

Development of Instructional Leadership Indicators of Teachers in Educational Opportunity Expansion Schools under the Primary Educational Service Area Offices in the Northeast

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Abstract

The purposes of this study were to: 1) identify instructional leadership of teachers, 2) develop the Instructional leadership indicators of teachers, 3) investigate the goodness-of-fit between the structural model of instructional leadership indicators of teachers and empirical data, and 4) produce a user manual of the instructional leadership indicators of teachers in educational opportunity expansion schools under the Primary Educational Service Area Offices in the northeast. The study was divided into four phases. The findings were as follows 1. The components of instructional leadership of teachers in educational opportunity expansion schools consisted of seven components, namely 1) self and other teacher development, 2) curriculum development ability, 3) learning management ability, 4) learning assessment and evaluation ability, 5) transformational leadership, 6) learning exchange ability and 7) moral and ethics. 2. The indicators of instructional leadership of teachers in educational opportunity expansion schools comprised seven principal components, 25 sub-components and 98 indicators. All principal components achieved the mean scores at high level of appropriateness 3. The indicator structural model of instructional leadership of teachers in educational opportunity expansion schools was congruent with empirical data. (Chi-Square=202.84, df=176, p=0.08095, GFI=0.97, AGFI=0.95, RMSEA=0.016, CN=668.53) and 4. The user manual of the instructional leadership of teacher indicators in educational opportunity expansion schools under the Primary Educational Service Area Offices in four aspects obtained the Index of item-objective congruence (IOC) at 1.00 indicated that the user manual was appropriated to be implemented.

Keywords: instructional leadership of teacher, indicator, educational opportunity expansion school

1. Introduction

Instructional leadership of teachers is the behavior and characteristics of teachers for developing or creating one's knowledge. Teachers must think and create new things in the school and the community. The important role of teachers in education is not only to follow the guidelines of the Basic Education Core Curriculum but also think and create their own within the school and their local area, both the teaching curriculum and school activities. For this reason, teachers need to adapt, develop, and promote their progress (Paitoon, 2015). This corresponds to Thitima (2013) had said that instructional leadership of teachers is very important because teachers with instructional leadership will perform their work by their role and job position and must develop themselves to keep up with changes. Teachers must be classroom administrators with extensive experience. The result is teachers being able to organize learning activities effectively and be able to develop their profession to be accepted and become instructional leadership of teachers.

Present issues with the quality of education students' intellectual achievement in particular tends to decline. Part of this can be attributed to the caliber of educators who lack instructional leadership of teachers. The quality of the teacher education affects the quality of students. Many scholars have studied the problem.

The problem of poor quality teachers is not a single system. Most of the time, the teacher development system makes teachers lack motivation to teach. They lack of inspiration in self-development. It is including lack of good knowledge management because there is no chance to exchange and share knowledge. Everything in the school is no less important than teaching. It means that every urgent activity can always be substituted for teaching. According to the problem, teachers must have instructional leadership and the characteristics of good teachers. It has an impact on students' traits and academic performance. That is the standard of education (Office of the

Education Council, 2007)

There are several different levels of teaching offered at the School for Expanding Educational Opportunities as pre-primary level, elementary level and junior high school level. Students' educational possibilities have been successfully created by teaching at the junior secondary level in primary schools; nevertheless, learning is based on a bigger need than students of the same grade studying in cities or schools of this size. No aspect of education, not even the caliber of the media, professors, labs, or classrooms, can be guaranteed. Therefore, instructional leadership of teachers in educational opportunity expansion schools is very important for both academic and personal growth to have an impact on how teaching and learning are developed and to help students acquire the necessary academic skills (Jarupat, 2013)

According to the above importance, this research tried to develop instructional leadership indicators of teachers in educational opportunity expansion schools under the Primary Educational Service Area Offices in the Northeast by investigating the goodness-of-fit between the structural model of instructional leadership indicators of teachers and empirical data under the Primary Educational Service Area Offices in the northeast. This may lead to understand the ways to develop academic administration of educational opportunity expansion schools that is the path to change and shift educational quality for disadvantaged teachers and students.

