

A Causal Model of Enabling School Structure and School Mindfulness, Mediated by Academic Optimism, Affecting Student Achievement in Upper Secondary Education Schools under the Thailand Office of the Basic Education Commission

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Abstract

The purposes of this study were 1) to study levels of enabling school structure, school mindfulness and academic optimism that affect student achievement in upper secondary education schools under the Office of the Basic Education Commission in Thailand. 2) to develop and determine the concordance of a causal model of enabling school structure and school mindfulness, mediated by academic optimism, affecting student achievement in upper secondary education schools under the Office of the Basic Education Commission in Thailand. The data was collected by using questionnaires of grade 12 teachers under the office of the basic education commission. The participants consisted of 320 teachers from 64 schools. The statistics used in data analysis were descriptive statistics, correlation coefficient analysis, confirmatory factor analysis and structural equation model analysis. The finding revealed that 1) The level of enabling school structure, school mindfulness and academic optimism was high 2) a causal relationship model of enabling school structure and school mindfulness, mediated by academic optimism, affecting student achievement in upper secondary education schools under the Office of the Basic Education Commission in Thailand was consisted with the empirical data by considering on $\chi^2/df = 0.83$, GFI = 0.97, AGFI = 0.95, Standardize RMR = 0.04 and RMSEA = 0.00

Keywords: Enabling School Structure, School Mindfulness, Academic Optimism, Student Achievement

Introduction

Education in Thailand has driven achievement to enhance educational quality into international level by estimating the ordinary national educational test (O-NET) which held for grade 6th, 9th and 12th students in the five main subjects. The assessment is used to compare educational quality, to plan for educational management and to determine related policy. Student achievement is not only an important assessment in school but also an important evaluation for educational quality. However, the outcome of education in Thailand is still not satisfactory reflected by O-NET result. Therefore, the Office of the Education Council has decided to focus the 2017-2036 education plan quality development. One of educational framework is to develop student achievement.

For educational quality development, Hoy (2006b) believes that academic optimism affects student achievement significantly. Academic optimism has 3 elements which are related to each other; that are collective efficacy, faculty trust and academic efficacy. In addition, Seligman (1990, 1995) said that both optimism and pessimism from past experience can affect student achievement. Optimism relates to positive learning behavior such as commitment, good solution, and confidence. According to his research, he found that optimistic students are more successful than pessimistic students. Moreover, pessimistic students tend to be more unsuccessful later in life. Important factor which influences students' behavior and learning attitude is academic optimism. (Nolen-Hoeksema and Girgus, 1995) Research related to academic optimism has found that academic optimism influenced student achievement (Leigh, 2005; Hoy, 2006c; Friedman, 2007; Nelson, 2012; Hallmark, 2013)

Not only teacher is essential for student achievement but the roles of principals are also important. The research of Anderson (2012) studied the relationship between enabling school structure, academic optimism and student achievement. He found that enabling school structure, which is flexible both formulation and centralization, affects student achievement because enabling school structure focuses on enhancing low achievement. Many of identified research studies have found that student achievement is affected by enabling school structure mediated with academic optimism (Wu et al., 2012; Anderson, 2012; Messick, 2012). Moreover, after reviewing the relevant literature, it was found that school mindfulness is related to enabling school structure. Scarbbrough (2005) indicated that mindful schools are aware of their vision and operational mission, know their strengths and weaknesses, value each aspect of their school's population, and seek to utilize the expertise that is available to them. Therefore, school mindfulness is another part to help enabling school structure be more successful and positively affect to student achievement (Sims, 2011; May, 2016).

Literature Review

Student achievement is the Ordinary National Education Test score of grade 12th students which held by the National Institute of Educational Testing Service (Public Organization) to measure the level of knowledge in year 2016.

Academic optimism is the set of belief about strength and ability in school with three elements which interact with each other. There are collective efficacy, faculty trust and academic emphasis:

- 1) Collective efficacy means teacher beliefs about their own ability that he/she has good knowledge in responsible subject, be able to develop student's learning, manage classroom efficiently, motivate students to achieve their goals, encourage students to know, do the best with their own potential and be able to make students have good attitude with subject.

