

Effective Professional Learning Community Model for Improving Elementary School Teachers' Performance

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Abstract—The aim of this research is to develop a model of effective professional learning community for elementary school teachers. The research design is survey and correlational type. Data were collected by questionnaire from randomly selected 241 elementary school teachers. To identify components of professional learning community, researcher performs exploratory factor analysis. Furthermore, researcher tested the effect of professional learning community on teachers' performance using path analysis. This research found 4 components of professional learning community, namely teacher collaboration for learning improvement, the support of resources, opportunities for collaborative learning, and the school's social capital. From the path analysis procedure, researcher found that among the 4 components of professional learning community, only teacher collaboration for learning improvement has a significant direct effect on teachers' performance. Meanwhile, the other three components have indirect effects on teachers' performance mediated by teacher collaboration for learning improvement component. For initiating professional learning community, this research suggests to put more attention to create a supportive condition for facilitating teacher collaboration for learning improvement.

Keywords—*effective professional learning community, teachers' performance*

I. INTRODUCTION

Teacher performance is the most influential factor in determining student achievement. The term teacher performance refers to the way teachers exercise their knowledge and skills in creating and maintaining a learning environment to deliver classroom activities for students [1]. By this definition, one can say that teacher performance can be measured by observing what teachers do in facilitating student learning, providing conditions for them to maximize their learning opportunities and gain a meaningful learning experiences, as well as to master the skills they are taught.

Efforts for improving teacher performance have been done by many education stakeholders.

Indonesian government has several policies regarding teacher performance such as teacher certification, elementary school teacher work group (*Kelompok Kerja Guru*), teacher as learner, and so forth. At the same time, many elements of the general public also participate in improving teacher performance by conducting workshops, conferences, training, and other activities. The result of those attempts is still unsatisfying. Studies on teachers' performance after being certified show inconsistent results. Some reported that certification does have a significant effect on teacher performance [8, 13], while others show the opposite [9, 11, 16].

Poor performance puts teachers in challenging situations in which they were insisted to help students master each learning goal. To do that, teacher needs a working condition in which they are not working individually, but working collaboratively instead. A working condition in which teachers work in collaborative manner results in a professional learning community which has been recommended by many researchers as a means for teacher performance improvement. Professional learning communities are conditions in which teacher can share ideas and solution for student learning problems they face in their daily work [6]. At the deepest core, professional learning communities were built as a medium for teachers to learn together in order to improve their performance, and in turn increase student achievement. Collaboration, which is a typical characteristic of professional learning communities, is a systematic process in which teachers work together to analyze and develop learning quality for their students. The most important mission of professional learning community development is to facilitate teachers to learn instead of teaching, work collaboratively, and take responsibility for student achievement [4]. Practically, professional learning community is based on mutual trust among teacher, and caring about other teacher [7].

Mutual trust is needed to ensure that solutive ideas can be explored, developed, and communicated freely. On the other hand, caring is needed to encourage collaborative passion in solving teachers' problems collectively.

Professional learning communities, as proved by researchers, have a positive effect on student achievement and learning qualities [15]. Professional learning communities are also found to affect teachers' effectiveness [5]. Specifically, professional learning communities were reported to decrease teachers' isolative working habits, improve teachers' and staffs' commitment to the school's mission and goals, create shared responsibilities for student development, and increase teacher comprehension on instructional subject matter [7]. For students, the existence of professional learning communities has a huge effect. The more positive the implementation of professional learning communities is, the more positive student achievement will be [2]. Review of research on professional learning communities concluded that effective professional learning communities can improve teachers' abilities to create supportive learning environment through experiment and innovation [14]. Furthermore, research carried out in elementary and junior high school in China found that collective learning and its application as one of components of professional learning communities is a predictor of students' discipline [12]. This is due to the improvement in teachers pedagogical knowledge and their enthusiasm [10]. In conclusion, there is no mistake to say that professional learning communities have a great impact on teachers' performance improvement an in turn to student learning achievement [15].

