods and learning materials in the classroom of the future (Ministry of Information and Communication Technology, 2011) Page 7) The quality of schools should have student-centered teaching and learning characteristics. Have a good academic plan teaching and learning that promotes student learning is available. There is a positive atmosphere for the school. Promoting group interaction with each other, widespread human resource development. Using participatory leadership to promote creative solutions. Parents and communities are engaged, where the effectiveness of the school is the ability to operate, with leaders using the ability to manage the school to achieve good education to achieve quality goals (Sergiovanni, 2009, pp. 198-199). The main in managing changes in schools is to have a good system of educational management and management. The key goal is quality education. Effective and effective in developing Thai children to be of higher quality and higher standards equally or similar to the country. The quality of education also reflects the characteristics of standardized educational management, resulting in sustainable outcomes for students in accordance with the course intent and can meet the needs of students. Parents and communities, or, it can be said that the quality of education is the quality of students who have high academic achievement and desirable characteristics as specified by the curriculum. The quality of such students is due to the cooperation of all parties, including parents, parents and communities who care about education management, policy and practical organizations have a standardized management system and especially the practical level, which means that schools have a quality down-to-classroom system. As a result of having professional administrators and teachers, as well as having an effective advisory school board (Rattana Duangkaew, 2013, page : 11), the school needs to change and develop the management of learning throughout the system. The quality of the school is the primary goal of developing the school to its potential to be ready to develop in various areas to cope with various situations, have quality learners, have a good teaching system. Fully equipped and equipped with a library. Media, information and communication technology are used, as well as the proper environment arrangement. There are teachers with a spirit of teacherhood. Open your mind, listen to problems so that students can think for themselves, dare to express themselves, have good manners, have morality, be virtuous, to be used for living or career. Especially these days, political change. Socioeconomic is fast and continuous. Technology is being introduced. New learning and living and cultural patterns come to Thai society. Education is an important factor in helping people think, to think, to contemplate, to choose, to develop and adapt to the events that come to life all the time. In the midst of the changing of society that is a current trend of globalization, it is a knowledge based society and a knowledge based economy, which results in the management of Thai education subject to the conditions of competition and commitment in accordance with society's expectations. The management process must be adapted and developed in accordance with the conditions, so it is imperative that the management is constantly interested in knowing and developing in order to ensure the management of the organization survives and achieved the objectives (Theera Rooncharoen,2010:page98). Therefore, it is necessary to organize an effective education. To develop students to be complete human beings. It has a good desirable feature: physical development. In order to produce students of quality to society, coexist happily, and quality education management can be considered an important part of developing human resources to have desirable attributes and will directly affect the development of the country. It also promotes the Knowledge-based Society to students or service recipients, and the trend of global social development into a modern economic society that relies mainly on innovation and technology. The country's knowledge of manpower and wisdom are key factors in the country's potential to compete with other countries. As a result, every Countries around the world have turned their attention to education. As an important mechanism or tool for developing manpower, Society & Country The key point in the development of education is towards improving quality, because if the people of the country have the quality of development, the country will be of high quality and also indicate international competitiveness. When the school is of quality, it will also result in the confidence in the school's educational management. As a result, parents send their children to that school. As a result, every Countries around the world have turned their attention to education. As an important mechanism or tool for developing manpower, Society & Country The key point in the development of education is towards improving quality, because if the people of the country have the quality of development, the country will be of high quality and also indicate international competitiveness. When the school is of quality, it will also result in the confidence in the school's educational management. As a result, parents send their children to that school. Based on the study of documents and research related to information technology management competency development programs for the management of secondary school administrators in the Northeast, found that result in the management of the school very well up-to-date and quality information, information can be used to make effective management decisions that will affect the quality of schools, teachers, students. As a result, those involved will be satisfied with the school's operations and the Information Technology Management Development Program for The Management of Secondary Schools in the Northeast will guide to develop information technology management and the management of schools to be successful.

2. Objectives

The research aims were as follows:

 1. To study elements of information technology management competency development for the management of secondary school administrators in the Northeast.

 2. To create and improve information technology management competency development program for the management of secondary school administrators in the Northeast.