2. Research Objective

- 1) To identify instructional leadership of teachers under the Primary Educational Service Area Offices in the northeast.
- 2) To develop the Instructional leadership indicators of teachers under the Primary Educational Service Area Offices in the northeast.
- 3) To investigate the goodness-of-fit between the structural model of instructional leadership indicators of teachers and empirical data under the Primary Educational Service Area Offices in the northeast.
- 4) To produce a user manual of the instructional leadership indicators of teachers in educational opportunity expansion schools under the Primary Educational Service Area Offices in the northeast.

3. Research Method

There are four phases in Mixed Methods Research, as follows:

Phase 1 was intensive review of related documents and research articles as well as the interview of five experts and two outstanding teachers to identify the components of instructional leadership of teachers in educational opportunity expansion schools. The target group of this phase was a group of five experts to confirm the identified components.

Phase 2 was the development the instructional leadership indicators of teachers in educational opportunity expansion schools utilized three times of Modified Delphi Technique by 21 experts.

Phase 3 was the investigation for the goodness-of-fit between the developed indicator structural model and empirical data. The data collected from 630 teachers under the Primary Educational Service Area Offices in the northeast, academic year 2023. The samples were selected using multi-stage random sampling. The instrument employed was a set of 5-rating scale questionnaires. The collected data were analyzed using confirmatory factor analysis.

Phase 4 was the production of a user manual of the instructional leadership indicators of teachers in educational opportunity expansion schools under the Primary Educational Service Area Offices in the northeast. The manual was evaluated by five experts

Details of the research method are shown in Table 1.

Table 1. Research plan

Research phase	Method	Information provider	Processing time	Results
Phase 1: Identify instructional leadership of teachers under the Primary Educational Service Area Offices in the northeast	<ol style="list-style-type: none"> 1. Study documents and research related to instructional leadership of teachers 2. Interview experts to determine the components 3. Interview outstanding teachers to determine the components 4. Conformity check the components 	<ol style="list-style-type: none"> 1. Related documents and research Found the components of 5 people 3. Found the components of 2 people 4. Confirmed the components of 5 people 	November 2022 to April 2023	Components of instructional leadership of teachers in educational opportunity expansion schools under the Primary Educational Service Area Offices
Phase 2: Develop the Instructional leadership indicators of teachers under the Primary Educational Service Area Offices in the northeast	Develop the Instructional leadership indicators of teachers by the modified Delphi technique	Developed by experts 21 people	May 2023 to June 2023	Instructional leadership indicators of teachers under the Primary Educational Service Area Offices in the northeast were developed
Phase 3: Investigate the goodness-of-fit between the structural model of instructional leadership indicators of teachers and empirical data under the Primary Educational Service Area Offices in the northeast	<ol style="list-style-type: none"> 1. Submit the questionnaire to five experts with the criteria for consideration 2. Try out the sample groups 3. Collect the data with a sample 	<ol style="list-style-type: none"> 1. Check the questionnaire by 5 people 2. Try out with 30 people 3. Collect the data with teachers under the Primary Educational Service Area Offices in the northeast 633 people 	July 2023 to September 2023	The structural model indicates of instructional leadership indicators of teachers. The development is consistent with empirical data
Phase 4: produce a user manual of the instructional leadership indicators of teachers in educational opportunity expansion schools under the Primary Educational Service Area Offices in the northeast	<ol style="list-style-type: none"> 1. Draft a user manual of the instructional leadership indicators of teachers in educational opportunity expansion schools 2. Check the quality of the instrument examines 	Conformity checks 5 experts	September 2023 to November 2023	User manual of the instructional leadership indicators of teachers in educational opportunity expansion schools under the Primary Educational Service Area Offices in the northeast

4. Results

This research has 4, phase 1 identify instructional leadership of teachers under the Primary Educational Service Area Offices in the northeast, phase 2 develop the Instructional leadership indicators of teachers under the Primary Educational Service Area Offices in the northeast, phase 3 investigate the goodness-of-fit between the structural model of instructional leadership indicators of teachers and empirical data under the Primary Educational Service Area Offices in the northeast, and phase 4 produce a user manual of the instructional leadership indicators of teachers in educational opportunity expansion schools under the Primary Educational.

