บทความวิจัย

การพัฒนาตัวชี้วัดของการบริหารงานที่มีประสิทธิผลของโรงเรียนในภาคตะวันออกของประเทศไทย

An Indicator Development of Effective School Management in the Eastern Region of Thailand

นภชนก ฐานวาณิชกุล[1*], สุเมธ งามกนก[1], และ สมพงษ์ ปั้นหุ่น[1]
Nopchanok Tanwanichkul[1*], Sumet Ngamkanok[1], and Sompong Panhoon[1]

Abstract

The purposes of this research were: 1) to construct indicators of effective school management and 2) to validate the constructed validity of a measurement model of factor analysis indicators. The population was school teachers under the authority of the Office of Primary Education Area in the eastern region of Thailand. By the use of a stratified random sampling technique, the sample size (respondents/teachers) of this research was 849; 400 arranged for answering Exploratory Factor Analysis (EFA) questionnaires and 449 for Confirmatory Factor Analysis (CFA). The research instrument was questionnaires used for validating the hypothesized model. The Exploratory Factor Analysis (EFA) result showed that there were five underlying factors presented in this model consisting of the factor with the highest mean score: the administrators' leadership and good governance skills ($\overline{X}$ = 4.70, SD = .51). The second highest was professional administrators ($\overline{X}$ = 4.63, SD = .55), followed by student-centered learning management process ($\overline{X}$ = 4.62, SD = .54). The lowest mean score was that of item

[1]สาขาวิชาการบริหารการศึกษา คณะศึกษาศาสตร์ มหาวิทยาลัยบูรพา ต.แสนสุข อ.เมือง จ.ชลบุรี 20131
[1]Educational Administration Department, Faculty of Education, Burapha University, Saen Suk Sub-district, Mueang District, Chon Buri Province 20131
[*]ผู้ให้การติดต่อ (Corresponding e-mail: nopchanokthan@gmail.com)

รับบทความวันที่ 10 มิถุนายน 2562 แก้ไขวันที่ 24 กันยายน 2562 รับลงตีพิมพ์วันที่ 8 ตุลาคม 2562

Hatyai Academic Journal 18(1): 61-79

CUR2: publishing curriculum ($\overline{X}$ = 3.92, SD = .76). The result of Confirmatory Factor Analysis (CFA) showed that the model was congruent with the empirical data. The Chi-square's value was 461.42 with a p-value of .10, holding a degree of freedom of 424, and that of RMSEA of .014. The most affecting factor was teacher training (.86) followed by monitoring, evaluation, and supervision (.78); academic administration (.76); curriculum development (.76); and the efficiency of school administrators (.60). The factor loading value was arranged in rank between .53 to .83.

Keywords: *Educational Management, Effectiveness School*

บทคัดย่อ

การวิจัยครั้งนี้มีวัตถุประสงค์เพื่อ 1) สร้างตัวบ่งชี้การบริหารโรงเรียนที่มีประสิทธิภาพ 2) ตรวจสอบความตรงเชิงโครงสร้างของแบบจำลองการวัดของตัวบ่งชี้การวิเคราะห์ปัจจัย ประชากร คือ ครูในสังกัดสำนักงานเขตพื้นที่การศึกษาประถมศึกษาภาคตะวันออก โดยใช้เทคนิคการสุ่มแบบแบ่งชั้น ขนาดตัวอย่าง คือ ครู 849 คน ผู้ตอบแบบสอบถามสำหรับการวิเคราะห์ปัจจัยเชิงสำรวจ (EFA) จำนวน 400 คน และผู้ตอบแบบสอบถามสำหรับการวิเคราะห์ปัจจัยยืนยัน (CFA) จำนวน 449 คน เครื่องมือที่ใช้ในการวิจัยเป็นแบบสอบถามเพื่อตรวจสอบความถูกต้องของแบบจำลองสมมติฐาน

ผลการวิเคราะห์ปัจจัยเชิงลึก (EFA) แสดงให้เห็นว่า มีปัจจัยพื้นฐาน 5 ประการที่นำเสนอในแบบจำลองนี้ ประกอบด้วย ปัจจัยที่มีคะแนนเฉลี่ยสูงสุด คือ ภาวะผู้นำและธรรมาภิบาลของผู้บริหาร ($\overline{X}$ = 4.70, S.D. = .51) ปัจจัยที่มีคะแนนเฉลี่ยรองลงมา คือ ผู้บริหารมืออาชีพ ($\overline{X}$ = 4.63, S.D. = .55) และการจัดกระบวนการเรียนรู้ที่เน้นผู้เรียนเป็นสำคัญ ($\overline{X}$ = 4.62, S.D. = .54) ตามลำดับ และปัจจัยที่มีคะแนนเฉลี่ยต่ำที่สุด คือ การเผยแพร่หลักสูตรการเรียนการสอน ($\overline{X}$ = 3.92, S.D. = .76)

ผลการวิเคราะห์ปัจจัยยืนยัน (CFA) พบว่า โมเดลสอดคล้องกับข้อมูลเชิงประจักษ์ ไคส-แควร์ มีค่าเท่ากับ 461.42 (p = .10) มีความเป็นอิสระ มีค่าเท่ากับ 424, RMSEA มีค่าเท่ากับ .014 ปัจจัยที่มีขนาดอิทธิพลสูงสุด คือ การฝึกอบรมครู ค่าเท่ากับ .86 การติดตามประเมินผลและการนิเทศ มีค่าเท่ากับ .78 การบริหารวิชาการ มีค่าเท่ากับ .76 การพัฒนาหลักสูตร มีค่าเท่ากับ .76 และประสิทธิภาพของผู้บริหารโรงเรียน มีค่าเท่ากับ .60 ตามลำดับ และค่าน้ำหนักปัจจัยอยู่ในช่วง .53 ถึง .83