2) Faculty trust means teacher beliefs that parents and students can collaborate to develop student learning. Teachers believe that students have differences between individuals. Students can be developed by various methods and have their own responsibility to review and finish assigned lessons by themselves supported by their parents.

3) Academic emphasis means teachers emphasis on student's academic success. He/she focuses on teaching and using appropriate strategy for student's competence. Moreover, teachers use various instruction media, encourage positive motivation and create good learning environment to improve student's academic success.

Enabling school structure is school structure that enables both formalization and centralization by focusing on solving problems rather than punishment and stakeholders participate in making decision and collaborating. It consists of 4 elements which are rules and procedure, structure and size, principal behaviour and teacher behaviour:

1) Rules and procedure means teacher's attitude about school rules. He/she believes that school rules are useful for teaching and learning management. Rules can adjust appropriately depending on school and community contexts.

2) Structure and size means school structure has simple hierarchy. School administrators open two-way and informal communication with teachers and give them advice when teachers need.

3) Principal behaviours means school administrator behaviours that listen to teachers, respect in teacher professionalism and teacher expertise, use multiple perspectives in decision making, and be flexible in interpretation and application of rules.

4) Teacher behaviours means teacher belief in school administrators' knowledge, expertise and professionalism. He/she supports principal's work unquestionably.

School Mindfulness is school that always opens new information with various perspectives, looks at mistakes as chances, and anticipates problems to prevent following problems. School characteristics are flexible, creative and innovative. It is considered from five perspectives which are preoccupied with failure, reluctance to simplify interpretations, sensitivity to operations, commitment to resilience, and deference to expertise:

1) Preoccupied with failure means school administrators pay attention to work and problems then solve the problems immediately. They are willing to listen to every problem and prevent it from enlarging.

2) Reluctance to simplify interpretations means school administrators consider subtleties of problems before making decision. They understand, analyse, find multiple alternatives and select the best way to solve problems by using systematic plan.

3) Sensitivity to operations means school administrators are sensitive to operation both school operations and interpersonal relationships. They stay close to teaching and learning so that they can prevent possible trouble.

4) Commitment to resilience means the acceptance that no school is perfect, school administrators can adjust to new situation and change the ways to solve unexpected problems.

5) Deference to expertise means school administrators defer to expertise and not to authority. Leaders listen to those who are expert in specific issues and put the right man on the right job.

The concepts of this study are enabling school structure, school mindfulness, academic optimism and student achievement. Conceptual framework was built based on previous research that had been reviewed.

Smith and Hoy (2007) have shown that academic optimism predicts student achievement even controlling for socioeconomic status. Other relevant research includes "Examining the Relationship between Academic Optimism and Student Achievement: a Multi-Level Approach"

(2013) by Hallmark which points that academic optimism is a positive predictor of student math and reading achievement. In addition, “The Relationship between Academic Optimism and Academic Achievement in Middle Schools in Mississippi” (2012) by Nelson found that there was a significant positive relationship between teacher’s academic optimism and student’s academic achievement. Therefore, a key variable of this model is that academic optimism will predict student achievement.

Wu, Hoy, Tarter (2012) studied on “Enabling School Structure, Collective Responsibility, and a Culture of Academic Optimism toward a Robust Model of School Performance in Taiwan”. They found that enabling structure had significant indirect effects on student achievement through academic optimism. Enabling school structure can predict academic optimism directly and student achievement indirectly. In other words, although enabling school structure has no direct effect on student achievement, it influences academic optimism which finally affects to student achievement.

There has been less research on school mindfulness and student achievement. Some of the findings found that school mindfulness had significant relationship with academic optimism. “The Meaning and Measure of School Mindfulness: an Exploratory Analysis” (2003) by Gage found significant relationships between school mindfulness and both faculty trust in clients and collective efficacy. Further, as anticipated, faculty trust in the principal, enabling school structure and school mindfulness also yielded significant results. Sims (2011) also supported this idea by studied on “Mindfulness and Academic Optimism: a Test of their Relationship”. The results indicated that a significant reciprocal relationship exist between mindfulness and academic optimism. May (2016) extended the work linking school mindfulness with student achievement mediated by academic optimism. The exploration stated that mindfulness and academic optimism were positively correlated and had meaningful impact on student in school. Moreover, the outcomes from this study demonstrated that the greater the degree of a school’s mindfulness, the greater the degree of the school’s academic optimism. Since the research on school mindfulness and student achievement is less. I suspected and predicted that school mindfulness acted the same way as enabling school structure to influence academic optimism due to it was strongly related to each other (Tracy, 2007; Marshall, 2013; Watts, 2009). I predicted that school mindfulness would be indirectly related to student achievement through academic optimism but not a direct relation. From literature review can be summarized in a path model that will guide our analysis (see Figure 1).

