A Developing of The Causal Relationship Model of Factors Affecting Educational Quality of Primary Schools in Phetchaburi Province.

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Abstract

The aim of this paper is to develop and confirm the causal relationship model of factors affecting educational quality of primary schools. The quality of school education is an important product that represents the future of the nation and influenced by the theory of administrators' leadership, teacher leadership, and school culture. The sample used in this research were obtained by multi-stage random sampling from 138 elementary schools (According to the Krejcie & Morgan (1970: 607-610) sample size table. The respondents in schools consisted of 430 teacher (132 school administrators, 138 academic teachers and 160 teachers). The research instrument was 1 questionnaire that with the reliability of 0.98. The statistics used for data analysis were mean, standard deviation, kurtosis, skewness, Pearson's product moment correlation coefficient, and structural equation analysis with LISREL (8.80 student edition) program. The findings show that: 1) administrators' leadership variables Influence through teacher leadership, and school culture on the quality of education of the school, 2) Teachers' leadership variables directly affected through school culture variables on school quality variables, and 3) School culture variables directly affected on school quality variables.

Keywords: causal relationship model; educational quality of school; administrators leadership; teacher leadership; school culture

Introduction

Educational quality of primary school can be realized in many ways. Academic achievement is one way of recognizing the educational quality of the school because academic achievement is a display of student learning outcomes. From the academic achievement of students in Phetchaburi province, it is found that the average grade level is still not satisfactory. The researcher is, therefore, interested to study the factors that influence the quality of education of the school which has academic achievement as one element. Educational quality of school can be defined as school performance results that consists of 3 components which are; 1) student learning outcomes 2) teacher job satisfaction and 3) perceiving of school effectiveness (Mott, 1972; Hoy & Miskel, 1991; Sommai Amdonkloy, 2010). The educational quality of school is affected by many factors. From the theory study And related research Factors that directly and indirectly influence the quality of education of the school are administrators' leadership, teachers' leadership, and school culture. The order of influence between variables is as follows: 1) administrators' leadership

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variables Influence through teacher leadership (Sommai Amdonkloy, 2010), and school culture (Shah & Ali, 2012) on the quality of education of the school, 2) Teachers' leadership variables directly and indirectly affected through school culture variables (York-Barr and Duke, 2004; Akert & Martin, 2012) on school quality variables (Childs-Bowen, Moller, & Scrivner, 2000), and 3) School culture variables directly affected on school quality variables (Angel & Dehart, 2 5 5 4) (Leithwood & Others, 2004: 8). Administrators' leadership can be defined as administrators develop those who follow to develop their selfefficacy, which will create internal motivation, the ability to make independent decisions, and being able to control yourself to work until the achievement of the target. By using leadership over leaders concepts. It consists of 4 components which are 1) self-efficacy, 2) internal motivation, 3) self-determination ability, and 4) self-control ability. Teacher leadership is the behavior of teachers in working as an academic leader individually or in a classroom management group, ready to take on administrative roles outside the classroom to help with the duties of the large school system, not limited to teaching management and resource allocation. It consisting of 4 components which are 1) self-development and team work, 2) being a good role model for learning management, 3) participation in school development, and 4) change leadership. School culture refers to the framework of the rules and regulations of behavior and values, beliefs that can be seen from the behavior of teachers in schools that will do, how to make schools look different which the school has expectations, and encourage teachers to recognize understand the routine of the school. There are 4 components which are 1) participatory learning, 2) teacher cooperation, 3) professional development, and 4) having clear objectives.

However, most of these empirical studies were conducted in many countries, and the research to improve the quality of education of schools in Phetchaburi Province is lack of a causal model that indicate the factors which should be developed. Therefore, the researcher is interested in doing this research to study the findings of the research. The research results will lead to be used to improve the factors related to the quality of education of the school so that the education level of schools in Phetchaburi Province continuously.

