sciendo

Impacts of Distance Education System on Teacher Competency of Remote Schools in Lower Northern Thailand

Sakchai Petsuwan

Faculty of Industrial Education and Technology,
King Mongkut's Institute of Technology Ladkrabang,
Bangkok 10520, Thailand
Faculty of Education, Pibulsongkram Rajabhat University,
Phitsanulok 65000, Thailand
Corresponding Author

Paitoon Pimdee

Phadungchai Pupat

Faculty of Industrial Education and Technology,
King Mongkut's Institute of Technology Ladkrabang,
Bangkok 10520, Thailand

Abstract

This research aimed to study the impacts of Distance Education System on teacher Competency and compare teacher Competency before and after Distance Education System is applied. The sample was 28 teachers from four Remote Schools in lower Northern Thailand. Questionnaire was used as a data collection tool with reliability 0.99. Mean, Standard deviation and t-test for dependent samples were applied in data analysis process. The results showed that the Competency of teacher before Distance Education System had four competencies in moderate level including Working Achievement Motivation, Self- Development, Curriculum and Learning Management and Analysis & Synthesis & Classroom Research while other competencies were in high level. Distance Education System has positive impacts on teacher Competency as the every competency reaches high level after the system is applied with statistical significance at the level of 0.01.

Keywords: Teacher Competency, Distance Education, Remote School, Border Patrol Police School

1. Introduction

Nowadays, access to education is almost everywhere in Thailand but there are still some schools located in remote areas where the quality of education is lower compared with those in urban and accessible rural areas. Schools in remote areas normally lack teachers, especially those teaching the six core subjects; Thai language, English language, Science, Mathematics, Social Studies and Health Education. Many of the remote schools now use the Distance Education System through satellite, to replace unavailable teachers (The Information Technology Foundation under the Initiative of Her Royal Highness Princess Maha Chakri Sirindhorn, 2011). It was a very kind gesture of King Rama IX, as His Majesty was concerned about the education of children in the remote inaccessible areas. His Majesty gave 50 million baht (about 1.65 million United States Dollar) to start the program for Distance Education System through satellite on His Majesty's birthday on

December 5th, 1995. The use of this system is not only for students in remote areas, but it is also used by everyone interested in learning. Schools with Distance Education Systems have to manage their class schedule according to the television broadcasting schedule. Broadcasting is from a Hua Hin TV Station. It has 15 channels broadcasting 24 hours. Everyone can also view the classes and download copies of the books use in the classes from the website; http://www.dltv.ac.th (Distance learning television foundation, 2019). The system has been improved from Learn Square to eDL-Square in order to make it more convenient for schools to manage their learning schedule. There is now both Stand Alone Off-Line e-Learning through a computer server (eDLTV Server) and Online e-learning from the website; http://edltv.thai.net (eDLTV project, 2011). The broadcasting education system has now been operating for 20 years. It has givens opportunities to many students coming from remote inaccessible rural areas, as well as to anyone willing to learn more from the classes offered by the Distance Education System. The Lower Northern Region of Thailand has many Border Patrol Police Schools that do not have enough teachers. Most of their teachers are the Border Patrol Police. The villages around the border have a large number of children need access to education, because their areas are normally located in isolated places or some places that have risks of border wars or conflicts. In 1955, the first school was established for hilltribe villagers in the region, for communication and strengthen government presence in the area. The school was turned into the first Border Patrol Police School in 1996. This first Border Patrol Police School was registered as an official school following the education standards of Ministry of Education. (Information science, Udon Thani Rajabhat University, 2016). Now, there are many of these schools, and they are using the Distance Education System as a core administration and management. The researcher who conducted this study is part of the Distance Education System development team. The research is concerned about the impacts of the system towards teacher Competency. The results of the research will be used in the improvement of the remote school and their teachers for the effective education of students.

2. Objective

The objectives of this research are to study the impacts of Distance Education System on teacher competency in the remote schools in Lower Northern Thailand and to compare teacher competency before and after Distance Education System is employed.