คำสำคัญ: *การบริหารการศึกษา ประสิทธิผลของโรงเรียน*

Introduction

Throughout the years, while there have been many educational reforms conducted in Thailand, there are still many debates about the Thai educational system. Being ranked 55th out of the 70 of Programed for International Students Assessment 2015 (Pholphirul, 2016). If compared with the ASEAN countries participating in the test, which are four countries, namely Singapore, Vietnam, Indonesia, and Thailand, it is found that Thailand ranks 3rd

according to the PISA score of 2015 as a secondary to both Singapore, and Vietnam clearly. The shocking result is that the educational ability score in the PISA 2015 Singapore rankings is the number one in all aspects, while Vietnam has consistently improved the score over the PISA average score for six years. But Thailand is back. With an average score on every side getting lower Which is counter to Indonesia, which even today still has a lower PISA rating than Thailand, but the trend has gradually improved (Pholphirul, 2016).

Thailand's education budget from 2000 to 2014 has increased by 2.35 times from 221,051 million baht in 2,000 to 518,519 million baht in 2014 or four percent of Gross Domestic Product (GDP), which accounts for 20.60 percent of the total state budget. And when comparing the proportion of educational budgets to Preliminary National Income (PNI) (six percent), representing six percent, found that the proportion is as high with Malaysia, 6.10 percent and higher than Indonesia and Singapore, representing 2.80 percent and 3.20 percent. Moreover, the proportion of such educational budgets is much higher than South Korea and Japan which uses only 5.00 and 3.70 percent of budget, but has a lower quality of education (Pholphirul, 2016).

From the government under the leadership of Prayut Chan-ocha, Prime Minister has an order regarding Eastern Economic Corridor: EEC on 17 January 2017 and the cabinet passed a resolution on 18 July 2017. In addition, the cabinet passed a resolution on 18 July 2017 to approve the strategy to support human resources support. Eastern Development Zone (2017-2021) and the Ministry of Education (SRT) have ordered the committee on the integration of education in the east and the development of education in the EEC area by the steering committee with the Education Minister (Thira Kiat Charoensethasilp) is the chairman and the steering committee with the Education Minister (Surachet Chaiwong) is the president.

What is clearly seen in the education management is that the MOF has approved the educational development plan in the eastern region special development area for five years (2017-2021) by placing four main goals in educational management including 1) Learners have language skills using technology have new industry knowledge able to create innovation and have a good quality of life. 2) Administrators, teachers and educational personnel have new industry knowledge and have the potential to manage learning coupled with the practice from real situations or simulations. 3) Educational institutions are teaching resources for developing workforce. 4) Networks in all sectors, both domestic and international, are involved in educational management.

Researcher as executives is interested in the development of effective school management indicators in eastern region of Thailand. This is an important principle that will lead to the goal and success of the work because management is at the heart of corporate holistic planning to develop and manage the organization efficiently.

Research objectives

1. To construct indicators of ESM and excusive their quality.
2. To validate the construct validity of the measurement model of ESM indicators.

Related research

Research results related of effective school management indicators as the following: 1) Academic administration, 2) Budget management, 3) Personnel management, 4) Management general administration, 5) Monitoring evaluation and supervision of effective educational management, 6) The efficiency of school administrators, 7) Professional development, 8) Curriculum development, 9) Teacher training, 10) Educational experimentation, 11) Professional leadership of the principal, 12) Reliable and professional teachers, 13) Clear operational philosophy, 14) Conductive learning environment, 15) Good organizational networking, 16) Well-oriented curriculum, 17) Evaluation, 18) Active parent participation in school activities, 19) Leadership and decision-making, 20) Parents and learning, 21) Curriculum, assessment, and instructional planning, 22) Classroom instruction, 23) School community, 24) Learning organization, 25) Learning and teaching, 26) Student responsibility, 27) Clear goal and high expectations, 28) School climate, and 29) Participations (McLaughlin, 2005; The Center on Innovation and Improvement, 2012; Taengkhao, 2013; Office of Educational Strategy, 2016; The International Association of Laboratory Schools (IALS), 2016; Educational Service Area Office Standard, 2017; Phahamak, 2018).

Conceptual framework

This conceptual framework for this research consists of the following steps. Analytical explanations, literary criticism, use of secondary data by studying and collecting data from relevant documents and research, including searching information from various electronic databases and identifying factors. This is the reason for developing effective management indicators. (Educational Service Area Office Standard, 2017) component as the following: 1) Academic administration, 2) General administration, 3) Monitoring, evaluation and supervision, 4) The efficiency of school administrators, 5) Curriculum development and 6) Teacher training affects the management of effective. The study variables consist of the following 36 indicator (shown in Figure 1).

Scope of the study

The researcher had determined scope of the study about the development for management indicators of effective as the following:

Participants

The population of this research was teachers in Office of Primary Education Area in eastern region of Thailand. By using a stratified random sampling technique, the sample size of this research were 849 teachers; 400 respondents for Exploratory Factor Analysis (EFA) and 449 respondents for Confirmatory Factor Analysis (CFA).

