

Research Article

NEEDS OF SECONDARY SCHOOL DEVELOPMENT FOR TEACHING EFFECTIVENESS BASED ON THE CONCEPT OF STUDENT GROWTH

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Abstract

This study sought to investigate the needs of secondary school development for teaching effectiveness based on the concept of student growth. Therefore, it aims to 1) study the level of needs for teaching effectiveness development methods and 2) identify the needs level of secondary school development for teaching effectiveness based on the concept of student growth. 516 teachers were participated, and a set of validated questionnaires were used to explore the needs for teaching effectiveness based on the concept of student growth. The study revealed that 1) the highest level of needs for the methods of teaching effectiveness development was “mentoring” followed by “training”, “coaching”, and “supervision and evaluation” and 2) the needs level of secondary school development for teaching effectiveness based on the concept of student growth was “mentoring” intending to “executing an effective classroom”, followed by “encouraging a desirable classroom environment” teaching effectiveness.

Keywords: Student Growth, Teaching Effectiveness, Teacher Development

Introduction

Global education reform and education management have considered reducing summative student academic performance assessments to focus more on the growth of each student's academic development and desirable characteristics while in class in order to perceive 21st century student characteristics. Student growth means as the outcomes of student's learning change, both in academic progress and as parallel to students' desirable characteristics of the society while attending class with the teacher. However, the growth of the student could not have occurred on its own. The teacher is the key to compelling students to change, develop, and experience progress in learning. It can be stated that student growth also reflects the teacher's effectiveness in teaching (Texas Education Agency, 2017). An effective teacher will improve student learning, resulting in students' increasing both academic progress and desired characteristics, and continuing success towards their goals (Howard, 2013).

Thus, the quality of the teacher, particularly a teacher at the secondary school level, is critical because a quality teacher will affect students' learning efficiency (Coenen et al., 2018), as secondary school is regarded as a period of high potential for learning to the student while also gaining essential life skills and soft skills to influence the society of the future. However, many secondary school students drop out at this point, driven away by the prospect of a high-stakes assessment, drawn in by the undesirable characteristics of society, or turned off by the academic challenge that eroded their belief in their ability to learn (ONEC, 2018). In addition to that, educators and policymakers should employ and take serious consideration of secondary school teachers for teaching effectiveness while encouraging student growth (Hanushek, 1992; Sanders et al., 1997).

Furthermore, developing teaching effectiveness in terms of behavior, teaching, and learning management processes is required for secondary school teachers in order to perform and exhibit effective teaching. Moreover, recognizing the needs of secondary school development for teaching effectiveness based on the concept of student growth would result in the significant state to implement and strengthen teaching effectiveness development programs. Eventually, as a result, teachers will develop their knowledge, skills, expertise, and desirable behaviors, resulting in changed and increased work efficiency in related fields and to covey a direct impact on the student, resulting in student change and student growth (Lachlan-Haché & Castro, 2015; MOE, 2020).

Research Objectives

This study aims to 1) study the level of needs for teaching effectiveness development methods and 2) identify the needs level of secondary school development for teaching effectiveness based on the concept of student growth.

Literature Review

The proposal of student growth and teaching effectiveness can be traced back to 2001 and 2004 when the United States of America declared the No Child Left Behind (2002) act to reduce the gap in learning among students. Since then, the act has been expanded to new, drastic changes concerning measuring the students' type of learning (Olsen, 2015). According to Walsh and Isenberg (2015), many studies have identified "student growth" as the progress of academic development occurring with the student at two specific points, mainly at the beginning and end of their study (Betebenner & Linn, 2010). The benefit of student growth could be used to determine and assess the teacher's teaching effectiveness (McCoach & Colbert, 2010). Because teaching effectiveness involves and influences the development of student growth, effective teaching demonstrates the emergence and change in academic outcomes as well as desired student behaviors. (Castellano & Ho, 2013; Hull, 2007; Jennings & DiPrete, 2010).

Teaching effectiveness is the process of delivering knowledge, skills, and attitudes to encourage students to experience significant development (Oyedeffi, 2019). When teachers utilize and deliver these teaching values through the students (Ogunyemi, 2000), we call it effective teaching or teaching effectiveness (Dash & Barman, 2016).

Teaching effectiveness development thus employs and relies on the personnel development models of McClelland (1973) and amended by Parry (1998) to authentically improve knowledge (K), skills (S), and attitude (A)

for the sake of a teaching effectiveness development program and to maximize the high potential of teaching (Choosuwan & Vanitsupavong, 2007). The development model should consist in the broader areas of 1) activity tasks experience, 2) hands-on practical experience, and 3) ongoing supervision and evaluation (Anderson, 2004; Darling-Hammond et al., 2017).