Literature Review

Educational quality means total output of educational institutions that has received work as graduates portfolio and educational management. The results that contains features or specifications of that producer will meet the needs of customers or those involved and affecting society overall, in a good way, desirable. Hoy & Miskel (1991, cited in Apichat Lenanant, 2017, p. 25) offers the following concepts of organizational effectiveness: 1) the ability to change (adaptability) 2) achieving the goal (achievement) 3) job satisfaction (job satisfaction) and 4) central life interests. There is a connection between effectiveness and quality. Mott, cited in Apichat Lenanant, 2017, p. 25) which states the school's effectiveness should include 1) the ability to produce students with high academic performance, 2) the ability to The development of positive attitudes, 3) the ability to solve school problems and 4) the ability to change and develop schools. And Sommai Amdonkloy (2010, p. 54) states the school's effectiveness should include the educational quality include 3 variables were: 1) student learning outcomes, 2) teacher job satisfaction,

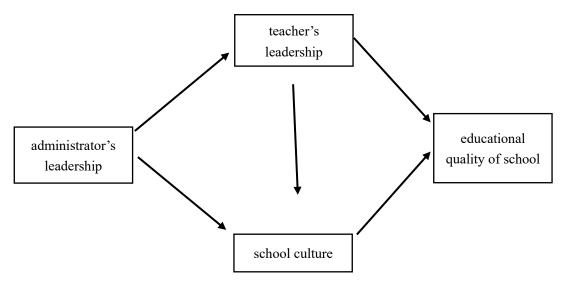
and 3) perceived effectiveness of schools. So the factors of Educational quality of schools should consist of 1) student learning outcomes 2) teacher job satisfaction and 3) perceiving of school effectiveness.

Administrators' leadership can be defined as administrators develop those who follow to develop their self-efficacy, which will create internal motivation, the ability to make independent decisions, and being able to control yourself to work until the achievement of the target. Manz & Sims (2001: 35) states that the components of leadership over leaders are as follows: 1) Self-leadership 2) being an example of being a leader 3) motivation to set goals for themselves 4) creating positive thinking patterns 5) promoting self-leadership 6) supporting self-leadership through team building and 7) Facilitating the culture of people bring their own. Shah & Ali (2012: 390) states that the components of leadership over leaders are as follows: 1) Self efficacy, 2) Intrinsic motivation, Self determination, and 4) Self regulation. Daoruwan Thawilakarn (2015: 23) states that the components of leadership over leaders are as follows: 1) become a self-leader, 2) model self-leadership, 3) self-set goals, 4) create positive thought patterns, 5) facilitate self-leadership through reward and constructive reprimand, 6) promote self-leadership trough teamwork, and 7) facilitate self-leadership culture. In conclusion, the factors of administrators leadership include 4 variables were: 1) self-efficacy, 2) internal motivation, 3) self-determination ability, and 4) self-control ability.

According to a study of related documents and research, Yukl (2001: 263, 283) states that leaders must work and build confidence to their followers, that to be confident symbolic expression, having empowerment to spread the work which will lead to achieving the vision as everyone's expectations. In addition, leadership influences organizational culture, and will have a greater impact if leaders are able to communicate their visions, values, and important objectives. This is consistent with Harris & Jones' concept (2019: 123) that teacher leadership refers to the process by which individual or group teachers manage learning in the classroom, and ready to take on administrative roles outside the classroom To help with the duties of the large school system. Therefore, teachers' leadership has a significant impact on themselves, including self-efficacy, more self-esteem (Katzenmeyer & Moller, 2001), developing leadership skill (Ryan, 1999), improving teaching skills (Troen & Boles, 1992), and Morale development (Frost & Harris, 2003). In addition, Childs-Bowen, Moller & Scrivner, 2000: 28) said that when teachers act in a professional learning community, it affects the student learning, lead to school improvement, inspiring excellence in practice, and help the stakeholders participate in the improvement of education. National Board for Professional Teaching Standards (2014: 4) state that teacher leadership affects school culture and school quality. Several other studies have found that teacher leadership has a direct impact on school improvement, school effectiveness, and teacher morale.