Content

Quantitative content

This study is a research paper. Literary review analytical description uses secondary data by studying and compiling data from relevant documents and research, as well as searching data from various electronic databases and identifying factors. This is the reason for the development for management indicators of effective.

That educational management indicators of effectiveness 1) Academic administration accordance with Educational Service Area Office Standard (2017), SMART School (Office of Educational Strategy, 2016), The International Association of Laboratory Schools (IALS), (2016), Excellent/ effective school (McLaughlin, 2005) and Effectiveness (Phahamak, 2018). 2) General administration in accordance with Educational Service Area Office Standard (2017), SMART School (Office of Educational Strategy, 2016) and Effectiveness (Phahamak, 2018). 3) Monitoring, evaluation and supervision in accordance with Educational Service Area Office Standard (2017), Excellent/ effective school (McLaughlin, 2005), Effective practice school (The Center on Innovation and Improvement, 2012) and Effectiveness (Phahamak, 2018). 4) The efficiency of school administrators in accordance with SMART school (Office of Educational Strategy, 2016), Excellent/ effective school (McLaughlin, 2005), Effective practice school (The Center on Innovation and Improvement, 2012), Effectiveness indicator (Taengkhao, 2013) and Effectiveness (Phahamak, 2018). 5) Curriculum development in accordance with The International Association of Laboratory Schools (IALS), (2016), Excellent/ effective school (McLaughlin, 2005) and Effective practice school (The Center on Innovation and Improvement, 2012) and 6) Teacher training in accordance with The International Association of Laboratory Schools (IALS), (2016), Excellent/ effective school (McLaughlin, 2005) and Effectiveness (Phahamak, 2018).

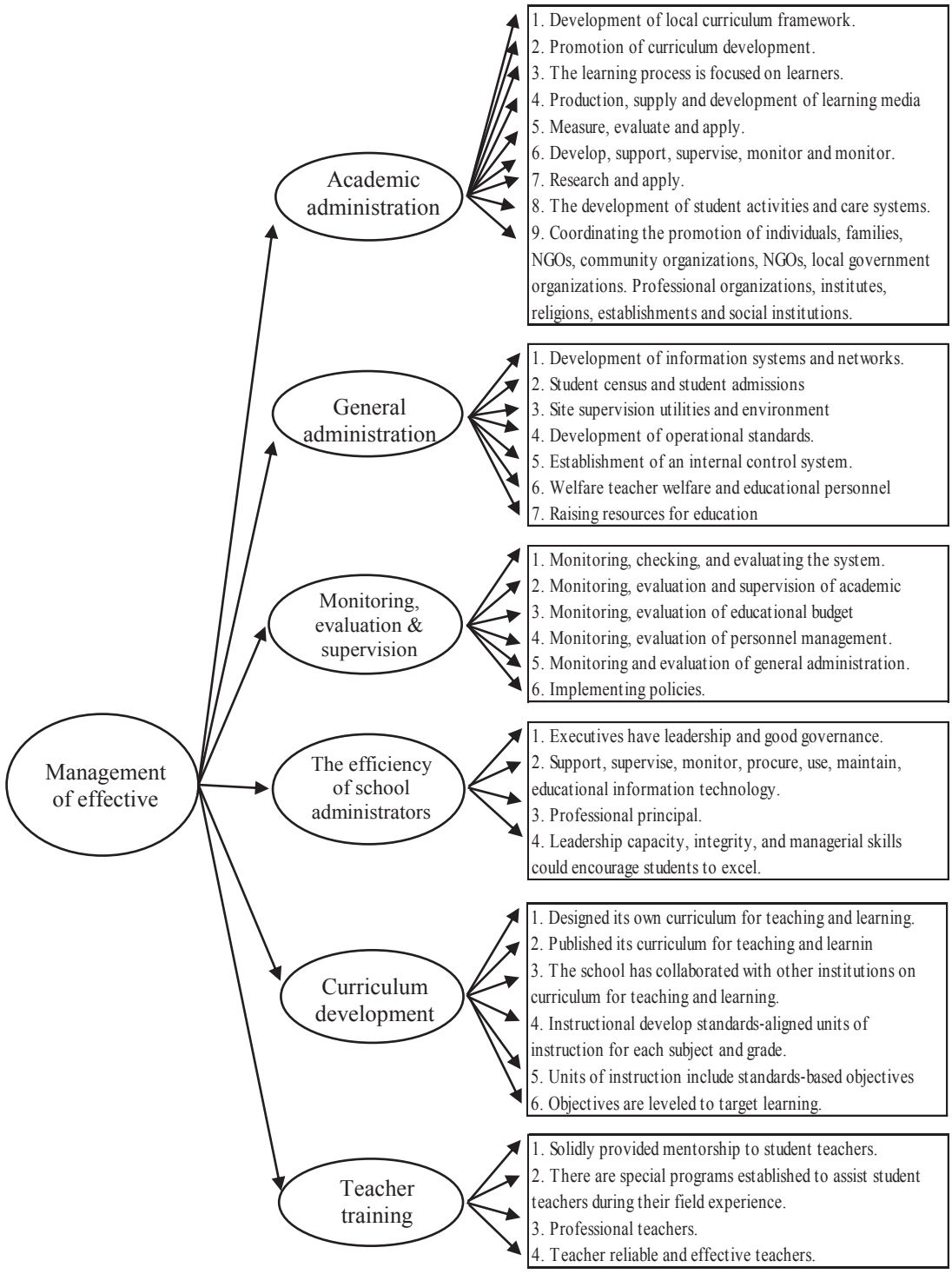


Figure 1 Research framework

Results

Section 1: Descriptive statistics for research sample and variables

From studying and exploring the basic information principles, concepts, theories and research related effective school management indicators in eastern region of Thailand. The researcher found six items and 36 observed variables, which are presented in the Table 1.

