

An Influential Model of Instructional Leadership Affecting Students' Achievement in Small-sized Secondary Schools under the Office of the Basic Education Commission in Thailand

Amonrat Sotarat

Faculty of Education, Kasetsart University, Thailand

E-mail: rong_ouy@hotmail.com

Prompilai Buasawan

Faculty of Education, Kasetsart University, Thailand

E-mail: prompilai.b@gmail.com

Sudarat Sarnswang

Faculty of Education, Kasetsart University, Thailand

E-mail: fudusdrs@ku.ac.th

Warunee Lapanachokdee

Faculty of Education, Kasetsart University, Thailand

E-mail: warunee22@yahoo.com

Abstract

The main purposes of this study are to construct and to examine the validity of Influential Model of Instructional Leadership Affecting Students' Achievement in Small-sized Secondary Schools under the Office of the Basic Education Commission in Thailand. This research is conducted by using school units as an analytical database. The sample consists of 245 small-sized secondary schools in 6 regions of Thailand. The respondents from each school consisted of the school administrator, 6 teachers selected from each secondary grade, and 18 students by selecting 3 students from each secondary grade. The study of Structural Equation Modeling revealed the results as the following: 1) Instructional leadership of school administrators affects students' achievement indirectly and positively by having school climate, classroom instruction, and students' trust as mediators. 2) Instructional leadership of school administrators has the most direct and positive influence on classroom instruction, followed by school climate and students' trust respectively and 3) Students' trust has the most direct and positive influence on students' achievement, followed by classroom instruction while the school climate has direct and negative influence on student achievement. On the other hand, if the relationship is mediated by classroom instruction, the school climate will directly and positively affect on student achievement.

Keywords: Instructional Leadership, Student Achievement, Small-Sized Schools, Influential Model, Structural Equation Model

Introduction

Since 1992, Thailand has focused on education as a mean in developing human resources noticeably by considering from the increase of investment in education. However, the outcome of education in Thailand reflected by the students' achievement is still unsatisfied. In 2015, the Organization named Economic Co-operation and Development (OECD) used Program for International Student Assessment (PISA) to assess Thai students, and the results

were lower than the average in every subject. In addition, the secondary students' scores in Ordinary National Educational Test in every subject were lower than the target. (National Institute of Educational Testing Service, 2015) According to the comparison of students' O-NET test scores based on school sizes, it was found that the students from small-sized schools, with less than 500 students, performed much lower than students from other school sizes. Many researchers have suggested that instructional leadership of school administrators is an important key to school development which indirectly affect to students' achievement. (Alig-Mielcarek & Hoy, 2003; Supovitz, Sirindes, & May, 2010; Sebastain & Allenworth, 2012; Dutta, 2016; Silakow, 2016; Jermsittiparsert et al., 2016; Alam, & Ahmad, 2017; Lee, Walker, & Ling, 2012). Many studies have also identified various factors affecting directly to student achievement e.g. school climate (Jain et al., 2015), tiredness of students (Anawatcharakul, 2009), teaching media (Bukbun, 2010), classroom instruction (Sebastain & Allenworth, 2012), occupational community, bonding of parents and community, trust in school (Silakow, 2016), and student trust (Romero, 2010).

Although there are many studies have identified variables affecting to students' achievement, only few variables have been considered based on the context of school size. This study aims to investigate the factors affecting students' achievement under the perspective of educational administration and the context of small-sized secondary schools. The variables affecting students' achievement consist of instructional leadership, school climate, tiredness of students, teaching, classroom instruction, occupational community, Bonding of Parents and community, trust in school, student trust.

To investigate how instructional leadership affects students' achievement in small-sized secondary school of Thailand, this research identifies possible variables that might be mediations as the followings: 1) school climate (Jain, 2015) 2) classroom instruction (Sebastain & Allenworth, 2012) 3) student trust (Romero, 2010) consistent with the educational reforming policy of Thailand.

