

THE DEVELOPMENT OF A PROFESSIONAL LEARNING COMMUNITY MODEL FOR ENHANCING THE INSTRUCTIONAL LEADERSHIP CAPABILITIES OF MIDDLE SCHOOL TEACHERS IN MAOMING, GUANGDONG PROVINCE OF CHINA

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Abstract: The objective of this study was to develop a professional learning community model to enhance the instructional leadership capabilities of middle school teachers. This study focused on middle schools in Maoming, Guangdong province of China. The study utilized a mixed-methods approach which involved both content analysis, interviews and questionnaires. A random sample of 613 middle school teachers participated in the research which examined principals' capabilities and professional learning communities for enhancing the instructional leadership capabilities of teachers. Multiple regression analysis was used to determine the significant principals' capabilities and attributes of professional learning communities for enhancing teachers' instructional leadership capabilities. The final model was developed from the analysis of the data and validated by external experts. The results indicated that there is a gap between the desirable and current instructional leadership capabilities of teachers, principals' support was insufficient, and the professional learning communities were not working as well as expected. Recommendations include having principals develop their specific capabilities in order to develop teachers' instructional leadership. Additionally, principals and teachers should work together to overcome obstacles and focus joint effort in creating effective professional learning communities in their schools. Professional learning communities are essential to learning and when professional learning communities are well operated, they have the potential to help teachers learn from each other and conduct collaborative work with focus on student learning.

Keywords: Professional learning communities, instructional leadership, principals' capabilities

Introduction

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Education is reforming and changing in the 21st century. Schools need to develop from traditional communities to become learning communities to enhance teacher capabilities. Such change demands joint effort and requires communication and collaboration between the participants' in reaching common understanding and practices (Handal, 1999).

The professional learning community (PLC) is defined as a group of professional educators who join together in a community to learn and share with collaborative efforts. It involves collective inquiry and action research to achieve student outcomes. It is characterized by a "shared mission, vision, values, and goals; collaborative teams focusing on learning; a collective inquiry into best practices and current reality; action orientation and experimentation; commitment to continuous improvement; and a focus on the result" (DuFour & DuFour, 2006). A professional learning community is a method that focuses on learning for all parties in the school, including students and adults. It helps to build a collaborative culture and maintain an environment that is results-oriented.

Schools are considered PLC's. Professional learning communities emphasize collaboration among all the parties in the school. Research shows that, when teachers are engaged in PLC's and collaborate with each other, their teaching performances improve (Carpenter, 2012). Similarly, teacher instruction is impacted by the practices of PLC's, "professional learning communities draw attention to the potential that a range of people based inside and outside a school can mutually enhance each other's and pupils' learning as well as school development" (Stoll, et al. 2006).

The work of professional learning communities requires strong support from school principals, and they are especially important in the process of creating professional learning communities. When principals play their roles effectively, the collaborative learning culture will happen in schools, teachers will be able to improve their teaching practices if they work in a quality culture (Jones & Green, 2015). From the perspective of Eaker, DuFour, and Burnette (2002), professional learning communities have several attributes, which serve as a guide for school educators to create and facilitate the implementation of professional learning communities. They highlighted six attributes of a professional learning community that are most commonly identified by contemporary theorists are: shared mission, vision, values, and goals; collaborative teams; collective inquiry; action orientation and experimentation; continuous improvement; and results orientation.

Research Objectives

The following research objectives formed the basis of this study:

To explore the desirable capabilities of principals for developing the instructional leadership of school teachers.

1. To explore the attributes of effective Professional Learning Communities that can enhance instructional leadership capabilities of school teachers.
2. To determine the current capabilities of principals for developing instructional leadership of middle school teachers in Maoming, Guangdong Province of China.
3. To determine the current attributes of the Professional Learning Community that could enhance the instructional leadership capabilities of middle school teachers in Maoming, Guangdong Province of China.
4. To develop a Professional Learning Community model for enhancing the instructional leadership capabilities of middle school teachers in Maoming, Guangdong Province of China.