II. LITERATURE REVIEW

Professional teachers are they who have competencies, which are a set of knowledge and skills. Meanwhile, teachers' performance is implementation of knowledge and skills teachers have in conducting teaching and learning activities in classroom [1]. Teachers' performance consists of three main dimension, which are lesson plan; lesson activities such as classroom management, usage of learning resources, and application of teaching strategies; and assessment of learning [3].

There are several teacher empowerment efforts. One of many efforts can be assumed as having significant effect on teacher performance is professional learning community which can be seen as medium in which teachers learn together in directing their effort toward improvement of student learning quality [6]. Professional learning community's focus is teachers learning [4]. In its implementation, professional learning communities have 5 building blocks, these are supportive and collective leadership, shared values and vision, learning together and its application, supporting

conditions, and process of personal experiences sharing [7].

Professional learning communities have a great potential as a mechanism for teachers professional development [5], through sets of collaborative activities in solving students learning problem and examining innovative ideas. At school level, professional learning communities were reported to have significant effect on decreasing teacher solitaire working habits and creating shared responsibility for student learning [6]. For students, the existence of professional learning communities are found to have positive correlation with student achievement [2]. A review of research shows that professional learning communities improve teachers' ability to design a learning environment which support student active learning [14]. Another research conducted in elementary and secondary schools in China shows that collective learning and its application, which is a component of professional learning communities, are the significant predictors of student learning discipline [12]. In short, professional learning communities have been proven to be a meaningful way for improving teachers' performance. In turn, teacher performance is among the most powerful factors in determining students' achievement.

III. RESEARCH METHODS

The main goal of this research is developing effective professional learning communities in improving teacher performance. In achieving the above goal, the researcher divided this study into two main phases. The first phase is identifying components of effective professional learning community. In this phase, the research was carried out with survey design, where the main objective is to find out what factors comprise effective professional learning community. The second phase is examining the effect of each factor on teacher performance conducted in correlational study design. In this phase, each factor was placed as independent variable with teacher performance as dependent variable. Data in this study were collected using questionnaire about professional learning community and teacher performance. Data were gathered from 241 elementary school teachers selected through multistage random sampling technique.

The collected data were analyzed in two general steps. In order to find out the components of professional learning community, firstly, researcher performed exploratory factor analysis with maximum likelihood extraction method and promax as a rotation technique. Factors or components retained from this analysis are components with eugenvalues greater than 1, item(s) loading greater than 0.40, and each items must have at least three indicators. The second step of data analysis is examining the effect of professional learning communities on teachers' performance. To achieve the aforementioned goal,

researcher performed path analysis. All of data analysis procedures were conducted using SPSS 18 for Windows.

IV. RESULTS

Professional learning community is a system in which teachers work together to develop an organization of effective learning in support of the attainment of educational goals. The primary goal of developing professional learning communities is to facilitate teachers in improving their competencies according to government policies. In other words, professional learning community is a medium used by teachers and other education stakeholders to collaboratively develop their potential by generating and examining innovative learning ideas. As a system, professional learning community is underpinned by several components which are functionally pertaining with teachers learning process. These components are shown in the table below.

TABLE I. COMPONENTS OF PROFESSIONAL LEARNING COMMUNITY

No.	Component	Indicator	Item Loading
1.	Teacher collaboration in improving students learning	Collaborative planning for improving learning quality	0.762
		Discussion among teachers are running in respect for diversity of ideas and innovation	0.73
		Collaboration for new knowledge and skills development associated with teachers daily task	0.72
		Teachers cooperate to meet the diversity of students need	0.667
		Teachers commit to learning development programs	0.554
		Collaborative process among teachers to develop shared vision	0.528
		Teachers professional development oriented at improvement of student learning	0.526
		Application of knowledge and skills attained from collaborative learning process	0.493
		Collegiality among teachers is based on commitment to school improvement	0.426
		Teacher collective learning through opened dialogue	0.403
2.	Resources	Teachers room	0.921