Therefore, the objectives of this research are to construct and validate the influential model of instructional leadership affecting students' achievement in small-sized secondary school under the Office of the Basic Education Commission in Thailand.

Literature Review

Instructional Leadership

Instructional Leadership is generally defined as the management of curriculum and instruction by a school principal. School principal with high quality instructional leadership would influence the development of students' learning achievement. (Hallinger & Heck, 1998; Waters, Marzano, & McNulty, 2003).

Many researchs show that instructional leadership has direct influence on students' achievement. (Alig-Mielcarek & Hoy, 2003; Supovitz, Sirines, & May, 2010; Sebastain & Allenworth, 2012; Dutta, 2016; Silakow, 2016; Jermsittiparsert et al., 2016; Alam & Ahmad, 2017) On the other hand, instructional leadership has indirect effect on students' achievement through school climate (Dutta, 2016; Tschannern -Moran & Hoy, 1998) and student trust. (Kwan, 2015) Instructional leadership also has direct effect on classroom instruction. (Sebastain & Allenworth, 2012; Dutta, 2016; Silakow, 2016)

Hallinger & Murphy (1987) proposed the elements of Instructional Leadership that it consists of specification of bond including teaching management and promotion of school climate.

Weber (1996) pointed similar view as Hallinger's with two more additional elements which are observation & teaching development and teaching assessment.

Alig-Mielcarek & Hoy (2003) claimed that Instructional Leadership includes development of teacher profession in the whole school, specifies the targets together, creates understanding in

the targets, follows up, and arranges for teaching reflection.

Phusil (2014) has identified instructional leadership under the Thai context which was used for this study that it consists of 6 elements namely 1) development of atmosphere and learning culture of school, 2) maintaining of good relationship between teachers, students, parents and community, 3) specification of target and creating of shared understanding, 4) development of teacher profession, 5) creating of academic innovation 6) following up and reflecting the teaching arrangement.

School Climate

School climate refers to the quality and character of school life. It has been described as “the heart and soul of the school, the essence of a school that leads children, teachers, and the administrator to love the school and look forward to being there on each school day. Many Researchs shows that the school climate has direct influence on students’ achievement (Tschantern -Moran & Hoy, 1998; Jain, 2015; Dutta, 2016)

Freiberg, (1998) proposed four elements of school climate which are physical climate in school and in class, social system inside school, regulation inside school and in classroom and role of teachers in governing class.

According to Hoy & Miskel (2008), school climate consists of 4 elements including open climate, engaged climate, disengaged climate and close climate.

Moreover, Jain (2015) proposed that school climate consists of 4 elements including relationship between teachers inside school and students, student behavior helping learning, rules and standard of school and safety in school. This research employed Jain (2015)’s elements of school climate as they are most suitable to the context of small-sized secondary school in Thailand.

Classroom Instruction

Classroom instruction was previously defined as "the purposeful direction of the learning process" and one of the major teacher class activities (along with planning and management). Many Researchs show that classroom instruction has direct influence on students’ achievement (Supovitz, Sirindes, & May, 2010; Sebastain & Allenworth, 2012; Silakow, 2016) Professional educators have developed a variety of models of instruction which were designed to produce classroom learning.

Joyce, Weil, & Calhoun (2003) described four categories of models of teaching/instruction - behavioral systems, information processing, personal development, and social interaction - that summarize the vast majority of instructional methods.

Sebastain & Allenworth (2012) pointed that classroom instruction consists of 5 elements including relationship between students, teachers, parents, and classmates, teaching activity focusing on interaction, teaching to understand and to find new knowledge, teaching to provide reasons from the fact and creating conclusion, discipline in classroom and analysis and synthesis thinking.

Student Trust

Although many studies have investigated the influence of school trust on students’ achievement (Silakow, 2016; Romero, 2010), few studies have really focused on student trust. Students in secondary level can play a key role in their learning process. Romero found that student trust have direct influence on student achievement. According to Romero, student trust refers to relational trust between students and teachers in the learning process, and it consists of 3 elements including benevolence, competence, and integrity.