Literature Review

Professional Learning Communities in the Chinese Context

In 1950s, the Ministry of Education of the People's Republic of China established TRGs (Teaching and Research Groups) in all secondary schools in all subjects for the purpose of improving the quality of studying and improving instructional methods in Chinese schools (Wang, et al., 2017; Ministry of Education, 1957). TRGs are China's version of professional learning communities. TRGs activities involve a wide array of programs, such as activities include joint lesson planning, lesson study, assessment design, lesson competitions, peer lesson observation and critique, mentorship or peer coaching, and short-term training by outside experts; all members of the TRG must participate in these activities (Wang, et al., 2017; Paine, 1990; Paine and Fang, 2006; Paine and Ma, 1993; Wang, 2015; Yang, 2009). Those activities allow teachers to work together to share their practices and to co-construct their teaching and learning knowledge (Zhang, Yuan & Yu, 2016).

Although the TRGs in China share similar features with PLCs, there are still some inherent problems (Wang, et al. 2017). Researchers examined the barriers from both the school leaders' and teachers' perspectives and found that "the teachers perceived that insufficient collaborative time, ineffective school leadership, unfavorable accountability policy, and disadvantageous professional culture impeded the development of PLCs" (p. 225) (Zhang, Yuan & Yu, 2016). For the school leaders, they identified the barriers as the absence of financial power, passive teachers, unfavorable accountability system, and shortage of external resources. Both school leaders and teachers regarding insufficient collaborative time, extreme pressure caused by the high-

stakes accountability system, and the lack of a collaborative professional culture as the barriers to PLC development. Those barriers contributed to the lack of motivation and superficial teacher collaboration.

Instructional Leadership Capabilities

Instructional leadership capabilities benefit educators as it provides an essential condition for an effective teacher to promote quality learning and contribute to school improvement (Adams, 2013; Bain et al., 1997). Recent research suggests supports localized knowledge creation and learning among school professionals. When teachers' instructional behaviors facilitate learning among school professionals, teacher instructional capabilities are built and improved (Adams, 2013). Robinson (2010) proposed three interrelated leadership capabilities that are necessary for effective instructional leadership: integration of deep leadership content knowledge (LCK) to solve complex problems in the school; building of relational trust among educators, parents, and students; enhancement of leadership capabilities that are interrelated with one another. As a result, instructional leadership will be enhanced by integrating these capabilities.

Principal Capabilities

Principals who are attempting to develop as instructional leaders should work to integrate reflection and growth, so as to build a school culture of individual and shared critical examination for instructional improvement (Blasé & Blasé, 2000). Hallinger (2011) developed the Principal Instructional Management Rating Scale (PIMRS) as a research instrument to evaluate principals' instructional leadership practices at different school levels. This framework was comprised of three dimensions of principal's role in instructional practices. The first dimension is defining the school mission; it contains two parts of instructional leadership functions: framing school goals and communicating the school goals. These functions "concern the principal's role in working with staff to ensure that the school has a clear mission and that the mission is focused on the academic progress of its students" (Hallinger, Wang & Chen, 2013). The second dimension is managing the instructional program; this dimension emphasizes principals' capability in school management. It requires principals to "coordinate the curriculum, supervise and evaluate instruction and to monitor students' learning process". The last dimension focuses on developing the school learning climate. This dimension suggests that school principals should make effort to promote teacher professional development, maintain high visibility, and provide incentives for teachers and their learning.

Conceptual Framework

This study is based on the theories of professional learning communities, instructional leadership, and principal capabilities and it explored the desirable capabilities of principals and determined the attributes of effective professional learning communities to develop a PLC model for enhancing instructional leadership capabilities of middle school teachers in Maoming, China.