 3. To monitor and evaluate the effectiveness of information technology management competency development program for the management of secondary school administrators in the Northeast.

3.Literature Review

 In this research, the researchers analyzed synthesis from the concept papers. Theory and research related to the development of information technology management competency for the management of secondary school administrators The content scope is as follows:

 1. Information Technology Management for School Management consists of 1) Information Technology Strategy Planning2) Organizational Structuring3) Information Technology Infrastructure Management4) Leadership of Information Technology Executives and 5) Personnel

 2. Information Technology Management Competency Development Program for School Management of Secondary School Administrators in Northeastern Region There are 4-stage program development processes: 1) Analyze, synthesize, concept and study current conditions, 2) Create program details, 3) program trials, and 4) evaluate programs.

Conceptual Framework

Information technology management performance components of Northeastern secondary school administrators

 1. Information technology strategy plan

 2. Organizational structure

 3. Information technology infrastructure

 4. Leadership

 5. Personnel

The process of developing program 4 steps

 1. Analyze, synthesize concept and study

 current conditions.

 2. Creating program details

 3. Program trial

 4. Evaluate program

Concept, theory about information technology management competency development program for school administration

Elements of information technology management competency development program for school management of secondary school in the Northeastern

Improve of information technology management competency development program for educational institution management of secondary schools

Information technology management competency development program for secondary school administrators' in the Northeastern

Research Methodology

 This research was classified as research and development, conducted in three phases, including Phase 1, The Study of The Development Program Elements, Phase 2, The Creation and Development of Programs, and Phase 3 Program Evaluation.

 To create and develop information technology management competency development programs for the management of secondary school administrators. In the Northeast, obtained by analyzing data based on concepts. Theory and research papers relegiting information technology management competency development program for the management of secondary school administrators in the Northeast

Results of research paper

 findings program for developing information technology management for the management of secondary school administrators In the Northeast, the conclusions as follows:

 1. Information Technology Management Competency Elements for The Management of Secondary School Administrators In development, there are 5 elements:

 Element 1 Information Technology Strategy Plan

 Element 2 Organizational Structure

 Element 3 Information Technology Infrastructure

 Element 4 Leadership

 Element 5 Personnel

 2. Information Technology Management Development Program for The Management of Secondary School Administrators There are 5 elements in the Northeast: infrastructure, information technology, information technology strategy, leadership, organizational structure and personnel. In the Northeast, it can be sequenced to determine the framework for development, as follows

 3 hours of training on Information Technology Strategy

 3 hours of training on Leadership

 2 hours of training on information technology infrastructure,

 2 hours of training on organizational structure,

 2 hours of training on personnel

 Development of information technology management competency development program for the management of secondary school administrators in the Northeast as follows:

 2.1 Suitability of information technology management competency development program for the management of secondary school administrators in the Northeast It is optimal as a whole to the level, and when considering the development documentation in each element. In descending order of averages: information technology strategy ( = 4.80), organizational structure ( = 4.80), leadership ( = 4.76), personnel ( = 4.74) and leadership ( = 4.74).

 2.2 Appropriateness of documentation for the development of information technology management competency for the management of secondary school administrators in the Northeast Considering each element In descending order, the information technology strategy ( = 4.80), the organizational structure ( = 4.80), leadership ( = 4.76), personnel ( = 4.74) and leadership ( = 4.74), respectively.

 2.3 Information Technology Management Competency for The Management of Secondary School Administrators in the Northeast During the trial of information technology management competency development models for the management of secondary school administrators. in the Northeast It was found that the participants were trained in the development of information technology management for the management of secondary school administrators. In the Northeast, pre-training and post-training tests are conducted. The total score before training was 689 points and the total score after training was 841 points when comparing pre-training scores with post-training scores increased after training, which was 152 points, representing an increase of 72.04 percentages.

 2.4 Satisfaction of the participants to the Information Technology Management Competency Development Program for the Management of Secondary School Administrators In the Northeast, the overall picture is very high ( = 4.18), considering the field is found to be very high on all sides, sorting the average in descending order, cognitive ( = 4.25), second only to speaker ( = 4.21), knowledge implementation ( = 4.18) and place/duration/food ( = 4.12), respectively.