According to the observations mentioned above, teaching effectiveness development should cover all the processes—training, mentoring, coaching, and supervision and evaluation, which are powerful methods to be administered for teaching effectiveness development in order to develop knowledge, skills, and attitudes, as well as to encourage teacher's improvement of the teaching effectiveness, respectively.

The Conceptual Framework

The conceptual framework rests on the research of student growth that seeks to produce student-learning outcomes in connection with the teacher. The conceptual research framework emphasizes the development of teaching effectiveness consisting of 1) exerting the use of appropriate instructional method, 2) encouraging a desirable classroom environment, 3) engaging and analyzing student learning processes, 4) executing an effective classroom, and 5) expertise in knowledge of teaching (Barry, 2010; Ko & Sammons, 2013; Sammons & Bakkum, 2011; Tripod Education Partners, 2017), parallel to the emergence of student growth—the amount of change in (a student's) academic progress during his or her time with a particular teacher, and the amount of change in (a student's) desirable characteristics during his or her time with a particular teacher (Betebebenner & Linn, 2010; Blazar & Kraft, 2017; Castellano & Ho, 2013; Farrington et al., 2012; Gutman & Schoon, 2013; Hull, 2007; Jennings & DiPrete, 2010; Leininger, 2019; MOE, 2020; Olsen, 2015; Ruzek et al., 2015). The teaching effectiveness development method consists of the variants of 1) training, 2) mentoring, 3) coaching, and 4) supervision and evaluation (OBEC, 2019).

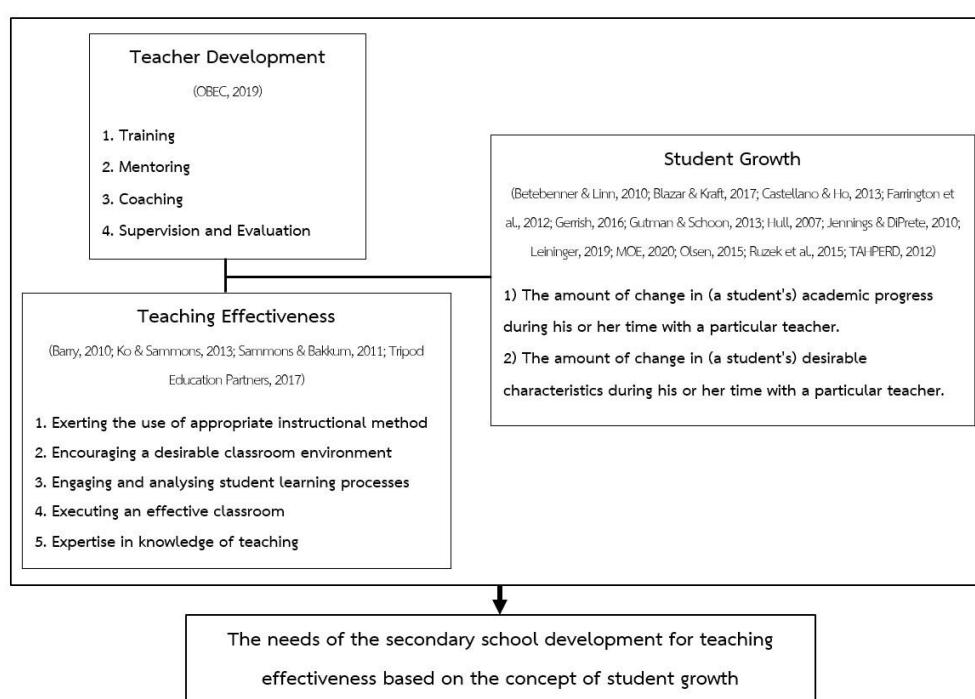


Figure 1 Conceptual Framework

Research Methodology

Participants

The participants were teachers recruited from a sample group of different Thai government secondary schools nationwide. The multi-stage random sampling selected a sample group of 341 schools. Stratified random sampling was then employed to classify the sample group into different regions based on the number of enrolled students in the school according to the OBEC, consisting of 83 small-sized schools, 85 medium-sized schools, 86 large-sized schools, and 87 extra-large-sized schools, in company with eight different learning departments.