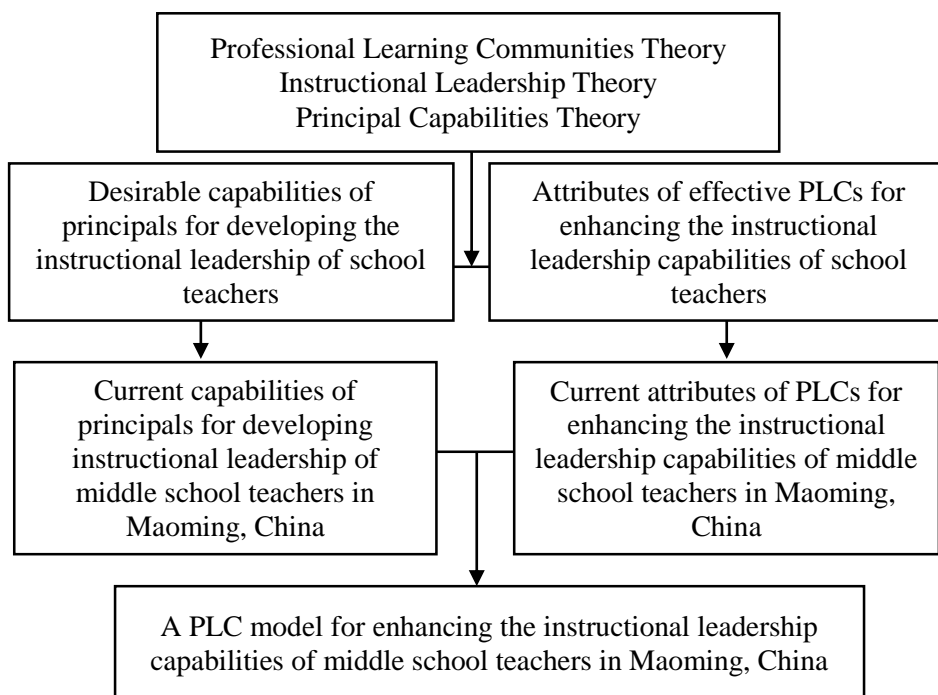


Figure 1. Conceptual framework of the study.

Research Design

This study utilized a mixed-methods approach. Coding sheets and questionnaires were used. For data analysis, the researcher used content analysis and statistical analysis.

For Objectives One and Two, research related to instructional leadership capabilities, capabilities of principals and professional learning communities were reviewed. A systematic coding method and categorizing process were used to analyze the contents. Subsequently, the findings were validated by 15 international experts. Objectives Three and Four were obtained through data collection and analysis from the population of 16,000 middle school teachers in Maoming city, Guangdong Province of China and the total sample size was 613 teachers.

The researcher used a 5-Point Likert-type scaled questionnaire to collect data including demographic data of the respondents. The questionnaire included items regarding current instructional leadership capabilities of middle school teachers, the teachers' perceptions of current principal's capabilities that can develop teacher instructional leadership, and current attributes of PLC's that can enhance the instructional leadership capabilities of middle school teachers in Maoming. The questionnaire was pilot-tested to ensure validity. Statistical analysis yielded demographic data and multiple regression analysis was used to determine the significance of the variables.

For the final phase, a Professional Learning Community Model was developed. The researcher generalized the results of the desirable and current capabilities of principals and attributes of professional learning communities, utilized the statistical method to analyze the data, and subsequently developed a model of PLC for enhancing instructional leadership of middle school teachers in Maoming, Guangdong Province of China. The model was then validated by international experts.

Findings

The findings of the study are presented according to the research objectives. Table 1 and Table 2 shows the findings of objective 1. Table 1 shows the desirable instructional leadership capabilities that teachers need to obtain to improve their instruction in schools, while Table 2 presents the desirable capabilities of principals that are necessary for developing the instructional leadership capabilities of school teachers (Objective 1).

Table 1: *Desirable Instructional Leadership Capabilities of School Teachers*

Desirable Instructional Leadership Capabilities of School Teachers	
	Instructional Practices Improvement
1. Capabilities for Improving Effective Instruction	Pedagogical Content Knowledge Advancement
	Continuous Assessment of Instructional Practices
	Ongoing Assessment of Student Learning
	Collaboration
2. Capabilities for Enhancing Positive Learning Climate	Trust Building
	Relationships Building
	Problem Solving

Table 2: *Desirable Capabilities of Principals*

Desirable Capabilities of Principals for Developing the Instructional Leadership Capabilities of School Teachers	
1. Capabilities for Defining the School Mission	Frame the School's Goals
	Communicate the School's Goals
2. Capabilities for Managing the Instructional Programs	Co-create the Curriculum
	Supervise and Evaluate Instruction
	Monitor Student Progress
3. Capabilities for Developing the School Learning Climate	Provide Incentives for Teachers
	Promote Professional Development
	Maintain High Visibility and Engagement
	Enhance Collaboration, Trust and Relationships
	Develop Teacher Leadership

Table 3 shows the desirable attributes of effective professional learning communities that can enhance the instructional leadership capabilities of school teachers (Objective 2).