3. Distance Education in Remote Area Thailand

Presently, Thailand has 3 forms of the education management system namely; formal education, non-formal education, and informal education system. The formal school education management is a study that determines the purpose, method of study, course, duration of the study, measurement, and evaluation, which is the exact condition of graduation. Non-formal education is a flexible study of purpose, the model of educational management method, duration of the study, measurement and evaluation which is an important condition of graduation. The content and curriculum are designed to be appropriate in accordance with the problems and needs of each student group. Besides, informal education is a study that allows students to learn by themselves according to their interests, potential, readiness, and opportunities. The students able to study from individuals, experiences, society, environment or other sources of knowledge. Education institutions may arrange the study in one or all the three forms. Allowing the transfer of grades that the students have accumulated during the same or different forms, whether or not from the same or different school. The students in informal education, professional training or their work experiences and teaching, will encourage the school to organize all three forms of the education system (Sakchai Phucharoen, 2017).

Nowadays, access to education is almost everywhere in Thailand but there are still some schools located in remote areas where the quality of education is lower compared with those in urban and accessible rural areas. Schools in remote areas normally lack teachers, especially those teaching the six core subjects; Thai language, English language, Science, Mathematics, Social Studies and Health Education. Many of the remote schools now use the Distance Education

ISSN 2039-2117 (online)
ISSN 2039-9340 (print)

Mediterranean Journal of
Social Sciences

Vol 10 No 3
May 2019

System through satellite, to replace unavailable teachers (The Information Technology Foundation under the Initiative of Her Royal Highness Princess Maha Chakri Sirindhorn, 2011).

Schools with Distance Education Systems have to manage their class schedule according to the television broadcasting schedule. Broadcasting is from a Hua Hin TV Station. It has 15 channels broadcasting 24 hours. Everyone can also view the classes and download copies of the books use in the classes from the website, http://www.dltv.ac.th (Distance learning television foundation, 2019). The system has been improved from Learn Square to eDL-Square in order to make it more convenient for schools to manage their learning schedule. There is now both Stand Alone Off-Line e-Learning through a computer server (eDLTV Server) and Online e-learning from the website; http://edltv.thai.net (eDLTV project, 2011). Currently, all the Distance Education Systems are still use in schools in remote areas and lack teachers.
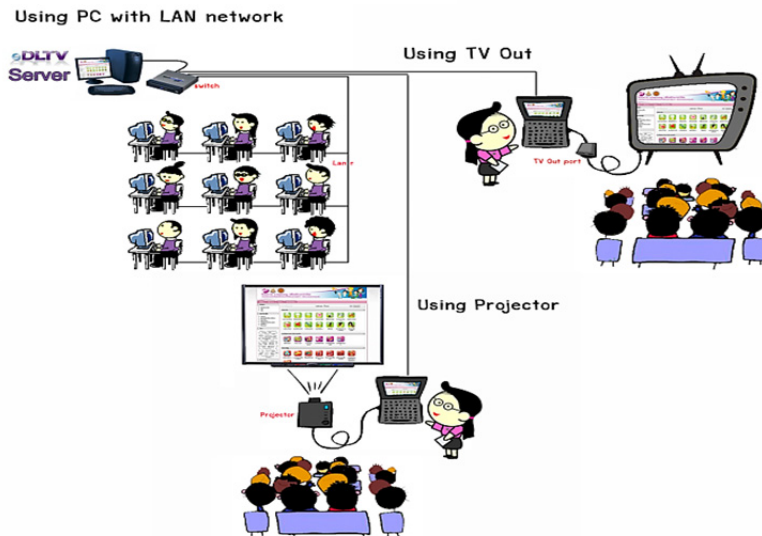
Fig 1: Off-Line e-Learning System (The Information Technology Foundation under the Initiative of Her Royal Highness Princess Maha Chakri Sirindhorn, 2011)

4. Method

4.1 Theoretical Framework

The researcher applied the teacher competency assessment guide of the Office of the Basic Education Commission (n.a.) and documents and researches on teacher competencies of Kiymet Selvi (2010), Chittika Chaiphakdi and Thatsirin Sawangboon (2017), and Phongsak Duangtha (2014), to develop the a conceptual framework. Based on this, the research divided the competency into five core competencies and six functional competencies as following;