 2.5 Monitoring and evaluating the effectiveness of information technology management competency development programs for the management of secondary school administrators in the Northeast It found that the use of knowledge and experience gained to improve themselves and develop the work of secondary English teachers under the school district was the most overall ( = 4.51), considering that it was the highest level of 4 areas, on two very levels, with the highest average being personnel ( = 4.71), second only to leadership ( = 4.59) and information technology strategy ( = 4.59), respectively.

 3. Effectiveness of information technology management competency development program for the management of secondary school administrators In the built-up northeast. The effectiveness index increased.

# Conclusion and Discussion

 Based on the results of the data analysis, the researcher presented a discussion of the results on key issues as follows:

 1. Information Technology Management Competency Elements for The Management of Secondary School Administrators in the Northeast It found that there are 5 elements as follows: 1) Information Technology Strategy, 2) Organizational Structure, 3) Information Technology Infrastructure, 4) Leadership, and 5) Personnel. This is because information technology management for school management is the implementation of the implementation of information technology in the work of personnel, which must be carried out from policymaking. Organizational goals related to the adoption of information technology The designation and appointment of persons or groups to be responsible for information technology in a concrete way, as well as the continuous development of relevant personnel and quality in accordance with Songchai Orarikpong and team (2017, page 73). ) Discussed the Information Technology Management Reform Strategy to create value for money, consisting of 6 indicators: 1) Developing an information technology development plan in line with the policies of the Ministry of Education, 2) Raising funds to modernize information technology work and efficiency, 3) The appointment of people responsible for information technology in a concrete way, 4) developing information technology agencies into highly effective entities, 5) supporting the use of information technology in the design and organizing learning activities for learners, 6) coordinating information communication through computer systems, and Apiwat Kansriviang and faculty (2013, abstract). He studied the information management system development strategy of the Secondary School District. The results showed that the development strategy for information management systems of secondary school districts consists of 5 strategies: Strategy 1: Develop data standards and central database systems to become the country's educational information center. Strategy 2: Develop information and communication technology infrastructure to be efficient Strategy 3: Develop information and communication technology systems for public relations of educational news and services with good governance, Strategy 4: Develop personnel to compete in information and communication technology, and Strategy 5 : To develop information and communication technology systems to support the creation of good governance in management and operation.

 Element 1 Information Technology Strategy plan is the competency or competence that school administrators must have and must be continuously developed in time for changing circumstances. When school administrators can plan their operations on information technology well, they will be able to plan for information technology. It will be implemented in management. In line with The Graduate, Blow Yen (2015, page 36), he said that a good strategy must have a reasonable focus. There's a mechanism for coordinating everything. Adapting to change is a possibility. Suitable, consistent, competitive advantage, recognized and made the agency more efficient than ever before. Nilsuk and Jira Chitsupa (2014, pages 72-74) He said school administrators must therefore be prudinous. Have a thorough understanding of strategy and require brainstorming from all stakes involved. In order to acknowledge and understand the common goals, the implementation of the implementation of the goals, which is to formulate information and communication technology management strategies for good and clear education, will effectively affect the actions of all parties involved in the school and bring success to the school.

 Element 2 Organizational Structure Quality Management of Organizational Structure Accurately, suitable for the context of the organization, it will affect the smooth and efficient operation of activities or tasks. The positioning of staff in the school or the self-sufficiency of the staff in the sub-units of the school will have a positive effect on the management of the school. In mind, knowledge and understanding of the organizational structure must be capable of determining personnel to perform tasks that meet the capabilities, knowledge can be divided by groups corresponding to information technology work, in accordance with Leavitt (1964, pp. 55-71), proposed control of information and communication technology that organizations that have adopted technology must have. The adaptation of the work of people in the organization and its structure will ensure efficient operation and patronage (2015, pages 8-9). ) studied the management of information technology for education that affected the organization of learning of educational institutions affiliated with vocational education in Chachoengsao Province. The results showed that the management of educational information technology to make the most of the management of educational institutions in infrastructure. Management must have the management of the school, which operates with the installation of intranet networking and networking within the school area. There is an Internet system used for management and teaching and learning. Contains the necessary software for use in non-pirated schools. Providing a variety of classrooms, such as computer laboratories or computer classrooms. There is a maintenance and stability system of information and communication technology systems.