Table 3: *Desirable Attributes of Effective PLCs*

Desirable Attributes of Effective PLCs that can the Instructional Leadership Capabilities of School Teachers	
1. Shared Mission, Vision and Goals	
	Collaborative Learning
2. Collaborative Teams	Collective Responsibility
	Collective Inquiry
3. Continuous Learning and Development	Acquire New Knowledge and Skills
	Foster Instructional Change
4. Solid Trust and Relationships	
5. Ongoing Support from Principals	Support for Learning Conditions
	Share Leadership and Decision Making

Table 4 displays the data analysis results of principals' capabilities for developing the instructional leadership capabilities of middle school teachers in Maoming, Guangdong Province of China (Objective 3).

Table 4: *Multiple Regression Results of the Survey Data Related to Principal's capabilities (n=502)*

Model	R	R Square	Adjusted R Square
1	.662	.438	.416

a. Predictors: (Constant), Principals' Capabilities

ANOVA

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	47.650	19	2.508	19.768	.000
	Residual	61.149	482	.127		
	Total	108.799	501			

a. Dependent Variable: Instructional Leadership Capabilities of Teachers

b. Predictors: (Constant), Principals' Capabilities

Coefficients (a)

Model		Unstandardized Coefficients		Standardized Coefficients		t	Sig.
		B	Std. Error	Beta			
1	(Constant)	1.754	.116			15.137	.000
	My principal always has friendly conversation with me	.108	.023	.195		4.739	.000
	My principal makes the course goals clear to teachers.	.064	.024	.123		2.637	.009
	My principal sets the academic goals clearly.	.060	.025	.111		2.370	.018
	My principal always engages me in making decisions about instructional development	.059	.021	.130		2.751	.006

Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.
	B	Std. Error	Beta			
My principal provides sufficient learning opportunities for teachers' in school.	.051	.022	.100		2.299	.022
My principal encourages me to use students' learning data to improve my teaching	.050	.023	.101		2.151	.032
My principal often uses regular walkthroughs to observe my teaching	.048	.024	.094		2.016	.044
My principal encourages me to continuously improve my teaching practices.	-.058	.024	-.115		-2.454	.014

a. Dependent Variable: Instructional Leadership Capabilities of Teachers

Table 4 shows the results of the data analysis from Multiple Regression. The R value was .662, which indicated the correlation between principals' capabilities and instructional leadership capabilities of teachers were 0.699. The R Square was .438, there were able to predict 43.8% of variance of this model, which meant the percentage that instructional leadership capabilities of teachers were predicted by principals' capabilities was 43.8%. According to the data analysis result, principals' capabilities were significant impacted the instructional leadership capabilities of school teachers. As the P value were less than .05, the degree that principals' capabilities significant to the instructional leadership capabilities of teachers from high to low were shown in the Coefficients(a) table. The significant principals' capabilities were item: Having friendly conversation ($\beta=.195$, $P=.000$); Making the course goals clear ($\beta=.123$, $P=.009$); Setting the academic goals ($\beta=.111$, $P=.018$); Engaging teachers in decision making ($\beta=.130$, $P=.006$); Provide learning opportunities ($\beta=.100$, $P=.022$); Using students' learning data ($\beta=.101$, $P=.032$); Using regular walkthroughs ($\beta=.094$, $P=.044$); Providing incentives for teachers ($\beta=-.115$, $P=.014$).