Student Achievement

This research employed the Ordinary National Education Test scores of grade 9 and 12 students held by the National Institute of Educational Testing Service (Public Organization) to measure the level of knowledge in year 2016.

From literature review, variables to be used in this research can be summarized and constructed to form a conceptual model as the followings (see Figure 1).

1. Lead	:	Instructional Leadership
1.1 LeadA	:	Specification of target and creating of shared target
1.2 LeadB	:	Development of teacher profession
1.3 LeadC	:	Supervision, follow-up and arrangement for the reflection of teaching arrangement
1.4 LeadD	:	Development of atmosphere and learning culture of school
1.5 LeadE	:	Maintaining of good relationship between teachers, students, parents and community
1.5 LeadF	:	Creating of academic innovation
2. Climate	:	School Climate
2.1 ClimateA	:	Relationship between teachers and students
2.2 ClimateB	:	Rules and standard of school
2.3 ClimateC	:	Behavior of students that helps learning
2.4 ClimateD	:	Safety in school
3. Class	:	Classroom Instruction
3.1 ClassA	:	Teaching activity focusing on interaction
3.2 ClassB	:	Relationship between students, teachers and classmates and parents
3.3 ClassC	:	Teaching new to understand knowledge and to give reason from facts and creating as conclusion from knowledge
3.4 ClassD	:	Having discipline in classroom
3.5 ClassE	:	Train students to think, analyze and synthesize
4. Trust	:	Student Trust
4.1 TrustA	:	Benevolence
4.2 TrustB	:	Competence
4.3 TrustC	:	Integrity
5. Ach	:	Student Achievement
5.1 Ach3	:	Average score O-NET M.3
5.2 Ach6	:	Average score O-NET M.6

