Professional Learning Community in the Improvement of Student Learning Achievement in a Demonstration School

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Abstract

The purposes of the study were to investigate the effects of a professional learning community (PLC) on Thai demonstration school students' grade point averages and to study and to study students' satisfaction with the professional learning community to improve their grade point averages. The participants were 107 students in a demonstration school in Thailand who were selected from 1,770 populations in the school as they had lower GPAs than 2.0 in the 4 maximum point system. 107 student caretakers, 89 teachers, and 12 administrators in the same schools also took part in the PLC. The purposive sampling method was used. The instruments were a professional learning community plan and a satisfaction questionnaire. The data were collected during the 2020 academic year. The statistics used in

data analysis include percentage, mean score, standard deviation, and a paired samples t-test. It was found that the collaboration between student representatives, parents, teachers, and school management results in extracurricular activities that benefited their learning attitudes and learning achievement. The result could be implicated in educational management as it exemplifies how a professional learning community is formed to serve students' interests.

Keywords: Professional learning community, Demonstration schools, Educational management

1. Introduction

In the 21st century, the world was impacted by a capitalist economy in which most countries permit competition in commerce and market. It cannot be denied that capitalism produces inequity among people in society (Lidan, 2013), even though it can stifle human capacity for invention and technological advancement. In education, the disparity between the wealthy and the poor also affects a student's future quality of life. Particularly in underdeveloped nations, the disparity between public and private schools in terms of budget, instructional materials, and learning atmosphere should be highlighted (Crawfurd & Hares, 2021). In addition to teaching quality, sensitivity to vulnerable behaviors, the social connection among peers, and the possibility to participate in extracurricular activities may increase students' life opportunities in two distinct educational environments (Day Ashley et al., 2014).

Even in the more beneficial atmosphere of private school, however, there are instructional and learning issues. As human development is a complex process, it is important to note that the quality of teaching materials and teachers' qualifications do not guarantee pupils' skill development (Frenette & Chan, 2015). Individual needs appear to play a significant part in education, and it is difficult to create an educational environment that might satisfy all individuals. Therefore, regardless of the amount spent on a system's budget, there will always be students who cannot meet academic objectives and fail to attain learning outcomes. For instance, 15 percent of private school graduates in the United States did not enroll in higher education (Richardson, 2016). Even if it could be deemed a modest quantity, learning management should be upgraded to serve all students enrolled in that education program. No one should be left behind by the system.

On a contextual level, however, the distinction between the quality of private and public schools in Thailand is unclear. To illustrate, government schools in urban and suburban locations can accommodate thousands of children. They receive a substantial amount of budget money that might be used to fund amenities such as computer labs, native-speaking instructors, laboratories, libraries, high-speed Internet, etc. In the meantime, small and medium-sized schools in rural areas get minimal resources, limiting their educational quality. According to Cogan (2022), inequality in Thai education is caused by the budget structure that permits schools in areas with more population and economic strength to receive more funding. This difference in education amongst public schools is one of the most significant issues in Thai education. Comparatively, private schools in Thailand could range from high-end international standard institutions to low-cost schools that serve middle-class parents. The quality of facilities and personnel is also contingent on tuition prices. Therefore,

it appears that finance and resources are the most important factors affecting the quality of education in Thailand, independent of school status.

A demonstration school is an elementary or secondary school operated in partnership with a university, college, or other institution of teacher education to educate future teachers, undertake educational research, and promote professional development (Stahl et al., 2018). The concept of demonstration schools was first implemented in Thailand in 1892, and demonstration schools are currently in operation at most universities in the country (Fahrungsang, 1996). Also unknown is the status of demonstration schools in Thailand. To clarify, governments invest in infrastructures such as buildings and surrounds. However, schools collect Tuition fees which are used to cover expenses such as personnel and extracurricular activities. Consequently, it can be assumed that demonstration schools intend to serve upper-middle-income to high-income families who can afford facilities such as cell phones, tablets, tutors, and adequate transportation for their children. Consequently, it is also possible to deduce that issues in demonstration schools are associated with learner factors.

It should be noted that the development of learners in the context of demonstration schools is a complex process. Even though they are treated through educational facilitation and financial readiness, failure in achieving expected outcomes of learning still exists. Therefore, it needs the cooperation of stakeholders to understand the problems and come up with the appropriate solutions to improve the situation. The development of a professional learning community (PLC) is a continuous and on-demand problem-solving process that allows learners, teachers, parents, and administrators to collaboratively resolve problems (DuFour, 2004). According to Hoover and Love (2011), PLC is a group of stakeholders who develop timely, intervention-based answers to student challenges to faithfully execute high-quality, evidence-based practices. In PLCs, teachers learn from their students, colleagues, and supervisors and become a community focused on implementing new ideas and methods customized to their talents and capacities to respond to contextual needs (Wood, 2007).