	Support	arrangement supports teachers to work collaboratively	
		Schools data are organized to accessed easily by teachers	0.593
		School allocates sufficient money for professional teachers development	0.5
		Expert involvement in supporting teachers continuous learning	0.412
		Sufficient time for teachers to work collaboratively	0.406
3.	Teachers' opportunities for collaborative learning	Teachers have an opportunity for giving advice regarding the way other teachers teach	0.863
		Teachers have an opportunity for observing how other teachers teach	0.764
		Teachers have a freedom for sharing their ideas and inputs for improving student learning quality	0.658
		Teachers have an opportunity for being a mentor for other teachers	0.538
4.	The school's social capital	Teachers have an opportunities for learning and sharing their experiences	0.443
		Transparency of student learning data for improving learning quality	0.753
		Attempt to improve the quality of schools culture	0.722
		Cares among teachers and students are based on mutual trust and respect	0.648
		Acknowledgement of teachers achievement by school	0.458

The first component of professional learning communities is teacher collaboration for learning improvement. Teacher collaboration is a situation in which each individual teacher can share their ideas for improving qualities of students learning. Teacher collaboration occur in a constructive dialogue toward solutions of problems faced by teachers. These collaborative processes commence from problems identification, ideas brainstorming, formulating improvement planning, and planning implementation and evaluation. Important factors underlying teacher collaboration are shared vision and common values

for providing optimal learning environment for students.

Resources support, teachers' opportunity for learning, and the school's social capitals are prerequisite conditions for teacher collaboration to occur. In order to learn collaboratively, resources must be allocated sufficiently, funding should be available, there is enough time for teachers learning, and involvement of experts as a source of information, inspiration, and motivation. Resources support tightly associated with usage of learning opportunities by teachers. It is important to reveal that opportunities usage depends on the teachers' initiatives. On the other hand, when resources support is sufficient, then the utilization of those resources are primarily determined by teachers willingness. Finally, social capital component are social relations patterns between teachers and other school stakeholders which is characterized by mutual trust, encouragement, and caring. These conditions are unconditional for teachers' freedom for taking risks in experimenting their innovative ideas. Without social capital, risk taking would not be tolerated and will be assumed as disgraces. At the same time, learning process needs opportunities for trying new ideas –which are resembled risks taking- and doing mistakes. At the learning process, mistakes were assumed as an opportunity for continuous learning. Therefore, social capital is an important factor underlying collaborative learning in the development of professional learning communities.

Components of professional learning communities found in this research are slightly different from components found in previous research [7]. In his research, Hord found that professional learning communities consisted from 5 building blocks, which are supportive and collective leadership, shared values and vision collective learning and its application, supporting condition, and process of sharing personal experiences [7]. In spite of the differences, there are similar conditions in which professional learning communities can be developed, these are mutual trust, respect among teachers, openness to innovative ideas, and a will to tolerate mistakes as integral part of learning.

Once the components of professional learning community are identified, researcher then examines how these components affect teachers' performance by performing path analysis procedures. In performing path analysis, researcher examines a causal model that teacher performance (Z) is affected by teachers learning opportunity (X1), resources support (X2), and the school's social capital (X3), through teacher collaboration for learning improvement (Y). This model then being broken down into two models, the first one states that there is a direct effect from X1, X2, and X3 to Y. The Second is there is a indirect effect from X1, X2, and X3 to Z

through Y. The first model examination resulting significant result (F: 74.087; sig.: 0.000).

TABLE II. ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	2214.465	3	738.155	74.087	.000 ^a
Residual	2361.327	237	9.963		
Total	4575.793	240			

a. Predictors: (Constant), social_capital(X3), Learning opportunity(X1), Resources(X2)

b. Dependent Variable: collaboration(Y)

This model shows that variances in social capital, learning opportunity, and resources account for 48.4% variances in teacher collaboration for learning.

TABLE III. MODEL SUMMARY

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.696 ^a	.484	.477	3.156

a. Predictors: (Constant), social_capital(X3), Learning opportunity(X1), Resources(X2)

Contribution of each factor is 0.148 for X2, 0.295 for X1, and 0.381 for X3.

TABLE IV. COEFFICIENTS

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	15.825	1.906		8.301	.000
Resources(X2)	.218	.088	.148	2.489	.013
Learning opportunity(X1)	.436	.087	.295	5.011	.000
Social capital (X3)	.859	.134	.381	6.403	.000

a. Dependent Variable: collaboration(Y)

As the first model was being significant, analysis then continued to assess a second model. The result shows that there was 14.1% variance in teacher performance, as explained by the model (F sig. 0.000).