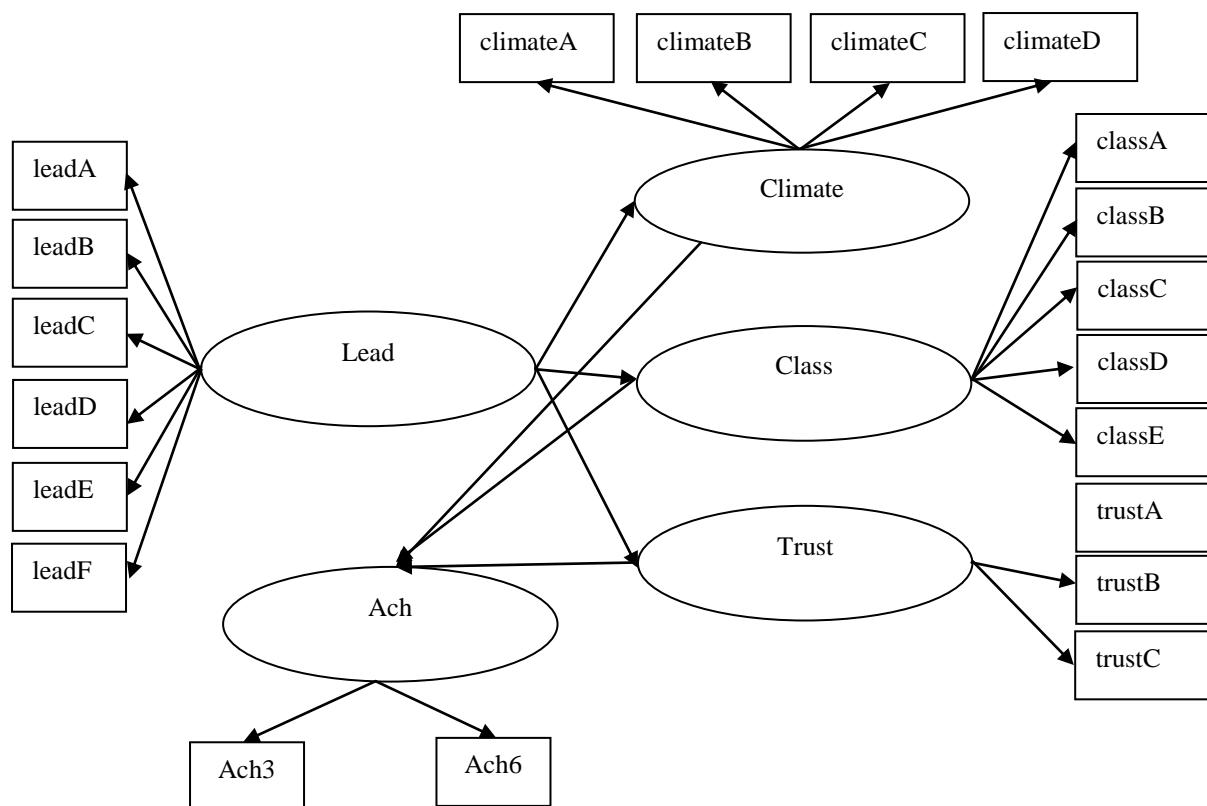


Figure 1 Theoretical Framework

Research Hypothesis

This research had the hypothesis as the followings:

1. Instructional Leadership of school executives has direct influence on School Climate, Classroom Instruction, and Student Trust.
2. Instructional Leadership of school executive has indirect influence on Students' Achievement with School Climate, Classroom Instruction and Student Trust as mediators.
3. School Climate, Classroom Instruction and Student Trust have direct influence on Students' Achievement.

Research Methodology

Sampling

This study was conducted by using a descriptive survey as its methodology. The population were in 1,053 schools under the control of OBEC of the Ministry of Education in the school year 2016. The sample consisted of 275 schools (Hair, Anderson, Tatham, and Black, 1998) selected by stratified random sampling, and the schools were used as the units for analysis. The respondents from each school consisted of the school administrator, 6 teachers selected from each secondary grade, and 18 students by selecting each 3 students from each secondary grade.

Data Collection

The research tools used in this study were 1) 5-rating-scale questionnaires for administrator and teachers in the point of instructional leadership, school climate and classroom instruction. The questionnaires consist of 43 items with the IOC value between 0.60-1.00 and the reliability of 0.967, 2) 5-rating-scale questionnaires for students in the point of school climate and student trust. The questionnaires consist of 25 items with IOC between 0.60-1.00 and reliability of 0.948, and 3) the request for the analysis of O-NET test in 2016 from the

National Education Test Office.

The process of data collection was run by sending request mails to the sample group school consisting of 245 schools in 6 regions of Thailand to answer the questionnaires and only 208 schools responded by returning the questionnaires which can be calculated as 84.89 percent. The hypothesis testing was conducted through SEM using the LISREL.

Interpreting Criteria

1. The data of variable was analyzed by using the means (\bar{X}) and standard deviation (S.D.) to explain the characteristics of various variables. The researcher used the criteria in interpreting the meanings of the means from questionnaire as the followings.

4.51 - 5.00 means highest performing level

3.51 - 4.50 means high performing level

2.51 - 3.50 means central performing level

1.51 - 2.50 means low performing level

1.00 - 1.50 means lowest performing level

2. The researcher inspected the consistency of structure equation of instructional leadership affecting student achievement in small-sized secondary school under the Office of the Basic Education Commission and witnessed data by using LISRELL application with the interpretation of meaning consistent with witnessed data consisting of chi-square with no statistical significance (more than 0.05 and over, chi-square-df which is less than 2 GFI indexes (goodness of fit index) and AGFI index (adjust goodness of fit index) that is more than 0.90 of RMR index (root mean squared residual), standardized RMR value and RMSEA value less than 0.05.

Research Results

The level of instructional leadership, school climate, classroom instruction and student trust highly affect to students' achievement in Thailand.