Hord (1997) presented one of the influential models to illustrate how a professional learning community is designed and beneficial to a specific context. The model focused on shared vision and mission, leadership sharing and supportive leadership, collective learning and learning application, personal practice sharing, and organization support. In detail, Members can build a professional learning community with a shared vision and goal. All stakeholders should work to increase student learning achievement. PLC has positive leadership impacts when school officials and teachers share tasks and responsibilities. The leadership of school administrators, department heads, and department representatives may help distribute authority effectively, achieving the school's goal. PLCs require school-wide learning, allowing teachers and administrators to learn continuously and collectively during PLC growth. Teachers should share personal practices with peers to learn and progress. Cooperation between teachers should provide a relevant and informative learning environment where feedback may be given fairly based on students' needs, interests, and talents. Interpersonal ties and school structure may be crucial to PLC development. As the strategy emphasizes staff collaboration, teaching staff camaraderie may enable a collaborative organization. Schools should foster staff ties. A systematized work atmosphere could help
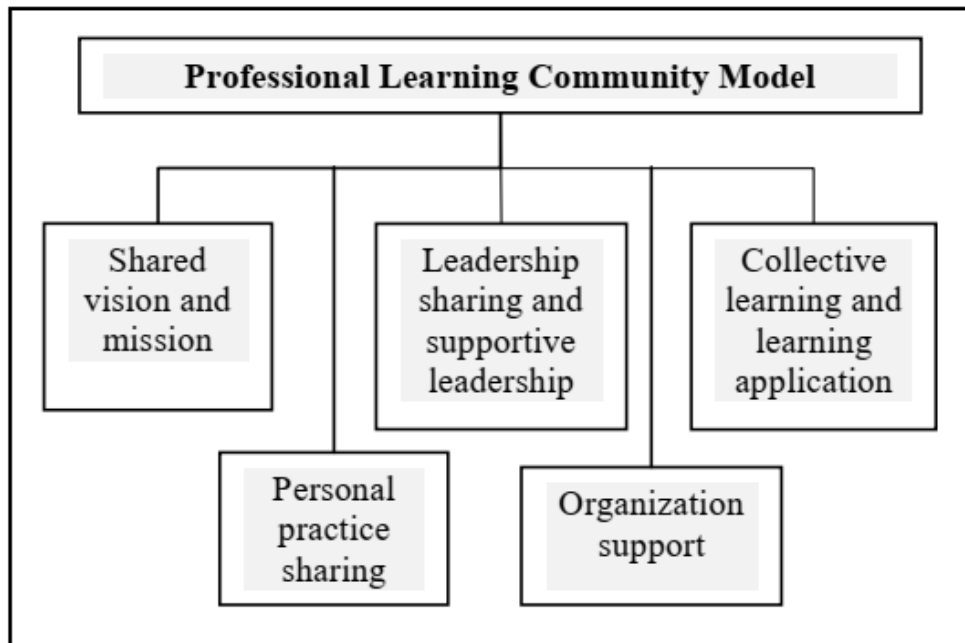
PLC grow.

Figure 1. Hord's professional learning community (1997)

Moreover, the empirical evidence of PCL in education management could be seen in the previous studies (*e.g.*, Harris & Jones, 2010; Verbiest, 2011; Wilson, 2016; Worapun et al., 2022). Harris and Jones (2010) employ a PLC project in six Welsh schools of several educational levels and found that successful professional learning communities also led to professional working atmospheres and system-wide improvement. Verbiest (2011) examined the deployment of professional learning communities in four Dutch elementary schools. The conclusion of the 2.5-year experiment reveals that PLC contributed to teachers' professional development, interdependence, innovative agenda, professional culture, leadership, and interpersonal relationships. Worapun et al. (2022) found that a professional learning community was reported as an alternative method for learners' development of 21st-century skills such as problem-solving, creativity, communicative skills, and life skills.

Therefore, professional learning communities could be a solution to the problems of low-proficient learners in Thai demonstration schools considering its theoretical framework and empirical support from the previous studies. Therefore, the current study aims to establish a professional learning community of student representatives, parents, teachers, and administrators to solve the learning problems of students with lower 2.0 GPAs in a demonstration school in Thailand. The purposes of the study were to investigate the effects of a professional learning community on Thai demonstration school students' grade point averages and to study and to study students' satisfaction with the professional learning community to improve their grade point averages.

2. Methodology

2.1 Participants

The participants were 107 students in a demonstration school in Thailand. They were selected from 1,770 populations in the school using a purposive sampling method as they had lower GPAs than 2.0 in the 4 maximum point system meeting the criteria of selection. The participant's GPA and satisfaction were used as variables identifying the effects of the professional learning community. Another group participating in the PLC development included 107 student caretakers, 89 teachers, and 12 administrators in the same schools. All participants were involved in the study with the consideration of ethical issues of human research.

2.2 Instruments

2.2.1 Professional Learning Community Plan

The professional learning community plan was developed with the involvement of the representatives of students, caretakers, teachers, and administrators. It took a day each week to form a discussion group regarding students' problems, needs, and solutions. The PLC lasted a month leading to a sub-activity to solve the problems. The activity was a workshop taken 3 days a week held after class. The contents of the training were related to student morality and academic tutorials. The activities lasted 3 months. The PCL meeting also took place monthly during the activity period to track students' progress.