Table 1 Educational management indicators of effective school management indicators in eastern region of Thailand from document research

	Factors	Observed variables
1	Academic administration (ACA)	9
2	General administration (GAM)	7
3	Monitoring, evaluation and supervision (MON)	6
4	The efficiency of school administrators (EFF)	4
5	Curriculum development (CUR)	6
6	Teacher training (TRA)	4
	Total	**36**

From Table 1 Educational management indicators of effective school management indicators in eastern region of Thailand, there were six components and 36 observed variables as follows:

1. Academic administration (9 indicators), 2) General administration (7 indicators), 3) Monitoring, evaluation and supervision (6 indicators) 4) The efficiency of school administrators (4 indicators), 5) Curriculum development (6 indicators) and 6) Teacher training (4 indicators)

Section 2: Results of the measurement model of the latent variables validation

Based on empirical data collected in step one, the researcher uses the LISREL program in Exploratory Factor Analysis (EFA) and adjusts the structure model of effective school management indicators in eastern region of Thailand. So that the factor extraction of component is equal to five components, the researcher performs oblique rotation with the promax rotation. The component of effective school management indicators in eastern region of Thailand has more than 1 Eigen value for every value. The percentage of variance between 3.65 and 40.90 and the cumulative percentage of variance explain the variance of all five elements at 55.88 percent. The appropriate new variables consisting of five component

and 36 indicators, show in the Table 2.

Table 2 Educational management indicators of effectiveness schools in eastern region of Thailand from the LISREL program in Exploratory Factor Analysis (EFA)

	Factors	Observed variables
1	Academic administration (ACA)	5
2	Monitoring, evaluation and supervision (MON)	11
3	The efficiency of school administrators (EFF)	4
4	Curriculum development (CUR)	6
5	Teacher training (TRA)	10
	Total	**36**

From Table 2 the new variables of effective school management indicators in eastern region of Thailand, there were five components and 36 indicators as follows:

1. Academic administration (5 indicators)
   - 1.1 Development of local curriculum framework.
   - 1.2 Promotion of curriculum development.
   - 1.3 The learning process is focused on learners.
   - 1.4 Production, supply and development of learning media tools.
   - 1.5 The development of student activities and care systems.
2. Monitoring, evaluation and supervision (11 indicators)
   - 2.1 Measure, evaluate and apply.
   - 2.2 Develop, support, supervise, monitor and monitor.
   - 2.3 Research and apply.
   - 2.4 Development of operational standards.
   - 2.5 Establishment of an internal control system.
   - 2.6 Monitoring, checking, and evaluating the system.
   - 2.7 Monitoring, evaluation and supervision of academic education management.
   - 2.8 Monitoring, evaluation of educational budget management.
   - 2.9 Monitoring, evaluation of personnel management.
   - 2.10 Monitoring and evaluation of general administration.
   - 2.11 Implementing policies.
3. The efficiency of school administrators (4 indicators)
   - 3.1 Executives have leadership and good governance.

3.2 Support, supervise, monitor, procure, use, maintain, educational information technology.

3.3 Professional principal.

3.4 Leadership capacity, integrity, and managerial skills could encourage students to excel.

4. Curriculum development (6 indicators)

4.1 Designed its own curriculum for teaching and learning.

4.2 Published its curriculum for teaching and learning.

4.3 The school has collaborated with other institutions on curriculum for teaching and learning.

4.4 Instructional develop standards-aligned units of instruction for each subject and grade.

4.5 Units of instruction include standards-based objectives and criteria for mastery.

4.6 Objectives are leveled to target learning.

5. Teacher training (10 indicators)

5.1 Coordinating the promotion of individuals, families, NGOs, community organizations, NGOs, local government organizations. Professional organizations, institutes, religions, establishments and social institutions.

5.2 Development of information systems and networks.

5.3 Student census and student admissions.

5.4 Site supervision utilities and environment.

5.5 Welfare teacher welfare and educational personnel.

5.6 Raising resources for education.

5.7 Solidly provided mentorship to student teachers.

5.8 There are special programs established to assist student teachers during their field experience.

5.9 Professional teachers.

5.10 Teacher reliable and effective teachers.

Section 3: The analysis results of the validated of effective school management indicators in eastern region of Thailand, to check the suitability of the indicator from the sample group.