From the theory and research mentioned above, the researcher, therefore, sets the conceptual framework for the research. It show that administrator leadership, teacher leadership, and school culture affecting the educational quality of school as follow; 1) administrators leadership has a direct influence on the teachers leadership and school culture 2) teacher leadership has a direct influence on the school culture, and has a direct and indirect influence on the educational quality of school, and 3) school culture has a direct influence on the educational quality of school. As shown in figure 1

figure 1: Research conceptual framework



Methods

Sample

The population used in this research were 2,465 teachers in 217 schools under the Office of Phetchaburi Educational Service Area 1, and 2. The samples used in this research were—obtained by multi-stage random sampling from 138 elementary schools (According to the Krejcie & Morgan, 1970: 607-610, sample size table). The respondents in schools consisted of 430 teacher (132 school administrators, 138 academic teachers and 160 teachers).

Measurement

Dependent variable

Educational quality of school served as a latent dependent variable and consists of 3 observed variables which are 1) student learning outcomes, 2) teacher job satisfaction, and 3) perceiving of school effectiveness. They were measured by a part of questionnaire that was Likert's 5 level interval scale.

Independent variables

Three latent variables served as independent variable which were administrators leadership, teacher leadership, and school culture. Administrator leadership consists of 4 observed variables which are 1) self-efficacy, 2) internal motivation, 3) self-determination ability, and 4) self-control ability. Teacher leadership consists of 4 observed variables which were 1) self-development and team work, 2) being a good role model for learning management, 3) participation in school development, and 4) change leadership. And school culture consists of 4 observed variables which were 1) participatory learning, 2) teacher cooperation, 3) professional development, and 4) having clear objectives. All of them were measured by questionnaire that was Likert's 5 level interval scale.

Data Analyzing

The statistics that used the data in this research were descriptive statistics, and reference statistics. Descriptive statistics were mean, standard deviation, Kurtosis, skewness. Reference statistics were as follow;

- 1. The statistics used for Analyzing correlation between all observed variables was Pearson's Moment Product correlation.
- 2. The statistics used for Analyzing the causal relationship model of factors affecting educational quality of primary schools was Structural Equation Model by Goodness of Fit Index (GFI) which were p-value $> .05,~\chi^2/df < 2,~\dot{h}$ 1 RMSEA, & RMR < .05,~Largest & Smallest standard residual < |2.00|,~CFI,~GFI,~&AGFI > .95,

Result

Descriptive statistics

The results of observed variables in the model of the causal relationship of factors affecting the educational quality of primary schools in Phetchaburi Province was analyzed the data from 5 level questionnaire, as indicated in table 1.

Table 1: Descriptive statistics of the observed variables

observed variables	Mean	SD	Skewness	Kurtosis	
Administrator leadership					
1. self-efficacy	4.59	0.44	-1.07	0.62	
2. internal motivation	4.43	0.50	-0.95	0.83	
3. self-determination ability	4.43	0.50	-0.82	0.33	
4. self-control ability	4.44	0.53	-0.83	0.01	
Teacher leadership					
5. self-development and team work	4.40	0.54	-0.65	-0.05	
6. being a good model for learning management	4.38	0.53	-0.69	-0.18	
7. participation in school development	4.33	0.54	-0.89	-0.29	
8. change leadership	4.38	0.53	-0.83	0.60	
School culture					
9. participatory learning	4.43	0.52	-0.65	-0.25	
10. teacher cooperation	4.29	0.57	-0.69	0.42	
11. professional development	4.28	0.60	-0.89	1.17	
12. having clear objectives	4.13	0.69	-0.83	1.06	
Educational quality of school					
13. student learning outcomes	4.35	0.53	-0.65	-0.03	
14. teacher job satisfaction	4.26	0.54	-0.35	-0.36	
15. perceiving of school effectiveness	4.33	0.55	-0.83	1.04	

Table 1 shown that the average values were in the highest level to the highest (4.26 - 4.59. The variable that the highest mean is self-efficacy variables (4.59), and the second was the self-control ability variable (4.44). The variable which has less mean than other variables is the job satisfaction of teachers (4.26).

The results of the standard deviation analysis showed that was in the right criteria, which is less than 1.00, indicating that the standard deviation of the data is suitable. The variable with the least standard deviation is the self-decision variable (0.502), and the variable with the most standard deviation is having clear objectives variable (0.69).