2.2.2 Satisfaction Questionnaire

The questionnaire consisted of 10 positive statements regarding the PLC and the activity. It was designed on a 5 Likert scale. The Index of item objective congruence (OIC) of each statement was 0.67-1.00 rated by 3 experts in the area. Student participants filled out the questionnaire after the end of the activity, and the result was interpreted to indicate their satisfaction with the PLC.

2.3 Data Collection and Data Analysis

The data were collected during the 2020 academic year. Therefore, the PLC and training workshop were held online following the government policy of COVID-19 prevention. Students' GPAs before and after the PLC were compared and the satisfaction survey took place after the semester ended. The statistics used in data analysis include percentage, mean score, standard deviation, and a paired samples t-test.

3. Results

Table 1. Student GPA before and after the PLC

Student learning achievement	Before PLC		After PLC		t	p
	x̄	S.D	x̄	S.D		
	1.50	0.34	2.03	0.35	-12.629	0.00*

Note. *p < 0.05.

The results of the study indicate an improvement in students' learning achievement after the implementation of PLC as shown by the difference in their GPAs. A paired t-test shows that there is a significant difference between the participants' GPAs before (x̄ = 1.50, S.D. = 0.34) and after the PLC (x̄ = 2.03, S.D. = 0.35), t = -12.629, p = 0.00. The result should be interpreted as the effectiveness of using a professional learning community in improving demonstration school students' learning achievement.

Table 2. Students' satisfaction with the PLC

Statements	x̄	S.D.	Interpretation
1. Participating in the professional learning community provided me an opportunity to share my problems and needs in learning.	4.63	0.85	Strongly agreed
2. Participating in the professional learning community helped me comprehend my parents and teachers.	4.63	0.76	Strongly agreed
3. Participating in the professional learning community helped me comprehend my school.	4.42	0.76	Agreed
4. I knew my student duties after participating in the professional learning community.	4.50	0.79	Agreed
5. I paid more attention to learning after participating in the professional learning community.	4.44	0.72	Agreed
6. The training workshop helped me comprehend student moralities.	4.44	0.75	Agreed
7. The workshop activities increased my academic achievement.	4.37	0.73	Agreed
8. Teaching techniques in the workshop activities were appropriate to my learning.	4.35	1.05	Agreed
9. Teaching material was interesting and comprehensible.	4.56	0.87	Strongly agreed
10. I had a positive attitude toward learning after participating in the workshop activities.	4.63	0.82	Strongly agreed
Average	**4.50**	**0.81**	**Agreed**

The results of the study show that students were satisfied with the professional learning community ($\bar{x}$ = 4.50, S.D. = 0.81). They agreed to the positive statements regarding the PLC designed to improve their learning achievement. In detail, the participants reported that the PLC helped them understand their parents, teachers, and schools. The activities changed their learning attitude and improved their academic achievement. It could be interpreted that the professional learning community also positively affected the learning psychology of students joining the program.

4. Discussion

The result of the study indicates the success of the professional learning community as a process to improve the learning problems of demonstration school students. It adds empirical evidence to support the use of PLC in educational management and joins previous studies (*e.g.*, Harris & Jones, 2010; Verbiest, 2011; Wilson, 2016; Worapun et al., 2022) that also support the collaboration between stakeholders in developing students' learning achievements. Apart from developing a professional working environment (Harris & Jones, 2010) and teachers' positive attitudes toward 21st-century skill development (Worapun et al., 2022), PLC was proven to be beneficial in improving students' learning achievement in the current study.

Moreover, the result demonstrates how a PLC affected the academic achievement of students. In the current study, the discussion between student representatives, parent representatives, teacher representatives, and administrator representatives resulted in activities that could improve student learning achievement. This is due to the fact that the solutions to students' problems were created with their needs, parents' concerns, teachers' responsibilities, and school resources in mind. Therefore, the treatment applied to the circumstance was appropriate and applicable. This study utilized the principles of PLC formation that emphasize shared ideas, objectives, and resources for the PLC development processes. According to Hoover and Love (2011), a well-organized professional learning community could result in positive educational administration and student development outcomes.

5. Conclusion

In this study, we formed a professional learning community in a demonstration school to improve the learning achievement of students with low grades. It was found that the collaboration between student representatives, parents, teachers, and school management results in extracurricular activities that benefited their learning attitudes and learning achievement.

The study's findings could have implications for school administration, as the development of a professional learning community could lead to the appropriate responses to the elements of problems in each context. It should be noted, however, that PLC may work best in schools with a ready supply of educational materials, as illustrated by the context of the demonstration school in this study. Certain issues cannot be resolved using only internal resources. Other organizations must participate.

Further studies could focus on applying the PLC in different contexts of learners, family

demographics, and school resources. The comparison between contexts of problems could illustrate the elements needed in the implementation of the learning community.

Acknowledgements

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