 Element 3 Information Technology Infrastructure Information Technology Infrastructure, as well as ICT infrastructure related to educational infrastructure, including computers Network and Internet Display and peripheral screens and information systems will affect information systems. The use of information for communication, as well as the consequences of the school's holistic management. so If the structure of the technology of Tessan is good, it will make the management good in accordance with the sacratic. Pphan Peng (2016, page 32) discusses the main elements in 1: Information and Communication Technology Infrastructure. 1) Setting out plans for building management, learning resources and utilities 2) Classroom management laboratory Set the ratio of the number of computers to the number of students 3) install computer networking and Internet networking 4) Defining the features of the computer operating system. 5) Building infrastructure maintenance systems 6) Providing computer teachers and computer and internet network administrator teachers and Nikorn Poolput (2009, abstract) We have researched and developed information and communication technology management models of school districts to improve the education of small schools. It found that the management of information and communication technology will result in success. Effectively, consisting of determining the structure and mission of ICT management by establishing and determining the mission of the ICT Management Center and establishing the ICT Management Network Center.

 Element 4 Leadership Technology leaders demonstrated the creation of a clear vision and aimed at developing information technology by encouraging those involved to use information technology in the school's operations. Capable of leading the way in changing, developing technology Knowledge and ability to integrate information technology with school management, as well as teaching teachers specific skills to learn about new technologies. Technical solutions to teachers Access to technological resources and coordination with teachers in curriculum development in line with Gurr (2006) A research on the impact of information and communication technology on the work and living of both consumers and knowledge builders in the 21 century found that school administrators and teachers were to develop strategies that focused on the periods of acceptance of information technology of teachers and those involved. The quality of leadership and vision of education system organizers and school leaders, who are both technology users, resource allocators, people leaders, and change leaders. And Thitaree Wilaylert (2011, page 11) discusses managing ICT technology to achieve leadership efficiency, namely by executives using leadership to persuade and encourage others to follow their needs in order to achieve the organization's goal effectively and effectively.

 Element 5: Personnel developing personnel to have knowledge and skills in information technology to have the right attitude to work, will allow people to develop their own potential in information technology and be able to apply them to successful operations. Able to achieve the goals of the organization effectively in line with Orusa. Punyaburana (2015, page 238) discusses the determination of the roles of information and communication technology executives and personnel", consisting of three characteristics: 1) the readiness of personnel to develop and use information and communication technology, 2) school administrators have an understanding of information and communication technology, and 3) manage personnel development and curriculum development to promote training and training for personnel in information and communication technology.

 2. Information Technology Management Competency Development Program for Secondary School Administrators' School Management Program in the Northeast It was found that after the trial of information technology management competency development program for the management of secondary school administrators, in the Northeast It was found that the participants were trained in the development of information technology management for the management of secondary school administrators. In the Northeast, pre-training and post-training tests are conducted. Total pre-training score is 689 points and total score after training, 841 points. When comparing pre-training scores with post-training scores increased after training by 152 points, representing a 72.04 percent increase, the effectiveness index increased. The result of this may be because during the experiment, The participants received knowledge and practices regarding the development of information technology management for the management of secondary school administrators until the trainees were able to apply ideas and theories in the school and develop themselves in accordance with Thanita Nopparit*.* Base (2013, Page Ng). He studied the innovation of information and communication technology management of the dream school. It found that the overall and individual contextual evaluations were very high. By setting out the vision, mission and strategy of the school. Use the principle of personnel engagement at all levels as variables. Has the highest average The overall and individual factor assessments are very high, with the teacher's readiness to receive computer training the highest average. The results of the process assessment, both overall and individually, are very high, with the clauses that encourage students to search using the highest average ICT. The overall and individual output assessments are very high. Teachers provide the highest average student-oriented teaching and learning.