4.1.1 Five core competencies

Competency 1: Working Achievement Motivation
Perform duties to ensure quality, accuracy, completeness, creativity, with planning and targeting, follow up and evaluate the activities, and continuously improve the performance.
Competency 2: Service Mind
Intention and willingness to provide services, and continuous improvement of the service

system in order to meet the needs of the student

Competency 3: Self- Development

Learning, research, follow up and exchange of new knowledge in academic and professional. Creation the body of knowledge and innovation for self and job development.

Competency 4: Team Work

Cooperation, support and encourage the colleagues. Learning to adapt yourself to work with others. Show leadership or follower roles. Create and maintain the member's relationship to develop education management to achieve the goals.

Competency 5: Teacher's Ethics and Integrity

Conduct of behavior in accordance with the principles of morality and ethics. Being a good role model for students and society to build faith in the teaching profession.

4.1.2 Six functional competencies

Competency 1: Curriculum and Learning Management

Ability to create and develop curriculum consistent, systematic and focusing on student needs. Use and develop teaching media as well as measure and evaluate the student learnings in order to maximize student's competency.

Competency 2: Student Development

Ability to cultivate morality and ethics, life skills, physical and mental health, democracy, pride in being a Thai citizen and providing the student's care system to increase their competency.

Competency 3: Classroom Management

Organizing the learning environment, preparing information and documents to supervise in the classroom. Promote happy learning and the safety of students.

Competency 4: Analysis & Synthesis & Classroom Research

Ability to understand the issues, systematically find conclusions and apply in student research and development. Including being able to analyze the overview of organization and task in order to solve or develop a systematic work.

Competency 5: Teacher Leadership

Characteristics and behavior of teachers showing the personal relationship. Exchange learning and knowledge with each other both inside and outside the classroom without using the influence of school administrator causing the power of learning to develop the quality of learning management.

Competency 6: Relationship & Collaborative – Building for Learning Management

Cooperation builds a good relationship and network with parents, communities and other public and private organizations to support and promote learning management.

4.2 Scope of Research

4.2.1 Population and Sample

The population was composed of about 30 school teachers in remote areas of the lower north region of Thailand, coming from; Ban Rak Thai Border Patrol Police School, Ban Lat Reur Border Patrol Police School, Ban Nuch Thian Border Patrol Police School and Athorn Uthit Border Patrol Police School. The sample size was made determined using the Krejcie and Morgan Table (Krejcie, R. V., & Morgan, D.W., 1970). It selected 28 people using simple random methods.

4.2.2 Research Variable

- The impacts of Distance Education System on teacher competency in remote school in Lower Northern Thailand.
- Independent variable is teacher competency in remote school in Lower Northern Thailand before and after Distance Education System is applied.
- Dependent variable is teacher competency in remote school in Lower Northern Thailand.

4.3 Research Tools

The tools used were questionnaires of 5-level assessment scale that inquires about the performance of remote school's teacher in the Lower Northern Region of Thailand. The questionnaire consisted of 84 questions which can be divided into two parts, including: competency before using the distance education system, 42 questions; and current competencies that are effected by the use of distance education systems, 42 questions. The reliability of the whole questionnaire is 0.99.

4.4 Data Collection

The researcher collected data by sending online questionnaire via Line application and also, paper questionnaires in some visited areas. 92.85% of the questionnaires were re-submitted back.

4.5 Data Analysis

The data analysis methods used were as follows.

Competency of remote school's teacher in the Lower Northern Thailand was analyzed by the mean and standard deviation with the criteria to interpret the mean of competency (Boonchom Srisaard, 2010) as follows

1.00 - 1.49 is very low level of competency
1.50 - 2.49 is low level of competency
2.50 - 3.49 is moderate level of competency
3.50 - 4.49 is high level of competency
4.50 - 5.00 is very high level of competency

Comparison of teacher competency in remote schools in the Lower Northern part of Thailand, before and after using the distance education system was analyzed by t-test for dependent samples.