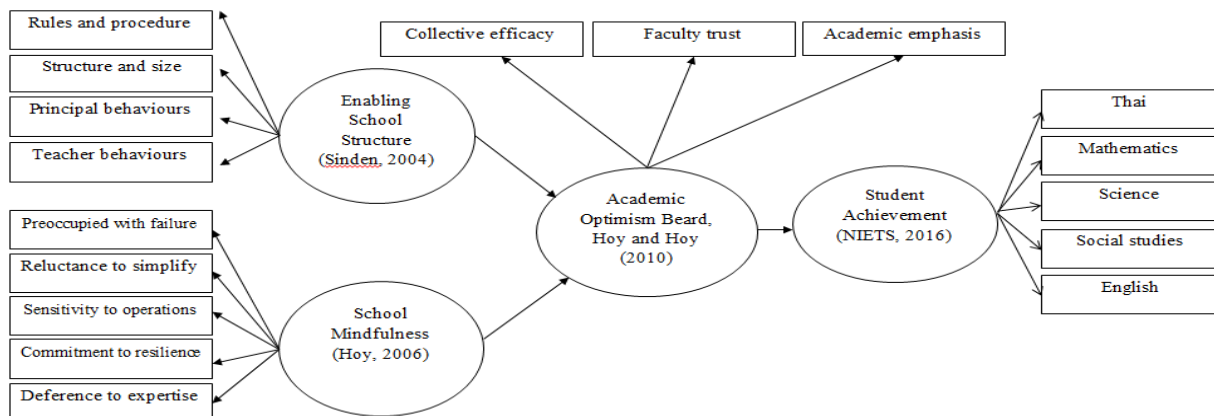


Figure 1 Theoretical framework’s Latent and Observable variables

Research Hypothesis

The hypotheses of this study are that

- 1) Academic optimism has a direct influence on student achievement in upper secondary education schools under the Office of the Basic Education Commission in Thailand.
- 2) Enabling school structure and school mindfulness have an indirect effect on student achievement in upper secondary education schools under the Office of the Basic Education Commission in Thailand, mediated by academic optimism.

Research Methodology

Sampling: This study was conducted using a descriptive survey as its methodology. The population was 905 teachers who teach grade 12th in schools under the Office of the Basic Education Commission in the school year 2016 that pass mean level of Ordinary National Education Test (O-NET) in 5 subjects; Thai, Mathematics, Science, Social studies and English. The sample consisted of 320 teachers from 64 schools selected by multi-stage random sampling.

Data Collection: The research instrument was a questionnaire comprised 79 likert-type items on 5 scales. A response of '1' indicated that the teacher strongly disagreed with the statement on the scale, and the response of '5' indicated that the teacher strongly agree with the statement on the scale. This questionnaire divided into four sections: 5 questions about teacher's demographic characteristics, 22 questions measuring enabling school structure, 26 questions measuring school mindfulness, and 26 questions measuring academic optimism.

The reliability of the instrument and the reliability coefficients using Cronbach's Alpha coefficient were found as follows: total reliability: 0.98, enabling school structure: 0.93, school mindfulness: 0.97, and academic optimism: 0.94. Hypothesis testing was conducted through SEM using the LISREL software package.

Research Results

The level of enabling school structure, school mindfulness and academic optimism that affect student achievement in upper secondary education schools under the Office of the Basic Education Commission in Thailand was high.