The results of the Skewness analysis found that the standard criteria are Is less than 2, from the analysis of skewness The variable has skewness values from -1.07 to -0.35. The variable with the most skewness is self-efficacy at -1.07, while the variable with the least skewness is the teachers job satisfaction variable was equal to -0.35. As for the kurtosis analysis, data showed that the kurtosis ranged from -0.36 to 1.17. The variable with the highest kurtosis was professional development at 1.17, while the variable with the lowest kurtosis was teachers job satisfaction is equal to -0.36. West et al. (1995, quoted in Seri Chatcham, 2004, p. 22) suggests that the skewness did not exceed 2.00 and the kurtosis did not exceed 7.00, indicating that all variables have a distribution close to the normal curve. It is suitable to be analyzed with structural equation model.

Reference statistics

1. Result of Analyzing correlation between all observed variables.

The results of analyzing the causal relationship model of factors affecting educational quality of primary schools Phetchaburi Province According to the research hypothesis showed that the element or the observable variables in each underlying variable of the research hypothesis model are considered true components in the framework of the research concept. All elements in the research model had significant weight values for the components. In each variable, researcher fixed the parameter value equal to 1 by selecting the designation from the maximum element weight.

- 2. Analyzing the causal relationship model of factors affecting educational quality of primary schools of research hypothesis model.
- 2.1 Result of Analyzing the causal relationship model of factors affecting educational quality of primary schools of research hypothesis model as shown in table 2

Table 2: The influence coefficient of the model according to the research hypothesis model

	teacher leadership			school culture			educational quality of		
				school					
	TE	ΙE	DE	TE	ΙE	DE	TE	ΙE	DE
administrator	0.89*	-	-	0.83*	0.70	0.13	0.83*	0.83*	-
leadership									
teacher leadership	-	ı	-	0.78	ı	-	0.81*	0.61*	0.20
school culture	-	-	-	-	-	-	0.78*	-	0.78*

Result of Analyzing Structural Equation Model showed that there were 3 statistically significant influence line between latent variable which were 1) the influence line from latent variable of administrator leadership to teacher leadership with an element weight of 0.89., 2) the influence line from latent variable of teacher leadership to latent variable in school culture. With an element weight of 0.78., and 3) the influence lines from latent variable of school culture to educational quality of school variables with an element weight of 0.78. Other than that there was no statistically significant influence.

At the same time, the results of the data analysis showed that there was an indirect influence between latent variables as follows; 1) Administrator leadership has indirect influence through teacher leadership and school culture to the educational quality of the school with the influence weight equal to 0.83, and 2) The teacher leadership is influenced through the school culture variable to the school quality variable. With an overall influence of 0.81.

Other than, the result of Analyzing Structural Equation Model by Goodness of Fit Index (GFI) showed that research hypothesis model was not consistent with the empirical data. Overall, there was relation between some latent variables that were not statistically significant. Model consistency index were as follow; p-value = 0.00, $\chi^2 = 451.85$, df = 85, $\chi^2/df = 5.32$, RMSEA = 1.00, RMR = 0.01, SRMR = 0.03, Largest & Smallest Standardized Residual = 8.07 - -6.40, CFI = 0.98, GFI = 0.87, AGFI = 0.83, PGFI = 0.62. So researcher adjusted the model for accordance with the standard criteria and is consistent with the empirical data.

2.2 Result of Analyzing the causal relationship model of factors affecting educational quality of primary schools of alternative model as shown in table 3

	teacher leadership			school culture			educational quality		
							of school		
	TE	IE	DE	TE	ΙE	DE	TE	IE	DE
administrator	0.89*	-	-	0.84*	0.58*	0.26*	0.84*	0.84*	-
leadership									
teacher leadership	-	-	i	0.65*		-	0.69*	0.55*	0.14*
school culture	-	-	-	-	-	_	0.85*	-	0.85*

Table 3: The influence coefficient of the model according to the alternative model

Result of Analyzing Structural Equation Model showed that there were 5 statistically significant influence line between latent variable which were 1) the influence line from latent variable of administrator leadership to teacher leadership with an element weight of 0.89., 2) the influence line from latent variable of teacher leadership to latent variable of school culture with an element weight of 0.26., 3) the influence line from latent variable of teacher leadership to latent variable of school culture with an element weight of 0.65., 4) the influence line from the latent variable of the teacher leadership to the latent variable of the educational

^{*} *p* < .05

quality of the school with an element weight of 0.14, and 5) the influence lines from latent variable of school culture to latent variable of educational quality of the school with an element weight of 0.85.