5. Result

The result of impacts of Distance Education System on teacher competency in remote school in Lower Northern Thailand is shown below.

Table 1: Mean, Standard Deviation and remote school teacher competency in Lower Northern Thailand before and after Distance Education System is applied.

Teacher Competency	Competency before Distance Education System			Competency after Distance Education System		
	$\overline{X}$	S	Competency level	$\overline{X}$	S	Competency level
Core Competency						
Working Achievement Motivation	3.29	.56	Moderate	3.68	.46	High
Service Mind	3.50	.81	High	3.83	.65	High
Self- Development	3.33	.67	Moderate	3.70	.55	High
Team Work	3.55	.72	High	3.85	.55	High
Teacher's Ethics and Integrity	3.94	.73	High	4.00	.67	High
Functional Competency						
Curriculum and Learning Management	3.48	.56	Moderate	3.86	.51	High
Student Development	3.96	.71	High	4.07	.58	High
Classroom Management	3.70	.67	High	3.89	.57	High
Analysis & Synthesis & Classroom Research	3.39	.66	Moderate	3.75	.50	High
Teacher Leadership	3.78	.62	High	3.95	.60	High
Relationship & Collaborative – Building for Learning Management	3.63	.68	High	3.79	.58	High
Total	**3.57**	**.61**	**High**	**3.85**	**.49**	**High**

According to Table 1, four competencies are in moderate level including Working Achievement Motivation, Self- Development, Curriculum and Learning Management and Analysis & Synthesis & Classroom Research while other competencies were in high level. After Distance Education System is used, every competency increased to high level.

Table 2: The comparison of remote school teacher competency in Lower Northern part of Thailand before and after Distant Education System is applied.

Teacher Competency	$\overline{X}$	S	$\overline{D}$	$S_{\overline{D}}$	t	Sig
Competency before Distance Education System	3.57	.61	.275	.075	3.634**	.002
Competency after Distance Education System	3.85	.49				

**p<.01

According to Table 2, teacher competency in Lower Northern part of Thailand before and after the use of Distance Education System is significantly different with strategically level of 0.01.

6. Discussions

Distance Education System has positive impacts toward teacher competency in remote school in Lower Northern Region of Thailand. Teacher competencies increased after Distance Education System was applied. The comparison of teacher competency before and after Distance Education System was adopted is significantly different with strategically level of 0.01. These positive impacts are shown to be the results of the use of Distance Education System. The teachers needed to pay more attention adjusting to the system such as the class broadcasting schedule and spend more time to create an extra activity to increase student ability to learn (Distance learning television foundation, 2019). Moreover, teachers in Border Patrol Police Schools are very motivated to find alternative plans for class preparation and management in order to help solve the lack of teachers Most teachers in Border Patrol Police Schools are members of the polices, who are not specialized in education. They decided to use Information and Communication Technology (ICT) to manage school plans, similar the suggestion of Ya-fu Bao (2016) in his research and analysis of the "evaluation of learning from distance education based on the Internet of Things". Ya-fu Bao revealed that the teacher's problem was new technology's acceptance, especially ICT. Some teachers are fearful of the change and think it may take or waste their time to learn new technology and apply to their education management. Most of them familiar with the traditional education management system and have pessimistic in the evaluation of distance learning system. With the reasons that they believed in the difficulty of using the Internet of Things (IOT) to evaluate the student performance which is dissimilar to the Education Management System for Remote School in Thailand. In Thai distance education management system, an evaluation process is responsible by the teacher in the remote school which they are trained in the curriculum management and evaluation process from the original teacher. These enhance the higher competent of the teacher in remote school. Besides the above reasons, Ya-fu Bao (2016) shows that the teacher may require further IOT learning to strengthening their competency in the education management system. There is as well the research of Alena van Schalkwyk (2014) on "A Learnership Programme (LP) for Student Teachers: A Partnership between a School and an Open Distance Learning Institution (ODL)" which found that the beneficial of LP not only for the student teachers and students but also for senior teacher and Open Distance Learning Institution (ODL). The school stakeholders have good collaboration with interaction support among the participants. They are able to combine theoretical knowledge with practical knowledge. The student can link their studying and working. LP makes a suitable ratio of teacher and student as well as make well-qualified teachers. With the current collaboration of the school community and ODL can be open wide for knowledge distribution and alter the choice program to boost the teacher competency. Sakchai Petsuwan, Paitoon Pimdee, Phadungchai Pupat (2019) also found that the student teacher of Pibulsongkram Rajabhat University who applied the teaching media from eDLTV are well prepared and competent