This study found that the level of enabling school structure, school mindfulness and academic optimism that affect student achievement in upper secondary education schools under the Office of the Basic Education Commission in Thailand was high. The average score of all levels was between 4.15 and 4.55 on a 5-point scale. The 'academic optimism' received at the highest scores, followed by enabling school structure and school mindfulness. The dimension enabling school structure that had the highest mean was teacher behaviors, followed by rules and procedure, principal behavior, and structure and size. The dimension school mindfulness that had the highest mean was sensitivity to operations, followed by commitment to resilience, deference to expertise, preoccupied with failure and reluctance to simplify interpretations. The dimension of academic optimism that had the highest mean was academic emphasis, followed by faculty trust and collective efficacy.

The causal model of enabling school structure and school mindfulness, mediated by academic optimism, affecting student achievement in upper secondary education schools under the Office of the Basic Education Commission in Thailand.

The SEM of causal model of enabling school structure and school mindfulness, mediated by academic optimism, affecting student achievement in upper secondary education schools under the Office of the Basic Education Commission in Thailand produced results that fit the empirical

data with the fit indices being: $\chi^2 = 69.59$, $df = 84$, $\chi^2/df = 0.83$, $RMSEA = 0.00$, $RMR = 0.04$, $GFI = 0.97$, $AGFI = 0.95$. This study analysed the relationship between enabling school structure, school mindfulness, academic optimism and student achievement through SEM. It found that all the study's research hypotheses were supported. Academic optimism has a direct influence on student achievement which is significant at the 0.05 level.

Enabling school structure and school mindfulness have an indirect effect on student achievement mediated by academic optimism. The causal relationship model between the variables is shown below in Figure 2.