Table 5: *Multiple Regression Results of the Survey Data Related to Professional Learning Communities (n=502)*

Model	R	R Square	Adjusted R Square
1	.833	.694	.682

a. Predictors: (Constant), Attributes of Effective Professional Learning Communities

ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	75.490	19	3.973	57.493	.000
Residual	33.309	482	.069		
Total	108.799	501			

a. Dependent Variable: Instructional Leadership Capabilities of Teachers

b. Predictors: (Constant), Attributes of Professional Learning Communities

Coefficients (a)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.895	.101		8.886	.000
My principal always engages me in making decisions about instructional development	.075	.014	.166	5.225	.000
I maintain good relationships with my colleagues	.055	.018	.097	3.085	.002
I gain new knowledge from learning opportunities outside my school	.052	.018	.094	2.934	.004
I enjoy sharing learning materials with my colleagues	.044	.020	.075	2.200	.028
I use new knowledge to improve student learning outcomes	.177	.016	.346	11.167	.000
I apply new teaching techniques into my lessons.	.137	.017	.242	7.972	.000

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		

a. Dependent Variable: Instructional Leadership Capabilities of Teachers

Table 5 indicates the results of the data analysis. The R value was .833, which indicated the correlation between principals' capabilities and instructional leadership capabilities of teachers were 0.833. The R Square was .694, there were able to predict 69.4% of variance of this model, the data indicated that the professional learning communities were able to predicted instructional leadership capabilities of teachers with a percentage of 69.4. According to the data analysis result, the attributes of professional learning communities were significant impacted the instructional leadership capabilities of school teachers. As the P value were less than .05, the degree that principals' capabilities significant to the instructional leadership capabilities of teachers from high to low were shown in the Coefficients (a) table below. The significant attributes of professional learning communities were: Engaging in instructional decision making ($\beta=.166$, $P=.000$); Maintaining good relationships ($\beta=.097$, $P=.002$); Acquiring new knowledge and skills ($\beta=.094$, $P=.004$); Sharing learning resources ($\beta=.075$, $P=.028$); Applying new knowledge in teaching ($\beta=.346$, $P=.000$); Applying new teaching techniques ($\beta=.242$, $P=.000$).

Development of the Model

The purpose of this study was to develop a professional learning community model for enhancing the instructional leadership capabilities of middle school teachers in Maoming. Based on the findings from research objective one to four, the model was developed. As presented in figure, the model included three parts. The central circle represents the instructional leadership capabilities of middle school teachers, and the elements around the central circle represent the significant principals' capabilities and attributes of professional learning communities that contribute to the development and enhancement of instructional leadership capabilities of middle school.