At the same time, the results of the data analysis showed that there was an indirect influence between latent variables as follows; 1) Administrator leadership has indirect influence through teacher leadership and school culture to the educational quality of the school with the influence weight equal to 0.84, and 2) The teacher leadership is influenced through the school culture variable to the school quality variable. With an overall influence of 0.69.

Other than, the result of Analyzing Structural Equation Model by Goodness of Fit Index (GFI) showed that research hypothesis model was consistent with the empirical data. Overall, there was relation between some latent variables that were statistically significant. Model consistency index were as follow; p-value = 0.06, $\chi^2 = 71.50$, df = 54, $\chi^2/df = 1.32$, RMSEA = 0.27, RMR = 0.00, SRMR = 0.02, Largest & Smallest Standardized Residual = 0.01 - -0.02, CFI = 0.99, GFI = 0.98, AGFI = 0.95, PGFI = 0.44. The result mean that the alternative model was consistent with empirical data. Therefore, the model is in accordance with the standard and consistent with the empirical data.

From the accordance with the standard and consistent with the empirical data, the result could also show the reliability of the observed variables as follows;

variables	STD	GEX	SDP	CLES	PAL	TPA	PDE	CPU
reliability	0.775	0.772	0.812	0.746	0.719	0.815	0.763	0.705
	LOU	TSA	SEP	SAP	IMB	SDA	SCA	
	0.840	0.799	0.782	0.611	0.830	0.786	0.832	
Structural equation in		TLE			ORC		SEQ	
R-Square value			0.785		0.797		0.953	

The latent variables in the model that influence the educational quality of school were the administrators leadership, teacher leadership, and school culture, overall, there was a prediction coefficient of 95.30 percent.

In conclusion, analyzed results based on alternative model, overall, were statistically significant. The consistency index of the model is Chi-square, p-Value, RMSEA, GFI, AGFI, SRMR and Largest & Smallest Standardized Residual values which were harmonized with empirical data. In mean that the model based on alternative model was consistent with the empirical data. Therefore, the model is in accordance with the standard and consistent with the empirical data.

Discussion

The researcher attention was paid to the relationship of many factors that influence to educational quality of school. The purpose of this study were to develop and confirm the causal relationship model of factors affecting educational quality of primary schools. The first findings showed that factors that influence to educational quality of school were as follow; administrators leadership, teacher leadership, and school culture. The second findings showed that administrators leadership, teacher leadership, and school culture

have indirect and direct influence to the educational quality of the school. The researcher Brought the research findings to the discussion as follows:

The results of this study found that the causal relationship model of factors affecting the educational quality of primary schools in Phetchaburi Province according to the alternative model, there are 3 variables that affect the quality of education of the school: administrators leadership, teacher leadership, and school culture with a prediction coefficient of 95.30 percent. That result may be explained by leadership is necessary at all levels, not just the leader. Teachers must also be developed to have leadership as well. Leadership is therefore an important element that helps change to be successful. It's not only administrator that need leadership, but must develop personnel in the organization or every teacher in the school to have leadership as well. There is also a concept that the school culture which will be another factor that will lead to the teacher performance. If the organization has a quality culture, it will affect the behavior and behavior of members of the organization in that form, and also affects the process of expressing thoughts Beliefs about the environment of the organization. In conclusion, Administrators leadership, teacher leadership, and school culture will be important factors that help personnel to work together, and lead to the goal is the effectiveness, efficiency, and quality of the organization (Rattikorn Chongwisarn, 2013, pp. 5 - 7).