The level of instructional leadership, school climate, teaching classroom instruction and student trust, were found at 4.04-4.37 on 5-point scale. The instructional leadership has the highest means followed by student trust, school climate and classroom instruction respectively. The analysis in the dimension of instructional leadership shows that the development of atmosphere and learning culture of school has the highest means ($\bar{X} = 4.37$) while the analysis in the dimension of school climate shows that the safety in school has the highest means ($\bar{X} = 4.34$). In addition, the analysis in classroom instruction shows that the relationship between students, teachers and classmates has the maximum means ($\bar{X} = 4.32$), and the analysis in the dimension of student trust shows that the ability in success has the maximum means ($\bar{X} = 4.33$).

An Influential Model of Instructional Leadership Affecting to Students' Achievement in Small-sized Secondary Schools under the Office of the Basic Education Commission in Thailand.

The SEM of An Influential Model of Instructional Leadership Affecting to Students' Achievement in Small-sized Secondary Schools under the Office of the Basic Education Commission in Thailand produced results that fit the empirical data with the fit indices as the followings: $\chi^2 = 142$, $df = 118$, $\chi^2/df = 1.20$, $GFI = 0.94$, $AGFI = 0.89$, $RMR = 0.020$, $RMSEA = 0.031$ and $p = 0.06$.

This study analyzed the relationship between instructional leadership, school climate, classroom instruction, student trust, and students' achievement through SEM. It was found that all the study's research hypotheses were supported. School Climate, Classroom Instruction, and Student trust have positive direct influence on students' achievement

significantly at 0.05 level. Instructional Leadership has indirect influence on students' achievement mediated by school climate, classroom instruction and student trust. The relationship model between the variables is shown as Figure 2 and Table 3 below:

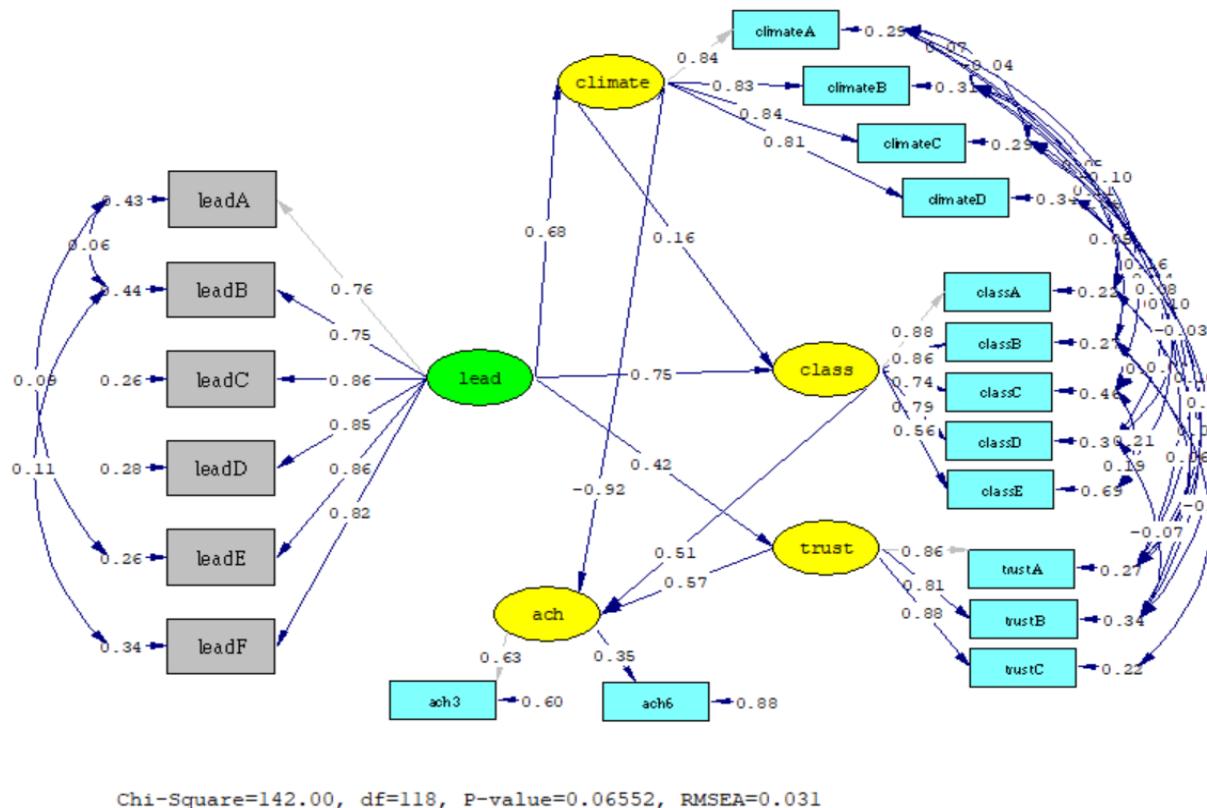


Figure 2 Structural Equation Model

Table 3 Analysis Result of Instructional Leadership Affecting to Students' Achievement

Effect variable	Climate			class			trust			ach		
	DE	IE	TE	DE	IE	TE	DE	IE	TE	DE	IE	TE
Cause Variable												
lead	0.68*	-	0.68*	0.75*	0.11*	0.86*	0.42*	-	0.42*	-	0.05*	0.05*
climate				0.16*	-	0.16*				0.92*	0.08*	0.84*
class										0.51*		0.51*
trust										0.57*		0.57*

From table 3 showing the analysis result, it can be concluded that 1) instructional leadership has direct influence on school climate, classroom instruction, and student trust statistically significant at 0.05 with the influence size of 0.68, 0.75 and 0.42 respectively. On the other hand, the instructional leadership has indirect influence on classroom instruction and student achievement statistically significant at 0.05 with the influence size of 0.11 and 0.05 respectively 2) school climate has direct influence on classroom instruction and students' achievement statistically significant at 0.05 with the influence size of 0.16 and 0.92 respectively while school climate also has indirect influence on students' achievement statistically significant at 0.05 with the influence size of 0.08 3) classroom instruction has direct influence on students' achievement statistically significant at 0.05 with the influence size of 0.51 and 4) student trust has direct influence on students' achievement statistically significant at 0.05 with the influence size of 0.57.

Discussion and Conclusion

1. Instructional leadership has positive indirect influence on students' achievement school climate, classroom instruction and student trust as mediators, consistently with the hypothesis because in the structure context in school management was divided into 2 relationships including the relationship structure between the administrator and teachers and teachers and students. According to the structure as mentioned, the relationship between the administrator and students was mediated indirectly by teachers consistently with Sebastain & Allenworth (2012) and Dutta (2016) whose research result was that school executive has indirect influence on the effectiveness or learning quality of students.
2. Instructional leadership has direct influence on school climate, classroom instruction and student trust from the context of small-sized secondary school with the relationship structure of administrator, teachers and students in a close way which is the strong point of small-sized secondary school. Instructional leadership would focus on developing to upgrade the learning effectiveness of students through work operation in organization such as specifying target, creating understanding in operation, focusing on developing teacher profession, creating good relationship in the work operation of people in organization to supervise, follow up, demonstrate and reflect the result of learning activity arrangement, creating atmosphere, and learning culture and using academic innovation in management. From characteristic as mentioned, it would affect directly to the teaching arrangement in class consistent with Dutta (2016) who found that condition-changing leadership and instructional leadership have direct influence on school climate, affect the student trust to school executive, education executive with the ability on courses in educational places with diversity, and have learning culture which would receive trust from students and parents.
3. Student Trust has highest direct influence on students' achievement due to the fact in the context of small-sized secondary school that there is a relationship structure close to the administrator, teachers and students. However, the number of students per class is not in a large amount and can affect positively to teachers in getting to know students personally, arranging learning activity to everyone, and focusing on developing learners according to personal difference. There would be trust between each other which would drive learning effectiveness of students consistently with Romero (2010) who found that trust of students has influence on result of secondary students.
4. Classroom Instruction has direct positive influence on students' learning achievement with the influence size of 0.51 consistently with the hypothesis. This might be because most small-sized secondary school has 2-30 students per class, affecting teaching of teachers to everyone in the class personally. It is personal teaching creating quality in teaching to the upgrade of learning effectiveness consistently with Polmanee (2015) who found that the first independent variables is teaching behavior of teachers, attitude of teachers of motivation in working of teachers affects to the learning effectiveness of students statistically significant at 0.01 and 0.05 respectively, and teaching behavior of teachers and work operation motivation of teachers affect positively to the efficiency and affecting to the learning motivation of students with statistically significant at 0.05. Moreover, it was found that teaching behavior of teachers affecting to student achievement in the class has enough variance to be used as independent variable in a third level with statistical significance at the level of 0.05.
5. School climate has negative influence on students' achievement which is not consistent with the hypothesis because 1) the measurement of learning effectiveness of students under the Office of the Basic Education Commission was assessed by using O-NET results with the structure according to the standard and index of the central course of basic education B.E. 2551 in 5 subject groups including Thai language, math, science, social studies, religion and culture and English and 2) School climate in this research has an observable variable which is relationship between teachers and students, rules, regulation and standard of school, student