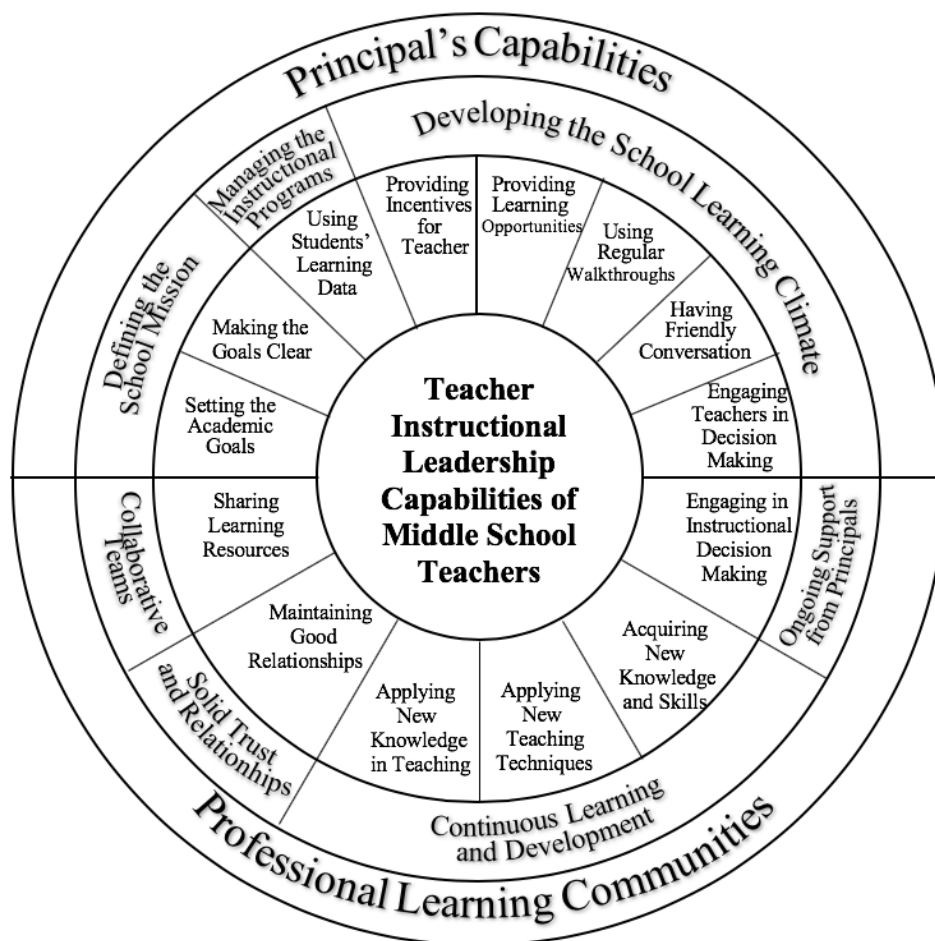


Figure 2. The PLC Model for Enhancing Instructional Leadership Capabilities for Teachers in Middle Schools in Maoming City, Guangdong Province of China

In the model, principals' capabilities for improving the instructional leadership capabilities of middle school teachers include three major categories:

- **Principals' capabilities for defining the school mission.** Principals set the academic goals in the school, and make those goals clear to each teacher, therefore, teachers are able to conduct their work more effectively and appropriately.
- **Principals' capabilities for managing the instructional leadership capabilities.** Principals encourage teachers to use students' learning data and analyze students' learning data to improve their instructional capabilities.

- **Principals' capabilities for developing the school learning communities.** It refers to principals' capabilities in creating a positive school climate in which teaching, and learning can take place, teachers and students are supported. These capabilities include providing incentives for teachers, providing opportunities, using regular walkthroughs, having friendly conversations, and engaging teachers in decision making.

The second component of the model is professional learning communities. It is also supported by principals' capabilities. In the model, the attributes of professional learning communities for enhancing the instructional leadership capabilities of school teachers include four categories as below:

- **Collaborative teams.** In the school, principal, administrators, and teachers work together as a team in order to achieve teaching and learning goals. Teachers are encouraged to share learning resources to improve their instruction.
- **Solid trust and relationships.** School teachers should build trust with each other and maintain good relationships with other teachers for enhancing the collaboration among teachers to enable teachers to share learning experiences and good practices.
- **Continuous learning and development.** School teachers need to participate in different kinds of learning opportunities actively, acquire new knowledge and skills, new teaching techniques continuously, and apply those knowledge and techniques in teaching for improving their instructional practices.
- **Ongoing support from principals.** School principals provide necessary needs and supports for teachers to improve teaching, they share leadership with teachers, engage teachers in instructional decision making to enhance teachers' leadership capabilities, and enhance the positive school culture.

Discussion and Recommendations

The study sought to contribute to an empirical understanding of Professional Learning Communities for instructional improvement of middle school teachers. The main purpose of this study was to develop a model of Professional Learning Community for enhancing instructional capabilities of school teachers. It is hoped that the results of this study can enhance teacher instruction of middle schools in Maoming city, Guangdong Province of China and increase teachers' understanding of the importance of collaboration in education, help teachers to have increased awareness that the most important thing in the school is teaching and learning, and motivate their efforts in improving instruction for increased student achievement. Additionally, a Professional Learning Community can provide principals and administrators with opportunities to inquire into teachers' work in the middle schools. The

findings of this study have stressed the importance of principals' capabilities and professional learning communities in developing and enhancing the instructional leadership capabilities of school teachers. Therefore, principals are strongly recommended to improve their capabilities of sharing leadership and responsibilities with teachers to improve teacher leadership, providing enough learning opportunities and resources for teachers to improve their instructions. Besides, principals should collaborate with teachers in creating effective professional learning communities to enhance teachers' teaching and learning.

Ideally the results of this study can contribute ultimately to school improvement. It is recommended that further studies include data from not only teachers but include principals and interviews as additional methods of data collection. Future studies may also include extension to different populations, grades and schools in China.

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