TABLE V. MODEL SUMMARY

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.376 ^a	.141	.127	32.919

a. Predictors: (Constant), collaboration(Y), Resources(X2), Learning opportunity(X1), social_capital(X3)

Contribution of teacher collaboration for learning (Y) is 0.206.

TABLE VI. COEFFICIENTS

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	197.997	22.588		8.766	.000
Resources(X2)	.037	.926	.003	.040	.968
Learning opportunity(X1)	1.103	.954	.093	1.156	.249
social capital(X3)	2.474	1.516	.136	1.632	.104
collaboration(Y)	1.664	.677	.206	2.456	.015

a. Dependent Variable: performance(Z)

Based on the model examination above, researcher proposed a model of effective professional learning community as depicted below.

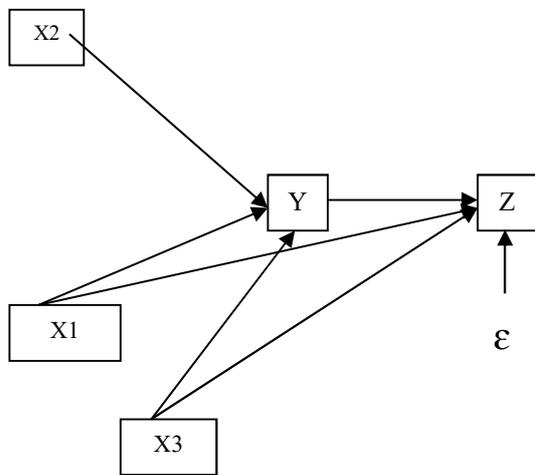


Fig. 1. Path Analysis of Professional Learning Communities Effect on Elementary Schools Teachers' performance

- Z : teachers' performance
- Y : teacher collaboration for learning improvement
- X1 : teachers' opportunities for collaborative learning
- X2 : resource support
- X3 : the school's social capital

The above diagram reveals the effect of professional learning communities components on teachers' performance. The diagram shows that there is a direct effect of teacher collaboration for learning improvement on teachers' performance. One explanation for this effect is most of teachers' performance are measured based on how teachers work to provide optimal learning service for students. Through collaboration, teachers are able to conduct a reflection on the students' learning, obtain inputs from other teachers, and use those inputs as a means for designing students learning improvement.

Three others components of professional learning community affect teachers' performance indirectly through teacher collaboration variable. In other words, the existence of supporting resources, teachers' opportunity for learning, and social capital determine the quality of teacher collaboration for improving students learning by designing and carrying out effective teaching activities.

Based on the above path analysis, this research confirmed the hypothesis and results of previous research on the effect of professional learning communities on teacher performance. One simple explanation about this is that if teachers are given an opportunity and encouraged to learn together, they will have a broader perspective on how students learn. Using this broader perspective, they can find and generate new ideas in solving students' learning problems. By sharing their problems and acquiring another perspective from their colleagues, they can initiate new ways to solve the problems they face in their daily routine tasks.

V. CONCLUSION

Professional learning communities are a system in which teachers work together to develop effective learning for student and share their ideas to solve students' learning problems. The prerequisite condition for generating innovative ideas for teachers is to build constructive dialogues that are founded on mutual trust, respect, and care. The primary aim of professional community development is to facilitate teachers in developing their competencies in accordance with the regulations and demands of the society. In turn, teachers' professional development will result in the improvement of students' learning quality. As a system, professional learning communities consist of 4 building blocks that are correlated functionally to facilitate teachers' learning process in schools, i.e. teacher collaboration for improving student learning quality, the availability of supporting resources, teachers' opportunity for learning together, and the school's social capital.