behavior that helps learning, and safety in school which the school has an operating level in a high level, but it reflects in the opposite way of the students' learning. According to the mention, it shows that the climate of schools in Thailand cannot follow the O-NET because right now upgrading learning efficiency by using O-NET in most schools focuses on tutoring by using outside trainers with subject specific expertise, so the research result does not follow the standard.

Recommendations

1. In educational policy of Thailand, the Office of the Basic Education Commission which has the duty in responsible for education in the overall picture of the country should prioritize selection of school executive who is instructional leader to develop the learning effectiveness and develop educational place quality of Thailand. In addition, the Office of the Basic Education Commission should prioritize designing of learning effectiveness that focuses on cognitive and non-cognitive to assess the learning performance of Thai students in every dimension, not only use the test that measures only the cognitive.
2. Small-sized educational school of Thailand has strength in internal relationship between the administrator, teachers and students. Therefore, the administrator should provide importance and use instructional leadership in developing teachers to arrange learning activity focusing on learners mainly and to use instructional leadership in developing school which causes trust of students to administrator. It would be the factor with highest influence on learning effectiveness of students.
3. Small-sized secondary school under the Office of the Basic Education Commission of Thailand has school climate in operating level in every dimension consisting of good relationship between teachers and students, regulation and standard of school. Students have behavior in promoting learning and school has safety. Therefore, the administrator should prioritize development of school climate to promote learning management in class.

Further Research

1. The further research should be conducted school climate influencing students' achievement which might increase observable variable which is the learning effectiveness of students (GPA) to confirm the influence between school climate and students' achievement.
2. The further research should be studied the student trust in the context of Thailand
3. The further research should be studied the influence of instructional leadership affecting to students' achievement in different context such as school size or school contexts.

References

Alam, A. & Ahmad, M. 2017. "The impact of instructional leadership, professional communities and extra responsibilities for teachers on student achievement." **Journal of Educational Administration** 31 (3): 383-395.

Alig-Mielcarek, J. & Hoy, W. 2003. **A theoretical and Empirical Analysis of the Nature, Meaning, and Influence of Instructional Leadership.** Ohio: Ohio State University.

Anawatcharakul, R. 2009. **Burnout Factors Influencing Academic Achievement in Secondary School at Ramkhamhaeng Demonstration School Achievement in Secondary Schools at Ramkhamhaeng Demonstration School.** Doctor of Education Thesis, Ramkhamhaeng University.