 It can be seen that the development of information technology management competency for the management of secondary school administrators. It is important for self-improvement, which affects the competency of the duties of the school administrator and, moreover, resulting in the management of the school. Promoting teacher teaching and learning It will have a greater impact on students. The use of information technology will help school administrators to manage effectively. Have information to manage correctly, completely and adequately.

 3. Effectiveness of information technology management competency development program for the management of secondary school administrators In the built-up northeast. The effectiveness index increased. The findings may be due to the development of information technology management capacity for the administration of secondary school administrators. The development participants received knowledge from speakers on the management of information technology for the management of educational institutions in various areas according to the information technology management competency elements for the management of secondary school administrators, including information technology strategy planning. Information Organizational, Information Technology Infrastructure Management The leadership of information technology executives and personnel resulted in the development of the participants by using the Information Technology Management Competency Development Program for the management of secondary school administrators. Higher cognition than before the development, in line with the findings of Kompisit Sriboonruang (2015), the trial of information and communication technology leadership models for the purpose of After operations, there was a statistically significantly higher than the pre-operational phase at .05, and the follow-up phase was statistically significantly higher than the post-operation phase at .01.

Suggestions

 1. Suggestion from the findings .

 1.1 The findings of the underlying information discovered can be used as a way to develop information technology management competency development programs for the management of secondary school administrators.

 1.2 Research has shown that information technology management competency development programs for the management of secondary school administrators in the Northeast It is the most suitable and effective, giving the development participants the knowledge and ability to manage the school by bringing information technology to the aid. Therefore, it should encourage the use of more broad development programs.

 2. Feedback for the next research Based on the findings, the researchers have recommendations for the next research.

 2.1 Research on the development of information technology management competency should be conducted for the management of secondary school administrators using the model. Others

 2.2 There should be education, competency development, information technology management for the school administration of primary school administrators. College or university level

 2.3 The factors that affect the development of information technology management competency should be studied for the management of school administrators.

**references**

Apiwat Kansriviang and Team.(2013) *Information Management System Development Strategy.* 10(19), 33-43.

Gurr and David.(2006) *The Impact of Information and Communication Technologies*

 *on Informal Scholarly Scientific Communication: A Literature Review*.

 Available from http://www.glue.umd.edu/~cpikas/878/Pikas\_The\_Impact\_

 oLlCTs\_oL\_ISSC:0506.pdf.

Khomphisit and Team.(2015*). The development model of information and communication technology leadership for the education of the basic school management in the Northeast.* Journal of Educational Administration, Khon Kaen University, 11 (2) : 101 - 108.

Ministry of Information and Communication Technology. *(2011).*  *Information and Communication Technology Policy Framework 2011 – 2020 of Thailand ICT2020.*

Ministry of Education.(2007).*Education Reform Guidelines of the Ministry of Education*.  *: Bankok.T.S.B. Productions.*

Orusa Puny burana. (2006). *Information and Communication Technology Management of Demonstration School.* Nakhon Pathom: Silpakorn University.

Rattana Duangkaew .(2013a). "Application of Research to Improve The Quality of Education" in the Educational Management Research Series Unit 14, page 1-79, Nonthaburi, Education, Sukhothai Thammathirat University.

Sakda Panpeng. (2012). The school management model uses information and communication technology to improve the quality of education in basic educational institutions. Thesis Ubon Ratchathani: Ubon Ratchathani Rajabhat University.

Sergiovanni, T. J. (2009). *The Principalship: A Reflective Practice Perspective.*6th ed.

 Boston: Pearson Education

Songchai Orarikpong and Team(2017).*Information and Communication Technology Management Strategy of Basic Educational Institutions*. Khon Kaen Elementary School District11 (2) : 101 - 108.

Thanita Nopparit*.(2013).* *Innovative Information and Communication Technology Management of Dream Schools.* Thesis, Ph.D. Nakhon Pathom: Silpakorn University.

Theera Roonjaruen.(2010). *Professionalism in Education Management and Management of Education Reform*.Bangkok : Khawfang.

Thitaree Wilaylert.(2011*) Information and Communication Technology Management Model of Dream School*, Kalasin Province. Maha Sarakham: Maha Sarakham Rajabhat University.