The result of phase 1 identifies instructional leadership of teachers under the Primary Educational Service Area Offices in the northeast and the synthesis of components of instructional leadership of teachers in educational opportunity expansion schools. The result is shown in Table 2

Table 2. The synthesis of components of instructional leadership of teachers in educational opportunity expansion schools

Result from document research	Result from expert interviews	Result from outstanding teachers interviews	Overall
1) self and other teacher development	1) self and other teacher development	1) self and other teacher development	1) self and other teacher development
2) curriculum development ability	2) curriculum development ability	2) curriculum development ability	2) curriculum development ability
3) learning management ability	3) learning management ability	3) learning management ability	3) learning management ability
4) learning assessment and evaluation ability	4) learning assessment and evaluation ability	4) learning assessment and evaluation ability	4) learning assessment and evaluation ability
5) transformational leadership	5) transformational leadership	5) transformational leadership	5) transformational leadership
6) learning exchange ability	6) learning exchange ability	6) learning exchange ability	6) learning exchange ability
7) moral and ethics	7) moral and ethics	7) moral and ethics	7) moral and ethics

Table 2 shows the result of the synthesis of components of instructional leadership of teachers in educational opportunity expansion schools. There were seven components of instructional leadership of teachers, namely 1) self and other teacher development, 2) curriculum development ability, 3) learning management ability, 4) learning assessment and evaluation ability, 5) transformational leadership, 6) learning exchange ability and 7) moral and ethics. The result is shown in Table 3.

Table 3. The result of confirming factors of instructional leadership of teachers in educational opportunity expansion schools by 5 experts

Appropriateness				
Item	\bar{X}	S.D.	Interpret	
self and other teacher development	4.70	0.29	highest	
curriculum development ability	4.76	0.14	highest	
learning management ability	4.77	0.21	highest	
learning assessment and evaluation ability	4.76	0.22	highest	
transformational leadership	4.68	0.22	highest	
learning exchange ability	4.68	0.22	highest	
moral and ethics	4.52	0.17	highest	
Total average	4.70	0.09	highest	

Table 3 shows the result of confirming factors of instructional leadership of teachers in educational opportunity expansion schools by 5 experts. The appropriateness of instructional leadership of teachers in educational opportunity expansion schools as a whole was found to be appropriate at the highest level ($\bar{X}=4.70$, S.D.=0.09). The aspect with the highest appropriateness was learning management ability ($\bar{X}=4.77$, S.D.=0.21).

The result of phase 2 develops the Instructional leadership indicators of teachers under the Primary Educational Service Area Offices in the northeast.

The indicators of instructional leadership of teachers in educational opportunity expansion schools under the Primary Educational Service Area Offices comprised seven principal components, 25 sub-components and 98 indicators. All principal components achieved the mean scores at high level of appropriateness, which could be prioritized as: 1) learning management ability; 4 sub-components and 15 indicators, 2) self and other teacher development; 3 sub-components and 12 indicators, 3) learning assessment and evaluation ability; 4 sub-components and 16 indicators, 4) transformational leadership; 3 sub-components and 12 indicators, 5) learning exchange ability; 4 sub-components and 15 indicators, 6) moral and ethics; 3 sub-components and 12 indicators, and 7) curriculum development ability; 4 sub-components and 16 indicators.