Analysis of survey factors should begin with checking the coefficients. Relationship of observed variables whether there is a relationship or not the correlation coefficient should be greater than .50 and enter one (Vanichbuncha, 2013) because the variables in this study are large, which is difficult to consider the relationship. The researcher therefore used the KMO test (Kaiser-Meyer-Olkin) and Bartlett's Test of Sphericity to examine the results in the

table below:

Table 3 Results of the initial agreement, the appropriateness of the overall correlation matrix with KMO and Bartlett's Test of Sphericity

KMO and Bartlett's Test		
Measure of Sampling Adequacy (MSA)		.870
Bartlett's Test of Sphericity	Approx. Chi-Square	1533.170
	df	10
	Sig.	.000

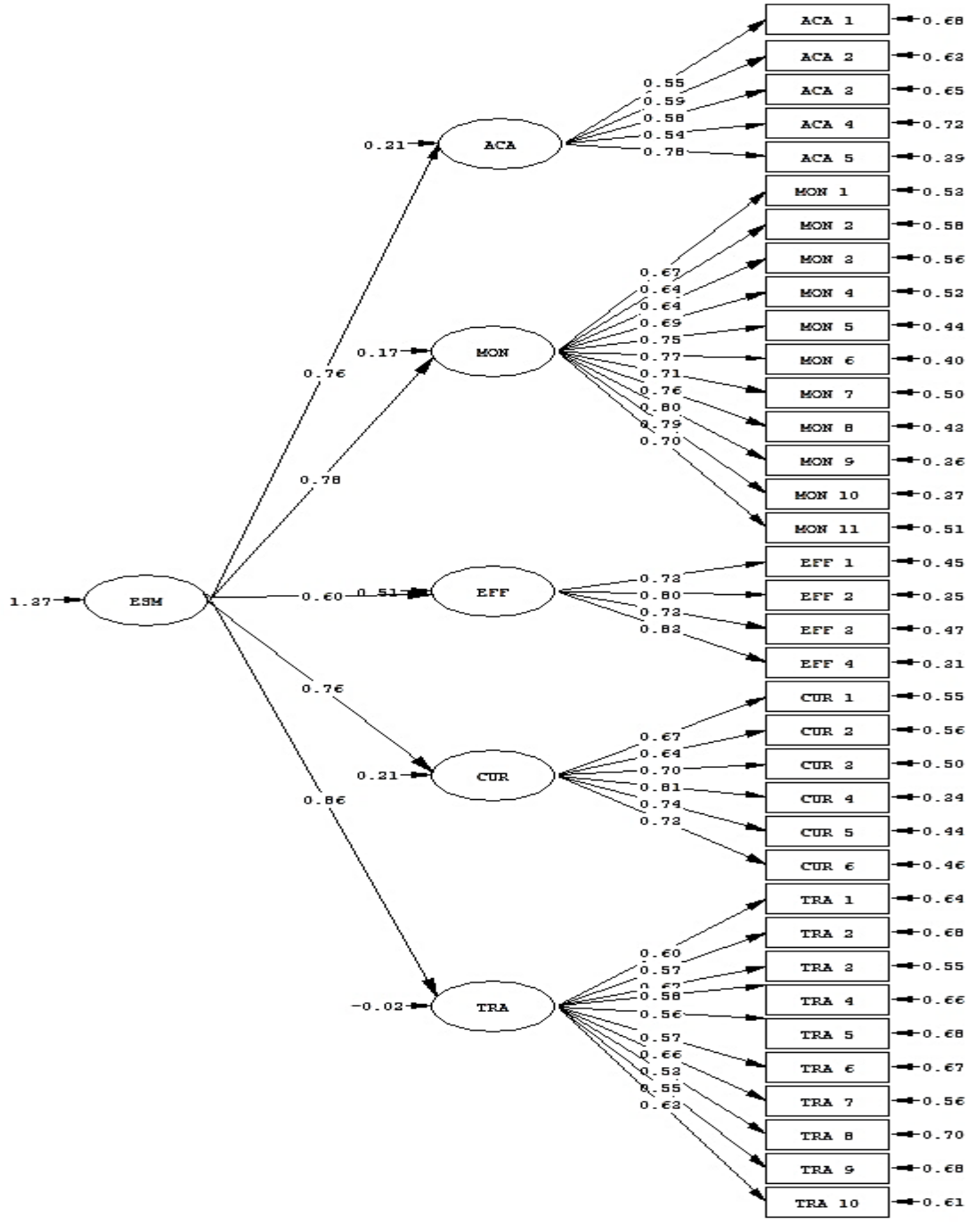
Which statistics of Kaiser-Meyer-Olkin (KMO), for measure the appropriateness of data in factor analysis, generally considers that factor analysis is appropriate for data when KMO values >.05. According to the results of this analysis, the Kaiser-Meyer-Olkin index is equal to .87 and 1533.17 (p<.000). Shows that the relationship between variables is very appropriate to be used in the analysis of confirmed elements.

1. Confirmation element verification results

Table 4 Index of straightness of measurement models for educational management indicators of effectiveness schools in eastern region of Thailand

Factors	χ^2	*SD*	*B*	*SE*	*FS*	*t*	R^2
ACA	3.92	.43	.76	.08	.23	9.70	.79
MON	37.23	.44	.78	-	.11	-	.83
EFF	.00	.56	.60	-	.27	-	.49
CUR	1.21	.42	.76	.06	.17	11.47	.79
TRA	37.05	.49	.86	.08	.10	11.00	1.02

Table 4 The factor loading of the five components is positive ranged from .60 to .86 and the squared multiple correlation coefficients (R^2) equal .49 to 1.02 show that these indicators are an important indicator of effective school management indicators in eastern region of Thailand



Chi-Square=461.42, df=424, P-value=0.10170, RMSEA=0.014

Figure 2 The parsimonious model of factor affecting for educational management indicators of effectiveness schools in eastern region of Thailand

Figure 2 represent the result of a confirmatory factor analysis of curriculum development characteristics factors, which reveal that the model is congruent with the empirical data and the Chi-Square (χ^2) results equal to 461.42; p = .10 with the degree of freedom at 424. Whereas the Root mean square error of approximation (RMSEA) equals .014. Based on the test, it could be concluded that the result is very close to zero which represents an adequate fit to the empirical data. Comparative Fit Index (CFI) equal 1.00 which is higher .95 and Goodness of Fit Index (GFI) equal 1.00 show that the model is consistent with empirical data.