Bokbun, T. 2010. **Development of multimedia for teaching science in Primary School.** Doctor of Education Thesis, King Mongkut's University of Technology North Bangkok.

Dutta, V. 2016. **School Leadership and its impact on student achievement: The mediating role of school climate and teacher job satisfaction.** Doctor of Education Thesis, Ohio State University.

Freiberg, H. 1998. "Measuring school climate: Let me count the ways." **Educational Leadership** 56 (1): 22-26.

Hair, J., Anderson, R., Tatham, R., & Black, W. 1998, **Multivariate Data Analysis**. 5th Edition. New Jersey: Prentice Hall.

Hallinger, P. & Murphy, J. 1987. "Assessing and developing principal instructional leadership." **Educational Leadership** 45 (1): 54-61.

Hallinger, P. & Heck, R. 1998. "Reassessing the principal's role in school effectiveness: A review of the empirical research 1980-1985." **Educational Administration Quarterly** 32 (1): 5-44.

Hoy, W. & Miskel, C. 2008. **Educational Administration: Theory Research and Practice**. 5th ed. New York: McGraw-Hill.

Jain, S., Cohen, A., Huang, K., Hanson, T., & Austin, G. 2015. "Inequalities in school climate in California." **Journal of Educational Administration** 53 (2): 237-261.

Jermsittiparsert, K., and Sriyakul, T., Pamornmast, C., Rodboonsong, S., Boonprong, W., Sangperm, N., Pakvichai, V., Vipaporn, T., & Maneechote, K. 2016. "A Comparative Study of the Administration of Primary Education between the Provincial Administration Organisation and the Office of the Basic Education Commission in Thailand." **The Social Science** 11(21): 5104-5110.

Joyce, B., Weil, M., & Calhoun, E. 2003. **Models of teaching**. 15th ed. Boston: Allyn & Bacon.

Kwan, P. 2015. **The effect of Trust on the Relationship Between instructional leadership and student outcomes in Hong Kong Secondary Schools**. The Asia_Pacific Education Researcher.

Lee, M., Walker, A., & Ling, Y. 2012. "Contrasting effects of instructional Leadership practices on student learning in a high accountability context." **Journal of Educational Administration** 58: 611.

National Institute of Educational Testing Service. 2015. **The results of the National Student Assessment 2015: Policy Briefs and Recommendations**. Bangkok: Agricultural News.

Phusil, P. 2014. **Components of academic leadership of demonstration school in primary level in Rajabhat University**. Doctor of Education Thesis, Christian University.

Polmanee, S. 2015. "Factor affecting learning effectiveness of students in Secondary Education School, Chaiyapoom" **SWU Education Administration Journal** 12 (23): 60-70.

Romero, L. 2010. **Student Trust: Impacting High School Outcomes**. Doctor of Education Thesis, University of California.

Sebastian, J. & Allenworth, E. 2012. "The influence of Principal Leadership on Classroom Instruction and Student Learning: A Study of Mediated Pathways to Learning." **Educational Administration Quarterly** 38 (1): 1-39.

Silakow, W. 2016. **The Influences of Principal Leadership and Mediating Factors Affecting Student's Learning Quality in Primary Schools under Bangkok Metropolitan Administration**. Doctor of Education Thesis, Kasetsart University.

Sopovitz, J., Sirinides, P., & May, H. 2010. "How principals and peers influence teaching and Learning." **Educational Administration Quarterly** 46 (1): 31-56.

Tschannern-Moran, M. & Hoy, W. 1998. "Trust in schools: a conceptual and Empirical Analysis." **Journal of Educational Administration** 36: 334-352.

Waters, J., Marzano, R., & McNulty, B. 2003. **Balanced Leadership: What 30 year of Research Tells Us about the Effect of Leadership on Student Achievement.** Colorado: Mid-continent Research for Education and Learning.

Weber, J. 1996. "Leading the instructional program." In S. Smith & P. Piele. (eds.). **School leadership.** Oregon: Clearinghouse of Educational Management.