The result of phase 3 investigates the goodness-of-fit between the structural model of instructional leadership indicators of teachers and empirical data under the Primary Educational Service Area Offices in the northeast. The

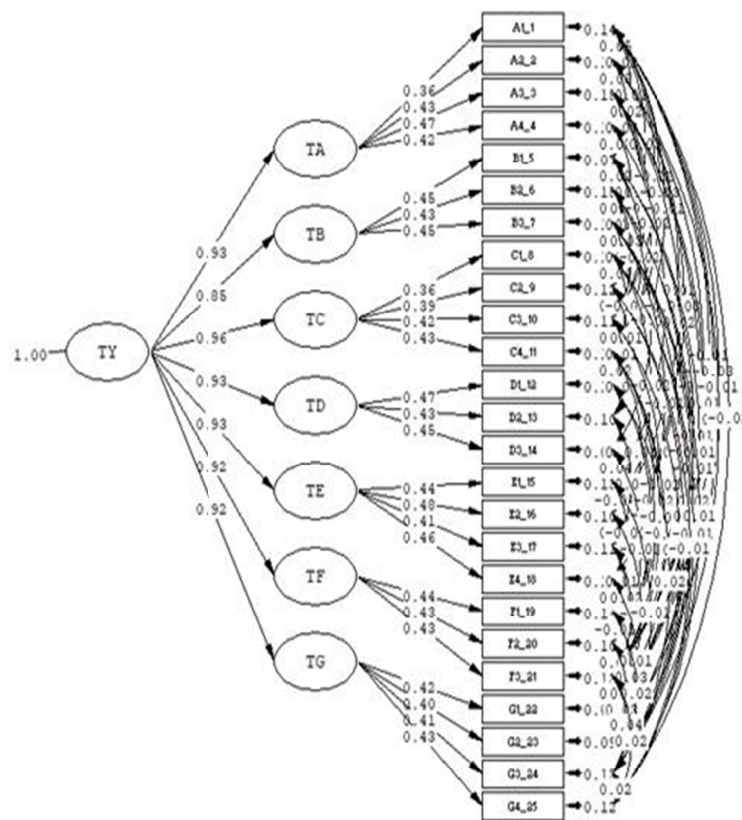
result is shown in Table 4.

Table 4. Bartlett statistics and Kaiser-Mayer-Olkin index values. Measures of Sampling Adequacy (MSA) of sub-models, instructional leadership of teachers in educational opportunity expansion schools

Model	Bartlett's test of Sphericity	p	Kaiser-Mayer-Olkin Measures of Sampling Adequacy (MSA)
self and other teacher development	5152.106**	.000	.947
curriculum development ability	4287.070**	.000	.930
learning management ability	5353.546**	.000	.926
learning assessment and evaluation ability	3914.460**	.000	.923
transformational leadership	4980.098**	.000	.934
learning exchange ability	3809.757**	.000	.933
moral and ethics	4992.906**	.000	.937

** Significance level of .01.

Table 4 shows the results of the analysis to determine the suitability of the correlation matrix prior to the analysis of the affirmative components revealed that the correlation matrix between the variables was different from the identity matrix At the .01 level, the Baertlett test of Sphericity was 5152.106, 4287.070, 5353.546, 3914.460, 4980.098, 3809.757 and 4992.906, respectively, with a probability was .000 ($p < .01$). The Kaiser-Mayer-Olkin Measurers of Sampling Adequacy (MSA) were .947, .930, .926, .923, .934, .933 and .937. All values are greater than .50 indicating that the indicator is very relevant.



Chi-Square=202.84, df=176, P-value=0.08095, RMSEA=0.016

Figure 1. The analysis of the second confirmation components of the structural model of instructional leadership indicators of teachers and empirical data under the Primary Educational Service Area Offices in the northeast

Figure 1 shows the analysis of the second confirmation components of the structural model of instructional leadership indicators of teachers and empirical data under the Primary Educational Service Area Offices in the northeast, it was found that after the consistency of the model was adjusted very consistently with the empirical data considered from the chi-square statistic, 202.84. The df value is 176, with a probability approach 1 ($p=0.08095$) means that the Chi-Square is not statistically significant. When considering the relative chi-square, 1.15 GFI is 0.97, AGFI is 0.95. RMSEA is equal 0.016 and the CN value of 668.53 show that the equation model of instructional leadership indicators of teachers and empirical data under the Primary Educational Service Area Offices in the northeast consistency in harmony with empirical data.