Administrators leadership has an indirect influence on the quality of school education. This is because the administrators do not use the administrative power of the school leader to direct the students, but will exercise the power of management through the learning of teachers to students. The result is consistent with Ross and Gray's concepts (2006, p. 798) that school administrators can indirectly work to improve student achievement by creating the state and culture of the organization to have characteristics that create an atmosphere and culture of quality learning development. The management of the administrators, Doaruwan Thawilakan (2015, p. 23) said that leaders who use leadership over leadership need the achievement of quality and quantity. But in the same way, success factors depend on leaders or executives. Which has the influence and influence on the working atmosphere In order to be an incentive for personnel in the organization to operate efficiently and according to the set goals. Consistent with the research of Sommai Amdonkloy (2010, p. 142) which found that leadership indirectly affects the quality of education of the school through strategic planning, human resource management, and management process. And research finding by Tosaporn Chanthanarat, Samut Chamnan, and Phairat Wongnam (2013: 20) which found that academic leadership of school administrators there are indirect positive influences on student achievement through the academic school atmosphere, empowering teachers, and the perceived ability of the faculty as a whole with the overall influence size 0.83.

Administrators leadership has a direct influence on teacher leadership, this is because the use of leadership of administrators must focused on the development of teachers to be able to develop themselves as a team leader, or change leader. As Shah & Ali (2011, pp. 388 - 390) states that leadership over leaders help all followers become leaders by themselves by passing on behavior, skills, and a wide range of knowledge and understanding among those who need to be a leader in their own way. Leithwood, & Others (2004, p. 8) said that empirical data from public and private schools have found that leaders were important in determining directions and providing incentives for members by supporting their ability and leadership in themselves. Consistent with the research of Akert & Martin (2012, p. 284), the results of the research showed that Successful school improvement throughout the school culture. The roles of both administrators

and teachers must change. Teachers as leaders is an important step to success, but there has to be a change for both teachers and administrators. Because teacher leaders are influenced by the actions of the administrators, administrators need to understand issues that will motivate each teacher to spend time for discovering what is happening in the school environment that made teachers become leaders, responsibility, communicated the ideas of teacher leaders, and finding ways to motivate teachers to take on leadership roles.

Administrators leadership has a direct influence on school culture, this is because leaders will change the organization of every sectors from the structure design, job assignment, and organizational culture. According to a study by Surin Chumkaew (2013, p. 71), it was found that 1) organizational culture and change leadership style positively correlated with work behavior according to the philosophy of the sufficiency economy, 2) the change leadership style has a positive relationship with the organizational culture, and 3) organizational culture of mission-oriented, and participatory-oriented, and social responsibility-oriented, could together predict working behavior according to the philosophy of the sufficiency economy at 40.5 percent. Consistent with the research of Lucas and Valentine (2002, p. 1), the results showed that administrator was the primary source of information for establishing and transmitting visions, and being role models. Team leaders would be the key to providing intellectual stimulation and had high expectations. And the research of Shah & Ali (2012, p. 388), the results showed that administrators leadership had a direct influence on creative culture with statistically significance at the influence weight of 0.96.

Teacher leadership has a direct influence on school culture, this is because the teacher leadership culture allowed teachers to participate in professional conversations with colleagues, sharing ideas, knowledge, and techniques for participating in problem solving together in learning management (Ghamrawi, 2010, p. 315). According to the research of Janpen Klabdee & Moldop Chaiyachit (2015, p. 108) which found that the performance of teachers in educational institutions was directly influenced by the common leadership, and the school culture was directly influenced by teacher leadership.

Teacher leadership has a direct influence on the educational quality of school, this is because teachers were as co-creators of educational change, and were an important participant in policy making, productivity could be both positive and powerful. Consistent with the research of Katzenmeyer & Muller (quoted in Angelle & DeHart, 2016, p. 90) which found that teacher leadership influenced more acceptance of school reform, and improve the implementation of new policies and procedures, including increased school effectiveness. Chrisman's research (cited in Janpen Klabdee & Moldhop Chaiyachit, 2015, p. 115) found that large schools were more successful in developing test scores of students than small schools because of the improved achievement of students was a result of the good operations of the school, and teacher leadership abilities of qualified teachers.

Conclusion

Educational quality of primary school can be realized in many ways. Academic achievement is one way of recognizing the educational quality of the school because academic achievement is a display of student learning outcomes. Therefore, the researcher is interested in doing this research to study the findings of the

research. From the research result shown that administrators leadership has an indirect influence through the teachers leadership and school culture to educational quality of school, top management of educational department should give importance to the leadership development of the school administrators. Result obtained would be a development of teacher leadership, school culture, and Educational quality of school.

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