Based on the test, it could be concluded that the result is close to zero, which represents an adequate fit to the empirical data.

Table 5 Index of consistency of the model and empirical information

Index	Criteria	Statistics from analysis	Test results
1. Chi-square/ *df*	< 2	*15.88 / 424* = .037	Passed the criteria
2. *p*-value of χ^2	p > .05	p = .102	Passed the criteria
3. RMSEA (Root Mean Square Error of Approximation)	< .05	.014	Passed the criteria
4. Goodness of Fit Index (GFI)	> .09	1.00	Passed the criteria
5. CFI (Comparative Fit Index)	> .09	1.00	Passed the criteria

(Source: Sanamthong, 2017)

Conclusion and Discussion

The coustruct of ESM consisted of 1) Academic administration (ACA) has five observed variables, 2) Monitoring, evaluation and supervision (MON) has 11 observed variables, 3) The efficiency of school administrators (EFF) has four observed variables, 4) Curriculum development (CUR) has six observed variables, and 5) Teacher training (TRA) has 10 observed variables.

CFA results, the model fits with the empirical data. The Chi-square equals to 461.42 with a p-value of .10 and a degree of freedom of 424, RMSEA = .014. The factors loading of second order arrange from highest to lowest are as follow; TRA = .86, MON = .78, CUR and ACA = .76 and EFF = .60., show that teacher training affects the school's outstanding qualities. Because teachers are important and play a role in education therefore, the quality of the

education system depends on the ability and spirit of the teacher. Therefore, the development of education or learners must develop teacher is important. When teachers are effective resulting in effective students resulting in the school to be systematic and efficient.

The findings revealed that effective school management indicators in eastern region of Thailand was a significantly better fit to the empirical data. Below are the regression weights for the model of factors starting with factors that directly impact academic administration, followed by the remaining four factors, which impact schools effectiveness.

1. Academic administration (ACA) has five observed variables. The factor loading of the five indicator elements is positive ranged from .54 to .75 shows that every element has an acceptable weight composition (>.03). The first three highest elements were the learning process is focused on learners (.75), promotion of curriculum development (.63), and the development of student activities and care systems (.61) respectively, found that academic administration had a significant direct effect on effectiveness schools with a value of .76 and a *p*-value at .42 shows that the learning process is focused on learners. It is important to effectiveness schools, accordance with National Education Act (1999). At the heart of this National Education Act (1999) is a move toward student-centered learning and a student-centered classroom. Specifically, Section 24 of the Education Act outlines what must be done to improve education performance: 1) arranging learning in line with the students' interests, aptitudes and individual differences, 2) training students in thinking abilities, especially critical thinking, 3) organizing learning activities that draw from authentic experiences, and 4) promoting situations where learners and teachers learn together. In addition to addressing these key issues of education reform in Thailand, indeed in international education, we also focus our attention and resources on the goal of promoting Thai teachers to reach their potential as skilled teachers using teaching methods that engage their students with the result that students love to learn through self-discovery. The findings match by Westbrook and Braver (2013). Have conceptualized "effective" pedagogy as those teaching and learning activities which make some observable change in students, leading to greater engagement and understanding and/or a measureable impact on student learning" (p. 8). The term effectiveness requires context such as assessment, pedagogy, or leadership to make the abstract notion of effective something concrete, less tacit and tangible, hence the need to link effectiveness with a context such as teaching. Indeed, the notion of making some observable change in students leading to greater engagement and understanding and/ or a measureable impact on students is an important underpinning of effectiveness in any educational context. Starrett (2015) "effective teacher provides students with positive outcomes-both socially and academically".

2. Monitoring, evaluation and supervision (MON) has 11 observed variables. The factor loading of the 11 indicator elements is positive ranged from .59 to .84 show that every

element has an acceptable weight composition (>.03). The first three highest elements were monitoring, evaluation of personnel management (.84), monitoring and evaluation of general administration (.80), monitoring, checking, and evaluating the system (.79), monitoring, evaluation and supervision of academic education management (.79), monitoring, evaluation of educational budget management (.79) respectively, found that monitoring, evaluation and supervision had a significant direct effect on effectiveness schools with a value of .78 and a *p*-value at .17, show that the monitoring, evaluation of personnel management. An important to effectiveness schools, accordance with effective managers see to it that assignments and projects are monitored continually. Monitoring well means consistently measuring performance and providing ongoing feedback to employees and work groups on their progress toward reaching their goals. Regulatory requirements for monitoring performance include conducting progress reviews with employees where their performance is compared against their elements and standards. Ongoing monitoring provides the supervisor the opportunity to check how well employees are meeting predetermined standards and to make changes to unrealistic or problematic standards. And by monitoring continually, supervisors can identify unacceptable performance at any time during the appraisal period and provide assistance to address such performance rather than wait until the end of the period when summary rating levels are assigned (OPM's divisions, 2019). A human resources for health (HRH) monitoring and evaluation (M&E) plan is a fundamental component of national efforts to strengthen the health workforce. The purpose of a national M&E plan for HRH is to guide the measurement of and monitor progress in the implementation of a country's HRH strategic and/or operational plan. Monitoring and evaluation are both critical to assessing programmatic progress toward national goals, objectives, and targets. M&E can measure progress, identify areas for improvement, explain why a strategy is or is not working, and suggest corrective strategies. Monitoring is an ongoing process that provides routine information on whether a program is making progress toward its objectives. Monitoring is the continuous measurement of the knowledge, behaviors, and/ or skills that an intervention or program is attempting to influence, measured through the tracking of changes in program inputs, activities, and outputs overtime (Measurement, Learning & Evaluation Project, 2013). Evaluation is a systematic approach to attributing changes in specific outcomes to program inputs and activities (Measurement, Learning & Evaluation Project, 2013). For example, an HRH evaluation might use interviews and observations of client-provider interactions to assess health worker performance following the introduction of supportive supervision. Such an evaluation might find that health workers 'fulfillment of standard tasks on a checklist improved by 25% as a result of the program's introduction of a supervisory scheme. The findings match the findings by Cuttance (2006) this article discusses the management of quality in education systems. Indicator systems are discussed in the section that follows and