The result of analyze found seven main components. All of components is positive, 0.85 – 0.96 At the .01 level ($p<.01$). All of the components have factor loading as learning management ability (TC) is 0.96, self and other teacher development (TA) is 0.93, learning assessment and evaluation ability (TD) is 0.93, transformational leadership (TE) is 0.93, learning exchange ability (TF) is 0.92, moral and ethics (TG) is 0.92, curriculum development (TB) ability is 0.85, respectively. The researcher took the component weights for all 7 indicator components to create an indicator component scale of instructional leadership indicators of teachers in educational opportunity expansion schools under the Primary Educational Service Area Offices in the northeast representing the coefficient of the component score. This corresponds to Petmanee (2002) had said weights of components and the coefficient of the components, two values are the same.

Therefore, the equation of the structural model of instructional leadership indicators of teachers and empirical data under the Primary Educational Service Area Offices in the Northeast is:

$$TY = 0.96(TC) + 0.93(TA) + 0.93(TD) + 0.93(TE) + 0.92(TF) + 0.92(TG) + 0.85(TB)$$

The result of phase 4 produces a user manual of the instructional leadership indicators of teachers in educational opportunity expansion schools under the Primary Educational Background and significance have 4 items consist of 1) explain the background of the instructional leadership of teacher in educational opportunity expansion schools 2) The value of the instructional leadership of teacher in educational opportunity expansion schools has been established 3) explain components of the instructional leadership of teacher in educational opportunity expansion schools 4) mention the instructional leadership of teacher in educational opportunity expansion schools has advantages. All have index of item objective congruence is 1.00, which shows every assessment item met the requirements.

Objective of user manual have 3 items consisted of 1) the objectives are clear and easy to understand 2) The objectives consistent with the indicators and are complete 3) the objective is feasible. All have index of item objective congruence is 1.00, which shows every assessment item met the requirements.

Information on the main components, sub-components and indicators have 4 items consist of 1) the indicator's concept and background are explained in illustrations 2) the main components, sub-components and indicators are explained clearly 3) a definition is available to understand the indication more fully 4) the definitions of terms are clear and easy to understand. All have index of item objective congruence is 1.00, which shows every assessment item met the requirements.

Guidelines for using indicators have 5 items consist of 1) there are guidelines describing how to use the indicators 2) respects users' requirements 3) content is arranged consistently and connected at all times suitable for use at work 5) can be applied to provide other agencies with guidance. All have index of item objective congruence is 1.00, which shows every assessment item met the requirements.

5. Discussion

There are issues that are discussed as follows:

The components of instructional leadership of teachers in educational opportunity expansion schools consisted of seven components, namely 1) self and other teacher development, 2) curriculum development ability, 3) learning management ability, 4) learning assessment and evaluation ability, 5) transformational leadership, 6) learning exchange ability and 7) moral and ethics. This is a result of the researcher's extensive study of ideas, concepts, and research pertaining to instructional leadership of teachers. In order to gather instructional leadership indicators of teachers, several types of steps were performed as well such as expert interviews, outstanding teacher interviews, and assessing the components' appropriateness. This corresponds to Rungsun (2013) had said the components of instructional leadership of teachers consisted of 4 components, namely 1) learning management ability 2) transformational person 3) a model of learning, and 4) self and other teacher development. This corresponds to Siriporn (2014) had said the components of instructional leadership of teachers consisted of 4 components, namely 1) curriculum development ability 2) learning management ability 3) transformational leadership, and 4)