Instruments

The instrument was a questionnaire consisting of four sections representing four dimensions of teaching effectiveness development based on the concept of student growth. Section 1 presents general information of the participants with a checklist evaluation. Section 2 presents internal factors causing the current and desirable needs of the secondary school development for teaching effectiveness based on the concept of student growth. Section 3 presents the external factors, including political, economic, socio-cultural, and technological factors. A 5-point Likert scale presenting in two tabular forms was employed in section 2 and section 3. All indicators were on a rating scale with 1 for *strongly disagree*, and 5 for *strongly agree*. Section 4 presents comments regarding the study. Five experts reviewed the content-validity questionnaire. The calculated IOC values were 0.86–1.00. The reliability test of the questionnaire was 0.99 (Cronbach's alpha coefficient).

Data Collection

The questionnaire was utilized afterward to obtain the data from the research participants. The questionnaire was administered to selected secondary schools nationwide from June 2021 by postal mail onwards. The data collected from the respondents has been implemented as of the end of August 2021. 516 responses were collected with a recovery rate of 75.66 percent according to the confidence interval of Yamane (1976) sample size formula.

Data Analysis

The data obtained from the questionnaire were statistically analyzed using the Statistical Package for Social Science (SPSS) in teaching effectiveness based on the concept of student growth, in parallel with emerging student growth, and the teaching effectiveness development methods. Descriptive statistics were primarily employed to describe a tabular figure, and details from the data following average (\bar{X}) and standard deviation (S.D.) to investigate and classify the relation of teaching effectiveness and student growth. Then a priority need index, modified (PNI_{Modified}) (Wongwanich, 2015) was employed in the formulation of $PNI_{Modified} = (I - D)/D$. I represents the desirable needs and D represents current needs to classify the current and desirable needs of secondary school development for teaching effectiveness based on the concept of student growth is as follows: high and low according to the level of the Needs Analysis.

Result

The subsequent analyzed data of the needs of secondary school development for teaching effectiveness based on the concept of student growth are reported, as illustrated in Table 1.

Table 1 The needs of secondary school development for teaching effectiveness based on the concept of student growth addressing teaching effectiveness development

Secondary school development for teaching effectiveness based on the concept of student growth	Current		Desirable		Needs		
	\bar{X}	S.D.	\bar{X}	S.D.	Level	Rank	PNI _{Modified}
1. Training	3.91	0.62	4.51	0.61	High	2	0.153
1.1 Exerting the use of appropriate instructional method	3.86	0.59	4.53	0.58	High	(1)	0.174
1.2 Encouraging a desirable classroom environment	3.91	0.62	4.51	0.61	Low	(2)	0.153
1.3 Engaging and analyzing student learning processes	3.92	0.62	4.50	0.63	Low	(4)	0.148
1.4 Executing an effective classroom	3.94	0.62	4.50	0.61	Low	(5)	0.142
1.5 Expertise in knowledge of teaching	3.94	0.64	4.53	0.60	Low	(3)	0.150
2. Mentoring	3.80	0.71	4.41	0.67	High	1	0.159
2.1 Exerting the use of appropriate instructional method	3.82	0.71	4.42	0.67	Low	(4)	0.157
2.2 Encouraging a desirable classroom environment	3.80	0.70	4.41	0.69	High	(2)	0.161
2.3 Engaging and analyzing student learning processes	3.79	0.72	4.39	0.70	Low	(3)	0.158
2.4 Executing an effective classroom	3.81	0.70	4.43	0.65	High	(1)	0.163
2.5 Expertise in knowledge of teaching	3.80	0.72	4.39	0.66	Low	(5)	0.155
3. Coaching	3.94	0.66	4.49	0.62	Low	3	0.140
3.1 Exerting the use of appropriate instructional method	3.92	0.67	4.47	0.63	High	(3)	0.140
3.2 Encouraging a desirable classroom environment	3.95	0.66	4.50	0.61	Low	(4)	0.139
3.3 Engaging and analyzing student learning processes	3.93	0.65	4.49	0.62	High	(2)	0.142
3.4 Executing an effective classroom	3.94	0.67	4.51	0.63	High	(1)	0.145
3.5 Expertise in knowledge of teaching	3.97	0.67	4.50	0.63	Low	(5)	0.134