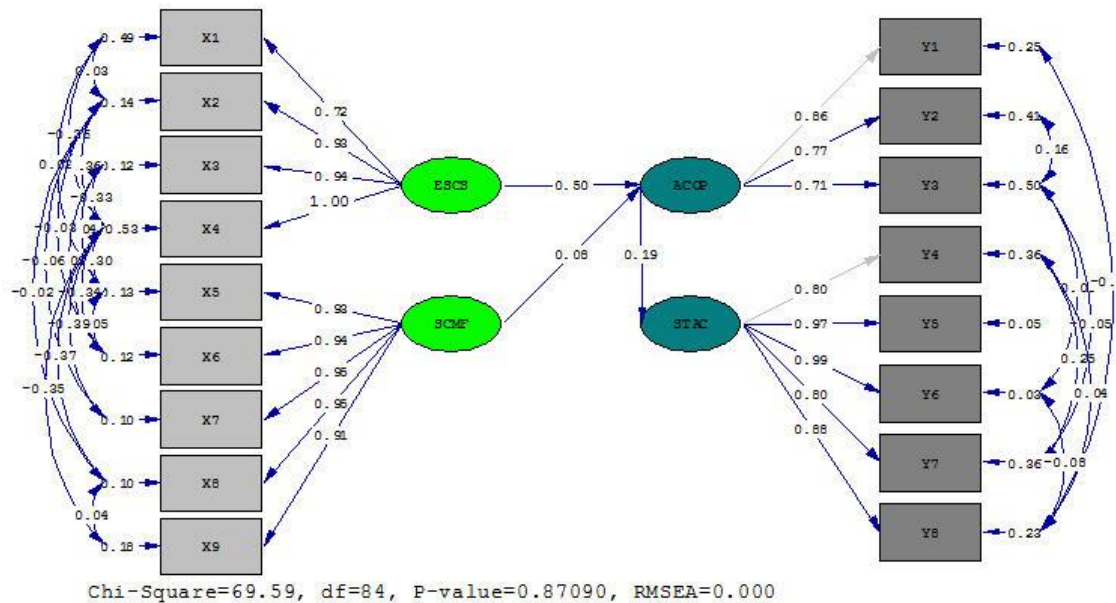


Figure 2 Structural Equation Model

Discussion and Conclusion

Academic optimism consisted of collective efficacy, faculty trust and academic emphasis which are the factors that support students to have higher achievements; especially collective efficacy that has 0.86 of factor loading. According to Chang (2011), he studied of the relationships between distributed leadership, teacher academic optimism and student achievement in Taiwanese elementary schools and found that academic optimism affected student achievement positively and significantly. In addition, he indicated that collective efficacy has the highest score. Nowadays, teacher is high competition career and has quality selection system in order to choose genius and talented person. Therefore, teachers who have high collective efficacy will set high challenging goal and develop themselves to reach that goal. After they succeed in individual level, they will set goal in organization level which is student achievement. Bandura (1993) also said that self-efficacy is the basic of collective efficacy. An individual values something on a personal level after that he/she can promote at the group level. If teacher efficacy is strong, it influences to student development and success. Moreover, people who have a high sense of efficacy will be successful because they visualized in positive way. On the other hand, people who have limited sense of efficacy and look at only problems cannot see possible success, they become not accomplished both individual and organization levels (Bandura, 1997).

The other element is faculty trust which has 0.77 of factor loading. Since school activities are organized to increase opportunities for parents to interact with teachers such as orientation, parent meeting etc. They can collaborate about student learning and achievement.

Hoy (2006a) suggested that school administrators should encourage teachers to trust in parents and students. School leaders should trust in parents and students as well by interacting with them, supporting teachers and parents to collaborate in various way.

Academic emphasis is the least element which has 0.71 of factor loading. Sampling population in this study are teachers in schools which have higher score than mean level of ordinary national education test in 5 subjects. School might focus on academic emphasis at last because students already have high responsibilities and strive for learning. Friedman (2007) found that high successful schools have high level of collective efficacy and faculty trust while low successful schools have higher level of academic emphasis than high successful schools. It is possible that low successful schools focus on academic to enhance student achievement as much as possible because it is a big gap between current and targeted success.

As Anderson (2012) indicated the relationship between academic optimism, enabling school structure and student achievement was related. Even though schools under the Office of the Basic Education Commission in Thailand are bureaucracy, school administrators use more participative management. Teachers participate in every step of operations in school. This is consistent with the study of Sindén (2004) and Leigh (2005) who found that school which has enabling structure, flexible rules and supporting teachers' work in all levels affect teachers to become happy, have good attitudes with their profession and finally become academic optimism enhancing student achievement. Moreover, Wu et al. (2012) indicated that enabling school structure mediated with academic optimism can increase student achievement. School structure can influence on teachers and students both positive and negative way. Enabling school structure promotes teachers' confidence that school supports them especially teaching and learning aspects. When teachers trust in school administrators, it becomes academic culture that has faculty trust, collective efficacy, and academic emphasis. This culture will motivate teacher and student goals more easily. Hoy (2006a) also suggested that academic leaders can use enabling school structure to develop academic optimism culture which facilitates academic capacity of students as well.

Sims (2011) studied about mindfulness and academic optimism: a test of their relationship. The objectives were examined to determine if a unique and significant relationship exist with one of these three properties of academic optimism. The result found that a significant relationship exist between mindfulness and academic optimism. Mindful leaders will support teacher's work, decrease possible problems, increase teacher's confidence especially efficient teaching because teachers rely on school administrators that they will help them solve problems. May (2016) studied the effects of individual and school mindfulness on the academic optimism in schools in north Alabama. The research result indicated that school mindfulness and academic optimism have positively relationship. The greater the degree of a school's mindfulness, the greater the degree of the school's academic optimism. They also affected student success in school significantly.

Recommendations

1) Established academic optimism culture in school: This study found that academic optimism has a direct influence on student achievement which is significant at the 0.05 level. Academic optimism is a composite of collective efficacy, faculty trust and academic emphasis and

interrelates with others. School administrators should establish academic optimism culture in school focusing on developing teachers about teaching techniques and knowledge, encouraging cooperation between teachers and parents about students' behaviour, assignment and achievement. Moreover, they should emphasis on academic environment such as innovation, academic competition, award for the best students.

2) Enhance academic optimism through enabling school structure: This study indicated that enabling school structure influenced academic optimism 50 percentages. School leaders should consider how to build enabling school structure in order to enhance academic optimism and student achievement. School administrators should enable teachers to work full potential by enabling teachers to work fast, solving the problems when teachers need, permitting teachers to participate in making decision. In addition, they should not only avoid punishment but also solve the problems. Therefore, teachers have more confident to teach and support student achievement.