personality for teaching

The indicators of instructional leadership of teachers in educational opportunity expansion schools under the Primary Educational Service Area Offices comprised seven principal components, 25 sub-components and 98 indicators. All principal components achieved the mean scores at high level of appropriateness, which could be prioritized as: 1) learning management ability; 4 sub-components and 15 indicators, 2) self and other teacher development; 3 sub-components and 12 indicators, 3) learning assessment and evaluation ability; 4 sub-components and 16 indicators, 4) transformational leadership; 3 sub-components and 12 indicators, 5) learning exchange ability; 4 sub-components and 15 indicators, 6) moral and ethics; 3 sub-components and 12 indicators, and 7) curriculum development ability; 4 sub-components and 16 indicators. This corresponds to Anatta (2013) had researched the model for developing teacher leadership in learning management of schools under the Office of Primary Educational Service Area in the Educational Inspection Region 11. The behaviors of educators who understand the ability to design and construct a curriculum comprehend its components and framework and how to assess and evaluate the program's outcomes by its objectives. This corresponds to Thitima (2013) had researched a model of developing teacher leadership on instructional management in Secondary Schools under the Provincial Administrative Organization in the Northeast Region, which said teacher's behavior in monitoring education Learning management systems that prioritize students must be taken into account and teacher must have an in-depth understanding of some subjects in the learning group. There are many techniques to create new knowledge and share experiences to get an innovation of education.

The analysis of the second confirmation components is of the structural model of instructional leadership indicators of teachers and empirical data under the Primary Educational Service Area Offices in the northeast. All of the components have factor loading as learning management ability (TC) is 0.96, self and other teacher development (TA) is 0.93, learning assessment and evaluation ability (TD) is 0.93, transformational leadership (TE) is 0.93, learning exchange ability (TF) is 0.92, moral and ethics (TG) is 0.92, curriculum development (TB) ability is 0.85, respectively. The researcher took the component weights for all 7 indicator components to create an indicator component scale of instructional leadership indicators of teachers in educational opportunity expansion schools under the Primary Educational Service Area Offices in the northeast representing the coefficient of the component score. This corresponds to Thitima (2013) had said teacher's behavior in monitoring education Learning management systems that prioritize students must be taken into account and teacher must have an in-depth understanding of some subjects in the learning group. This corresponds to Rungsun (2013) had said the way teachers organize learning must have a variety of ways to remind students to learn on their own and develop a learning environment.

A user manual of the instructional leadership indicators of teachers in educational opportunity expansion schools under the Primary Educational Service Area Offices in the northeast. All of the components have conformity index value (IOC) are 1.00. It shows the indicator user manual available to use. The researcher studied related research, and produce a user manual, and then experts assessed background concepts and significance, objectives of a user manual, the content of main and sub-components, and guidelines for using indicators. This correspond to Krisada (2016) had said the components of A user manual consisted of 6 components, namely 1) introduction 2) objective 3) guidelines 4) content 5) Conclusion, and 6) reference.

6. Recommendations

6.1 Suggestions for Use

Office of the Basic Education Commission should publish study findings or provide guidelines for managing educational institutions and training instructors or educational personnel for use in developing student quality. There were developed learning management ability, self and other teacher development, learning assessment and evaluation ability, transformational leadership, learning exchange ability, moral and ethics, and curriculum development ability, respectively.

Office of the Basic Education Commission may use the indicators from the research to apply as a guideline for the development of instructional leadership of teachers to prepare for organizing, designing learning, and creating an assessment before the start of the semester each academic year.

Administrators and teachers may use the indicators from the research to apply as a guideline for managing educational institutions and developing teachers to be able to design and organize quality learning to keep up with rapid changes.

6.2 Suggestions for Further Research

This research found seven components, namely 1) self and other teacher development, 2) curriculum development

ability, 3) learning management ability, 4) learning assessment and evaluation ability, transformational leadership, 6) learning exchange ability, and 7) moral and ethics. The agency may study more detail for each component.

Research and development should be carried out by using the structural model of instructional leadership indicators of teachers and empirical data under the Primary Educational Service Area Offices in the northeast as $TY = 0.96(TC) + 0.93(TA) + 0.93(TD) + 0.93(TE) + 0.92(TF) + 0.92(TG) + 0.85(TB)$, respectively.

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Informed consent

Obtained.

Ethics approval

The Publication Ethics Committee of the Canadian Center of Science and Education.

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The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

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