Secondary school development for teaching effectiveness based on the concept of student growth	Current		Desirable		Needs		
	\bar{X}	S.D.	\bar{X}	S.D.	Level	Rank	$PNI_{Modified}$
4. Supervision and Evaluation	3.96	0.72	4.5	0.64	Low	4	0.137
4.1 Exerting the use of appropriate instructional method	4.01	0.71	4.50	0.65	Low	(5)	0.122
4.2 Encouraging a desirable classroom environment	3.89	0.74	4.51	0.63	High	(1)	0.159
4.3 Engaging and analyzing student learning processes	3.92	0.74	4.51	0.63	High	(2)	0.151
4.4 Executing an effective classroom	4.00	0.76	4.49	0.68	Low	(4)	0.123
4.5 Expertise in knowledge of teaching	3.97	0.67	4.49	0.62	Low	(3)	0.131
Total	3.90	0.68	4.48	0.64	High	-	0.150

To study the level of needs for teaching effectiveness development methods, the highest priority needs was at $PNI_{Modified} = 0.159$, indicating priority needs level of mentoring as a method of teaching effectiveness development in Thai secondary schools followed by training ($PNI_{Modified} = 0.153$), coaching ($PNI_{Modified} = 0.140$), and supervision and evaluation ($PNI_{Modified} = 0.137$), respectively.

Considering the needs analysis for teaching effectiveness based on the concept of student growth, the study showed that the priority needs of the secondary school development was 1) mentoring, indicating a priority needs level of executing effective classroom ($PNI_{Modified} = 0.163$) followed by encouraging a desirable classroom environment ($PNI_{Modified} = 0.161$); 2) training, indicating a priority needs level of exerting use of appropriate instructional method ($PNI_{Modified} = 0.174$); 3) coaching, indicating a priority needs level of executing the effective classroom ($PNI_{Modified} = 0.145$) followed by engaging and analyzing student learning processes ($PNI_{Modified} = 0.142$) and exerting use of appropriate instructional method ($PNI_{Modified} = 0.140$); 4) supervision and evaluation, indicating a priority needs level of encouraging a desirable classroom environment ($PNI_{Modified} = 0.159$); followed by engaging and analyzing student learning processes ($PNI_{Modified} = 0.151$), respectively.

Discussion and Conclusion

1. To study the level of needs for teaching effectiveness development methods.

The findings illustrated that mentoring is the priority needs of teaching effectiveness development as mentoring is regarded as one of the most salient tasks, focusing on the relationship between two people in order to deliver and share broadening of knowledge, experience, and valuable advice, as well as maximizing teaching potential through the interaction task and support from the expert on development in order to encourage teacher to gain appropriate teaching behaviors through the development program. (OBEC, 2019). As stated by Narintarangkul-Na-Ayudhaya (2018), the crucial element of a new paradigm of Thai teacher development must be broadened not only knowledge from the training but also the teacher's experience, notably mentoring, in all aspects to raise the highest competency and effectiveness of teaching. However, 2) training aims at the activities that intend to immerse teachers

with knowledge, skills, and attitudes towards the development of teaching effectiveness (OBEC, 2019). In addition, the methods of teaching effectiveness could not wholly be accomplished by this mandatory method. 3) Coaching, therefore, occurs along with mentoring by advising, leading, and encouraging teachers to implement and utilize their knowledge acquired from the development program (OBEC, 2019). Meanwhile, supervision and evaluation, on the one hand, has also been the beneficial method for the teaching effectiveness development program in terms of reflecting and providing additional advice to all the teachers in the development program with different types of approaches in order to assist the teachers, determine the problems, and reflect the development program's outcomes. Therefore, organizing the teaching effectiveness development program should consider mentoring as a priority method to develop the quality of the teacher in terms of behavior, teaching, and learning management. Also teaching effectiveness development program should utilize the rest of the methods mentioned earlier as an authentic requirement. Eventually, as the final stage of the program, teachers will develop their knowledge, skills, expertise, and desirable behaviors, resulting in changed and increased work efficiency in related fields and to covey a direct impact on the student, resulting in student change and student growth.

2. To identify the needs level of secondary school development for teaching effectiveness based on the concept of student growth.

According to four methods of teaching effectiveness development, five of teaching effectiveness based on student growth have been demonstrated and can be identified as follows.

The highest needs for teaching effectiveness based on mentoring mentioned above include 1) executing the effective classroom; the teacher should participate and also consider performing classroom tasks or practices effectively, caring for the students in the classroom (Barry, 2010; Ko & Sammons, 2013; Sammons & Bakkum, 2011), observing their discipline, respect, and behavior in the classroom, supervising and ensuring that students are participating in their learning journey, and demonstrating their "efforts in" with their learning tasks (Tripod Education Partners, 2017).