Further Research

One of the purposes of this study is to find a causal model which affect student achievement. From this study, three variables could not explain all about student achievement. It shows that other variables might explain more about student achievement and it might lead to differently analyzed results. Different factors should be established to facilitate future research such as prior knowledge, socioeconomic status, student's behavior, school type.

References

- Anderson, K. 2012. **Examining Relationships between Enabling Structures, Academic Optimism and Student Achievement**. Ph.D. Dissertation, Auburn University.
- Bandura, A. 1993. "Perceived Self-Efficacy in Cognitive Development and Functioning. *Educational Psychologist* 28 (2): 117-148.
- _____. 1997. **Self-Efficacy: The Exercise of Control**. New York: Freeman.
- Chang I. 2011. "A study of the relationships between distributed leadership, teacheracademic optimism and student achievement in Taiwanese elementary schools." **School leadership and Management** 31 (5): 491-515.
- Friedman, M. 2007. **Academic Optimism in High Schools**. Ph.D. Dissertation, Cleveland State University.
- Gage, C. 2003. **The Meaning and Measure of School Mindfulness: an Exploratory Analysis**. Ph.D. Dissertation, Ohio State University.
- Hallmark, B. 2013. **Examining the Relationship between Academic Optimism and Student Achievement: a Multi-Level Approach**. Ph.D. Dissertation, Texas A&M University.
- Hoy, W. 2006a. "Principal Leadership: Creating a Culture of Academic Optimism to Improve Achievement for All Students." **Leadership and Policy in Schools** 5: 203-229.
- _____. 2006b. "Academic Optimism of Schools: A force for Student Achievement." **American Educational Research journal** 43 (3): 425-446.
- Leigh, M. 2005. **The Role of Enabling Bureaucracy and Academic Optimism in Academic achievement Growth**. Ph.D. Dissertation, Ohio State University.
- Marshall, P. 2013. **The Effects of Individual and School Mindfulness on the Academic Optimism in schools in North Alabama**. Ph.D. Dissertation, University of Alabama.
- May, J. 2016. **The Effects of Individual and School Mindfulness on the Academic Optimism in Schools in North Alabama**. Ph.D. Dissertation, University of Alabama.

- Messick, P. 2012. **Examining Relationships among Enabling School Structures, Academic Optimism and Organizational Citizenship Behaviors**. Ph.D. Dissertation, Auburn University.
- Nelson, L. 2012. **The Relationship between Academic Optimism and Academic Achievement in Middle Schools in Mississippi**. Ph.D. Dissertation, University of Southern Mississippi.
- Nolen-Hoeksema, S. and Girgus, J. 1995. **Explanatory Style and Achievement, depression, and Gender Differences in Childhood and Early Adolescence**. New Jersey: Lawrence Erlbaum Associates.
- Scarbbrough, C. 2005. **Aspects of School Mindfulness and Dimensions of Faculty Trust: Social Processes in Elementary Schools**. Ph.D. Dissertation, University of Texas at San Antonio.
- Seligman, M. 1990. **Learned optimism**. New York: Pocket Books.
- _____. 1995. **The optimism child**. Melbourne: Random House.
- Sims, R. 2011. **Mindfulness and Academic Optimism: a Test of their Relationship**. Ph. D. Dissertation, University of Alabama.
- Sinden, J. 2004. "An Analysis of Enabling School Structure Theoretical, Empirical, and Research Considerations." **Journal of Educational Administration** 42 (4): 462-478.
- Smith, P. and Hoy, W. 2007. "Academic optimism and student achievement in urban elementary schools." **Journal of Educational Administration** 45 (5): 556-568.
- Tracy, S. 2007. **Mindfulness and Enabling Structure as Enabling Structure as Predictors of School Effectiveness**. Ph.D. Dissertation, St.John's University.
- Watts, D. 2009. **Enabling School Structure, Mindfulness, and Teacher Empowerment: Test of a theory**. Ph.D. Dissertation, University of Alabama.
- Wu, J., Hoy, W., & Tarter, J. 2012. "Enabling school structure, collective responsibility, and a culture of academic optimism toward a robust model of school performance in Taiwan." **Journal of Educational Administration** 51 (2): 176-193.