the relationship between indicators, development and accountability is addressed in the context of the strategic management of improvement in school systems. A system of indicators developed to monitor the effectiveness of practice is then discussed. The final sections of the paper discuss these indicators in serving a dual purpose of school development and quality management. These indicators were developed to continuously monitor and review the quality of the education provided for students. Information from the monitoring of the effectiveness of school practice and functioning is discussed in the final section.

3. The efficiency of school administrators (EFF) has four observed variables. The factor loading of the four indicator elements is positive ranged from .64 to .77 show that every element has an acceptable weight composition (>.03). The first three highest elements were professional principal (.77), leadership capacity, integrity, and managerial skills could encourage students to excel (.77), executives have leadership and good governance (.72) respectively, found that:

3.1 The efficiency of school administrators had a significant direct effect on effectiveness schools, show that the professional principal. Is important to effectiveness schools, accordance with Lezotte (2009 cited in Zufiaurre & Wilkinson, 2014) further, involving teachers in decision-making and appreciating their contributions in administrative processes seem to contribute to morale and job satisfaction of the teaching staff. Therefore, the participant appeared to monitor students' progress frequently. The findings match the findings by Buyukgoze (2016) the results of the present study showed that participative leadership, seeking subordinates' motivation and satisfaction, and concerning students' needs are essentials in school administration.

3.2 The efficiency of school administrators had a significant direct effect on effectiveness schools, show that the leadership capacity, integrity, and managerial skills could encourage students to excel. Is important to effectiveness schools. The findings match the findings by Muhammad (2008) study found that school leaders particularly principals significantly related to the effectiveness of an effective school practices. This means that the principals an important role to improve their school performance.

4. Curriculum development (CUR) has six observed variables. The factor loading of the six indicator elements is positive ranged from .54 to .90 show that every element has an acceptable weight composition (>.03). The first three highest elements were units of instruction include standards-based objectives and criteria for mastery (.90), objectives are leveled to target learning (.86), instructional develop standards-aligned units of instruction for each subject and grade (.73) respectively, found that curriculum development had a significant direct effect on student achievements with a value of .76 and a *p*-value at .55, show that the units of instruction include standards-based objectives and criteria for mastery. Is important to effectiveness schools, accordance with David and Terry (2004) knowing what

to teach and providing adequate time to teach are essential for effective instruction. Teachers and administrators must balance issue of increasing curricular demands with limited instructional time.

5. Teacher training (TRA) has 10 observed variables. The factor loading of the 10 indicator elements is positive ranged from .46 to .75 show that every element has an acceptable weight composition (>.03). The first three highest elements were solidly provided mentorship to student teachers (.75), there are special programs established to assist student teachers during their field experience (.65), professional teachers equal (.61) respectively, found that teacher training had a significant direct effect on student achievements with a value of .86 and a *p*-value at .02, show that the teacher training. It is important to effectiveness schools, accordance with Leithwood (2006) the school principal leadership must be equipped with academic spirit in order to determine student outcomes and also play the role of coordinator to assist students and teachers in teaching and learning activities. The findings match the findings by Barber and Mourshed (2007) proposed that "the quality of an education system cannot exceed the quality of its teachers", therefore "the only way to improve outcomes is to improve instruction". They also claim that "achieving universal high outcomes is only possible by putting in place mechanisms to ensure that schools deliver high-quality instruction to every child". Accepting these views, the logical next step is to develop a system to oversee mechanisms and focus on instruction and teachers who are the front line people who can change student outcomes directly and daily (Starrett, 2015). The challenges are obvious. The correct oversight mechanism(s) and the people implementing the oversight need to be doing this effectively. Teachers need to be coached, involved, and partners in the quest for effectiveness. The need to identify effective pedagogy is the next hurdle.

From the results of this study, all five basic factors are systematically related. The improvement for educational management indicators of effectiveness schools in eastern region of Thailand should be carried out at the same time as the proposed approach in the factors that influence effectiveness schools.

Recommendations

Recommendations for Practices

Based on the results of this study, all five basic factors are systematically related. The improvement for educational management indicators of effective schools in eastern region of Thailand should be carried out at the same time, particularly in teacher training. Teachers with high satisfactory instructing have a tendency to do and find out more about their own skills, pushing out the limitations of their acquisition knowledge of and teaching, looking for the new materials and ways to teach. Therefore, educational institutions should

provide training to obtain their maximum potential, ongoing professional improvement must be implemented in their schedules. In addition to all the traditional teaching skills, teachers also have a lot to gain from experiencing training on digital educational solutions. It's also very important to keep in mind that not all teachers will be immediately comfortable with using the technology and hardware behind educational platforms. In order to achieve educational excellence, it's important to ensure that teacher's training program includes sufficient coverage of how to get the best from technology devices in general, and specifically eLearning software.