In addition, 2) encouraging a desirable classroom environment. Teachers should demonstrate hope in the classroom and maintain relationships with students (Barry, 2010; Sammons & Bakkum, 2011). Teachers should also foster a positive environment in the classroom by emphasizing positive teacher-student relationships, communicating with students from various perspectives (Ko & Sammons, 2013), providing support when needed, demonstrating empathy by being a good listener, providing inspiring communication, and allowing for student divergence (Tripod Education Partners, 2017).

Furthermore, 3) engaging and analyzing student learning processes. Teachers should authentically pay close attention to student development, both academically and mentally (Barry, 2010; Tripod Education Partners, 2017), closely track the process and the outcomes of each student's learning, use appropriate measuring platforms, formally and informally evaluate students, and continuously reflect on the student's results. As a result, the student could develop themselves in their field of learning to meet their expectations and achieve higher academic achievement (Ko & Sammons, 2013; Sammons & Bakkum, 2011).

Moreover, 4) exerting the use of appropriate instructional method could also lead teachers to select the appropriate strategies, the practice of instruction and the presentation in order to perform targeted and lively instruction that is suitable for the needs of the student (Sammons & Bakkum, 2011; Tripod Education Partners, 2017).

As four characteristics of teaching effectiveness has been demonstrated as mentioned above, teaching effectiveness could not entirely successfully drive students to meet student growth outcomes without requiring knowledge of the teacher (Afe, 2003). On the other hand, 5) expertise in knowledge of teaching is required. Teaching effectiveness regarding knowledge is also mandatory for the development of teaching effectiveness. As a teacher is labeled an expert, the teacher must be an expert or deliver precise content that will encourage student learning potential. Teachers should also understand related subjects, demonstrate knowledge of the content, curriculum, and methods by conveying the targeted content, integrating cross-content teaching with other relevant subjects. In addition, the teacher should also consider utilizing professional teaching materials to ensure that students will be able to increase and acquire clarity, which will enable a change in academic progress parallel to the desired characteristic of the student growth (Anderman & Young, 1994; Ko & Sammons, 2013).

Overall, the highest priority needs method for teaching effectiveness development is mentoring with the priority needs of teaching effectiveness in executing an effective classroom and encouraging a desirable classroom environment. However, performing all methods and teaching effectiveness practices simultaneously could be essential to development, resulting in effective teaching and student growth.

Recommendations for further study

Thus, this study faces a limitation concerning the number of recovered surveys, which was limited to the researcher being able to maximize the highest confidence level concerning the precise value of the study. Thus, the different school environments, social factors, economy, and government policy also matter, affecting the needs of the secondary school development for teaching effectiveness based on the concept of student growth. Suggestions for using this study should consist of the following;

1. Policymakers should pay more attention to teacher development and student growth to improve the education quality and improve significant student growth.
2. School administrators should prioritize developing teachers related to student growth by enacting a development program or teacher networks to share ideas and practices to improve effective practices and to build up teaching effectiveness and student growth outcomes.
3. Teachers should consider performing best teaching practices and motivating the students in a welcoming learning atmosphere by understanding and treating each student with heart, more than just a routine.

However, future research may be needed to: 1) seek to implement teaching effectiveness development programs regarding assessing student growth; 2) explore the relationship between teaching effectiveness and student growth using measurement tools or student growth rubrics; and 3) employ 21st-century innovations to authentically accommodate the teaching effectiveness development program and enhance students in raising their growth adequately.