in education management. Hence, Thailand Distance Education System is very supportive in teacher competent and student learning.

7. Conclusion

The research revealed that four competencies of the teacher in remote schools are in moderate level including Working Achievement Motivation, Self- Development, Curriculum and Learning Management and Analysis & Synthesis & Classroom Research while other competencies were in high level. After Distance Education System is used, every competency increased to a high level. Teacher competency in the remote school of Lower Northern Thailand before and after the use of Distance Education System is significantly different with strategically level of 0.01. These show that the eDLTV is not only providing country education widely, but also solving of teacher shortage and increase the teachers' competency.

References

Alena van Schalkwyk. (2014). A Learnership Programme for Student Teachers: A Partnership between a School and an Open Distance Learning Institution. Mediterranean Journal of Social Sciences, 5, 1029-1038.

Boonchom Srisaard. (2010). The principal research. (5th ed.). Bangkok : Sataporn publishing.

Chittika Chaiphakdi and Thatsirin Sawangboon. (2017). Guidelines to Enhance Performance Competencies of Teachers in Schools under the Nakhon Ratchasima Provincial Administration Organization. Humanity and Social Science Journal, Ubon Ratchathani University, 8, 155-170.

Distance learning television foundation, (2019), About DLTV. [Online]. Available : http://www.dltv.ac.th/about-us (January 14, 2019)

eDLTV project, (2011), eDLTV : e-Learning. [Online]. Available : http://edltv.thai.net (October 1, 2013)

Information science, Udon Thani Rajabhat University, (2016), Background of Border Patrol Police School. [Online]. Available : http://is.udru.ac.th/local-scholars/bpps.html (January 15, 2019)

Kiymet Selvi. (2010). Teachers' Competencies. Cultura International Journal of Philosophy of Culture and Axiology, 7, 167-175.

Krejcie , R . V ., & Morgan, D.W. (1970). Determining sample size for research actives. Educational and Psychological Measurement, 30, 607-610.

Office of the Basic Education Commission. (n.a.). Manual of Teacher Competency Assessment. Bangkok: Office of the Basic Education Commission.

Phongsak Duangtha. (2014). Developing private school teacher competencies in Phitsanulok primary educational service area office 1. Bangkok : Graduate College of Management, Sripatum University.

Sakchai Petsuwan, Paitoon Pimdee, Phadungchai Pupat (2019). Distance Learning of Pibulsongkram Rajabhat University Network Schools Internship Perceived by Teaching Internship Students. International Journal of the Computer, the Internet and Management, 27, n.a.

Sakchai Phucharoen, (2017), Background and Thai Education Management System. [Online]. Available : http://www.kruinter.com/file/87420140903200128-[kruinter.com].pdf (January 20, 2019)

The Information Technology Foundation under the Initiative of Her Royal Highness Princess Maha Chakri Sirindhorn, (2011), eDLTV : e-Learning. [Online]. Available : http://edltv.thai.net/files/eDLTV-AboutUs-Project.pdf (December 5, 2011)

The Information Technology Foundation under the Initiative of Her Royal Highness Princess Maha Chakri Sirindhorn. (2011). Manual on e-Learning (eDL-Square) Transfer and Development. Bangkok : National Science and Technology Development Agency, Ministry of Science and Technology.

Ya-fu Bao. (2016). Analysis of the learning evaluation of distance education based on the Internet of Things. World Transactions on Engineering and Technology Education, 14, 168-172.