In term of monitoring, evaluation of personnel management. The efficiency of school administrators are professional principal and leadership capacity, integrity, and managerial skills could encourage students to excel. Effective monitoring and evaluation can satisfactory be executed via report keeping and desirable reporting systems, to help discover out whether the school resources are being spent in accordance to design or not. This additionally helps in figuring out if the teaching approach in the school is bringing to the desired educational results. Any school management team will have better capacity to mastering and improve from past experiences, improve planning, and better allocation of resources if they put the best monitoring and evaluation practices. Adequate monitoring and evaluation systems cam enhance the performance of both the teachers and the students. Through the use of technology, the school management, and the teachers can access data that can be used to guides on how to improve the performance of the students. The teachers can do an assessment and the behavior of the student to identify the areas where the student is failing. It is by that; teachers can align their teaching skills accordingly to improve student performance.

Recommendations for Future Research

1. Should utilize a mixed research method to confirm the findings of the quantitative research. Mixed research method consists of in-depth interviews and questionnaires to determine the appropriateness of the model.

2. There should be a study of the educational management indicators of effectiveness schools of private educational institutions. And study in any another region of Thailand etc.

References

Barber, M., & Mourshed, M. (2007). *How the world's best-performing school systems come out on top*. London: McKinsey.

Buyukgoze, H. (2016). Understanding effectiveness in school administration: A discourse analysis. *Journal of Acta Didactica Napocensia Issues, 9*(3), 67-76.

Cuttance, P. (2006). *An evidence-based approach to school innovation and improvement*. Florence, KY: Routledge.

David, J. K., & Terry, L. J. (2004). *Effective schools: Assessment report*. Additional copies of this and related documents are available. Pearson Inc.

Educational Service Area Office Standard. (2017). *Office of Educational Service Area*. Bangkok: Agricultural Cooperative Assembly of Thailand. **[in Thai]**

Leithwood, K. (2006). *Teacher working conditions that matter: Evidence for change*. Toronto: Elementary Teachers' Federation of Ontario.

Measurement, Learning & Evaluation Project. (2013). *Measuring success toolkit: Sample outline of an M&E plan*. Retrieved from www.urbanreproductivehealth.org/ toolkits/ measuring-success/sample-outline-me-plan. **[in Thai]**

McLaughlin, T. (2005). The educative importance of ethos. *Journal of British Educational Studies Issues, 53*(1), 306-325.

Muhammad, F., A., G. (2008). School effectiveness and improvement practices in excellent schools in Malaysia and Brunei. *Journal of Procedia Social and Behavioral Sciences Issues, 15*, 1705-1712.

National Education Act. (1999). *Education, vocational guidance and training*. Retrieved from https://asean.org/wp-content/uploads/2016/08/Thailand184.pdf **[in Thai]**

Office of Educational Strategy. (2016). *Manual for quality assessment of schools under the Bangkok Metropolitan Administration (SMART School) for the year 2016*. Retrieved from http://www.thaischool.in.th/_files_school/10140017/ document/10140017_0_2016 0603-000707.pdf **[in Thai]**

OPM's divisions. (2019). A handbook for measuring employee performance. *Office of Personnel Management Employee Services*. NW.: Washington DC.

Phahamak, W. (2018). Causal relationship of effectiveness of small-sized schools under the office of basic education commission. *Journal of Suratthani Rajabhat Issues, 5*(1), 211-239. **[in Thai]**

Pholphirul, P. (2016). Pre-primary education and long-term education performance: Evidence from programed for international student assessment (PISA) Thailand. *Journal of Early Childhood Research Issues, 15*(3), 305-322. **[in Thai]**

Sanamthong, E. (2017). Causal model of transformational leadership influencing organization engagement and organizational citizenship behavior of the employees in academic fields of the "Knowledge market" type of Universities in Thailand. *International Journal of Applied Business and Economic Research Issues, 15*(2), 769-786. **[in Thai]**

Starrett, T. M. (2015). Principal perceptions of walkthrough effectiveness. *Journal of School Leadership Issues, 28*(2), 44-51.

Taengkhao, P. (2013). A development of effectiveness indicators of high-competitive secondary schools under the Office of Basic Education Commission. *Journal of Educational Administration, Burapha University Issues, 7*(2), 82-95. **[in Thai]**

The Center on Innovation and Improvement. (2012). *The resources below may be of interest to you*. Retrieved from www.centerii.org **[in Thai]**

The International Association of Laboratory Schools (IALS). (2016). *IALS was formerly NALS*. Retrieved from http://www.laboratoryschools.org/ **[in Thai]**

Vanichbuncha, K. (2013). Factors that affect buying decision on mobile comic of students in Thailand. *MUT Journal of Business Administration Issues, 9*(1), 98-109. **[in Thai]**

Westbrook, J. A., & Braver, T. S. (2013). The economics of cognitive effort. *Journal of Behavioral and Brain Sciences Issues, 36*(6), 661-679.

Zufiaurre, B., & Wilkinson, J. (2014). School leadership: Is a shift from efficient management to social justice possible. *Journal of Perspectiva Educacional. Formacion de Profesores, 53*(1), 114-129.