References

- Afe, J. (2003). Teacher effectiveness: Imperative for implementing universal basic education in Nigeria. *Journal of Nigeria Academy of Education*, 1(1), 1-9.
- Anderman, E. M., & Young, A. J. (1994). Motivation and strategy use in science: Individual differences and classroom effects. *Journal of research in science teaching*, 31(8), 811-831.
- Anderson, L. (2004). *Increasing teacher effectiveness*. Francia: UNESCO International Institute for Educational Planning.
- Barry, R. (2010). *Teaching effectiveness: Why it matters*. Marylhurst, OR: Marylhurst University.
- Betebeenner, D. W., & Linn, R. L. (2010). *Growth in student achievement: Issues of measurement, longitudinal data analysis, and accountability*. Retrieved from <http://www.k12center.org/publications.html>
- Blazar, D., & Kraft, M. A. (2017). Teacher and teaching effects on students' attitudes and behaviors. *Educational Evaluation and Policy Analysis*, 39(1), 146-170.
- Castellano, K. E., & Ho, A. D. (2013). *A practitioner's guide to growth models*. Washington, DC: Council of Chief State School Officers.
- Choosuwan, R., & Vanitsuppavong, P. (2007). *A causal relationship model of personal competency affecting effectiveness of educational service area office in the three southern border provinces* (Doctoral dissertation). Pattanee: Prince of Songkla University.
- Darling-Hammond, L., Hyler, M. E., & Gardner, M. (2017). *Effective teacher professional development*. Palo Alto, CA: Learning Policy Institute.
- Dash, U., & Barman, P. (2016). Teaching effectiveness of secondary school teachers in the district of purba medinipur, west bengal. *IOSR Journal of Humanities and Social Science*, 21(7), 50-63.
- Farrington, C. A., Roderick, M., Allensworth, E., Nagaoka, J., Keyes, T. S., Johnson, D. W., & Beechum, N. O. (2012). *Teaching adolescents to become learners. The role of noncognitive factors in shaping school performance: A critical literature review*. Chicago: University of Chicago Consortium on Chicago School Research.
- Gutman, L. M., & Schoon, I. (2013). *The impact of non-cognitive skills on outcomes for young people* (pp. 1-5). London: Education Endowment Foundation. Leading Education and Social Research.
- Howard, M. (2013). *Using student growth data to improve teaching and learning*. Retrieved from <https://www.sdpbc.org/>
- Hull, J. (2007). *Measuring student growth: A guide to informed decision making*. Alexandria, VA: Center for Public Education.
- Jennings, J. L., & DiPrete, T. A. (2010). Teacher effects on cultural capital development in elementary school. *Sociology of Education*, 83, 135-159.
- Ko, J., & Sammons, P. (2013). *Effective Teaching: A Review of Research and Evidence*. ERIC.
- Lachlan-Haché, L., & Castro, M. (2015). *Proficiency or growth? An exploration of two approaches for writing student learning targets*. Washington, DC: American Institutes for Research.

- Leininger, D. (2019). *Assessing teacher practice and effect on student growth mindset and grit* (Doctoral dissertation). Terre Haute, IN: Indiana State University.
- MOE. (2020). *The Basic Education Core Curriculum B.E. 2551 (A.D. 2008)*
- Narintarangkul Na Ayudhaya, S. (2018). Paradigm, model and mechanism for area-based teacher development. *Educational Management and Innovation Journal*, 1(3), 82-100.
- No Child Left Behind. (2002). Act of 2001, Pub. L. No. 107-110, § 115. *Stat*, 1425(6).
- OBEC. (2019). *Handbook of educational office area; Supervision Monitoring and Evaluation for Educational Provision Group*.
- Ogunyemi, A. O. (2000). *Concepts in teaching and learning methods teaching effectiveness in Nigeria schools* edited by S.Y Erinosho, A. Adesanya and A. Ogunyemi.
- Olsen, J. R. (2015). *Illinois teacher evaluation student growth component: A predecision-making policy analysis*. Normal, IL: Illinois State University.
- ONEC. (2018). *Education in Thailand 2018*. Bangkok: Office of the Education Council
- Oyedele, N. B. (2019). *Management in education: Principles and practice*. London: LAP LAMBERT Academic Publishing.
- Ruzek, E. A., Domina, T., Conley, A. M., Duncan, G. J., & Karabenick, S. A. (2015). Using value-added models to measure teacher effects on students' motivation and achievement. *The Journal of Early Adolescence*, 35(5-6), 852-882. <https://doi.org/10.1177/0272431614525260>
- Sammons, P., & Bakkum, L. (2011). Effective schools, equity and teacher efficacy: A review of the literature. *Profesorado, revista de curriculum y formacion del profesorado*, 15(3), 9-26.
- Texas Education Agency. (2017). *Guidance on student growth in T-TESS*. Retrieved from https://teachfortexas.org/Resource_Files/Additional_Resources/Guidance_on_Student_Growth_in_T-TESS.pdf
- Tripod Education Partners. (2017). *The tripod 7Cs of effective teaching an overview*. Retrieved from <https://static.battelleforkids.org/documents/Tulsa/Tripod-Student-Survey-7C-Overview.pdf>
- Walsh, E., & Isenberg, E. (2015). How does value added compare to student growth percentiles? *Statistics and Public Policy*, 2(1), 1-13.
- Wongwanich, S. (2015). *Needs assessment research* (3rd ed.). Bangkok: Chulalongkorn University Press.
- Yamane, T. (1976). *Statistics: An introductory analysis* (2nd ed.). New York: Harper and Row Publications.