The development of professional learning communities focus on teachers' commitment to students' classroom learning improvement by developing collegial relationship based on commitment, openness, shared vision, cares and mutual trust, as well as respect for teachers' innovation. Professional learning communities have significant effect on teachers' performance. In more detail, teacher collaboration on improvement of students learning as one of four components found to have direct effect on teachers' performance, whereas the other three components have indirect effect on teachers' performance through teacher collaboration in improving student learning. The three components of professional learning communities which indirectly affect teachers' performance include the school's

resources support, opportunity for teachers to learn collaboratively, and the school's social capital.

In order to improve teachers' performance, particularly one which is directly associated with student learning, teachers need a medium which facilitate them share ideas of solutions. Therefore, school principals should initiate the development of professional learning communities in their schools. In developing professional learning communities, school principals can focus their attention in creating a supportive condition for teachers to work collaboratively. Additionally, we need a more experimental research design to precisely measure the effect of professional learning communities on teachers' performance and student learning.

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REFERENCES

- [1] Anderson, L.W. *Increasing Teacher Effectiveness*. Second Edition. Paris; UNESCO: International Institute for Educational Planning. 2004.
- [2] Bolam, R., et al. *Creating and Sustaining Effective Professional Learning Communities*. Research Report No. 637. Briston; University of Briston. 2005.
- [3] Dittendik Dirjen PMPTK Depdiknas. 2008. *Penilaian Kinerja Guru*. Jakarta; Dittendik Dirjen PMPTK Depdiknas, 2008
- [4] DuFour, R. Schools as Learning Communities. *Educational Leadership*, 61(8); 6-11. 2004.
- [5] Graham, P. Improving Teacher Effectiveness Through Structured Collaboration: A Case Study of a Professional Learning Community. *RMLE Online*, 31(1); 1-17. 2007.
- [6] Hord, S.M. *Professional Learning Communities: Communities of Continuous Inquiry and Improvement*. Washington, DC; Office of Educational Research and Improvement. 1997.
- [7] Hord, S.M. Creating a Professional Learning Community: Cottonwood Creek School. *Issues About Change*, 6(2); 1-10. 1998.
- [8] Istiari, R., dan Sukanti. Pengaruh Sertifikasi dan Motivasi Kerja Guru Terhadap Kinerja Guru SMA Negeri 1 Sentolo Kabupaten Kulon Progo Tahun 2012. *Jurnal Pendidikan Akuntansi Indonesia*, X (1); 98-113. 2012.
- [9] Khodijah, N. Kinerja Guru Madrasah dan Guru Pendidikan Agama Islam Pascasertifikasi di Sumatera Selatan. *Cakrawala Pendidikan*, Th XXXII (1); 91-102. 2013.
- [10] Kunter, M., et al. Professional Competence of Teachers: Effects on Instructional Quality and Student Development. *Journal of Educational Psychology*, 105 (3); 805-820. 2013.
- [11] Kurniawan, B.D. Implementasi Kebijakan Sertifikasi Guru dalam Rangka Meningkatkan Profesionalitas Guru di Kota Yogyakarta. *Jurnal Studi Pemerintahan*, 2 (2); 278-299. 2011.
- [12] Lee, J.C., Zang, Z., and Yin, H. A Multilevel Analysis of The Impact of a Professional Learning Community, Faculty Trust in Colleagues and Collective Efficacy on Teachers Commitment to Students. *Teaching and Teacher Education*, 27; 820-830. 2011.
- [13] Murwati, H. Pengaruh Sertifikasi Guru Terhadap Motivasi Kerja dan Kinerja Guru di SMK Negeri Se-Surakarta. *Jurnal Pendidikan Bisnis dan Ekonomi*, 1(1); 12-21. 2013.
- [14] Stoll, L., et al. Professional Learning Communities: A Review of The Literature. *Journal of Educational Change*, 7; 221-258. 2006.
- [15] Vescio, V., Ross, D., and Adams, A. A Review of Research on the Impact of Professional Learning Communities on Teaching Practices and Student Learning. *Teaching and Teacher Education*, 24; 80-91. 2008.
- [16] Yusrizal., Soewarno, S., dan Fitri, Z. Evaluasi Kinerja Guru Biologi, Fisika, dan Kimia SMA yang Sudah Lulus Sertifikasi. *Jurnal Penelitian dan Evaluasi Pendidikan*, 15 (2); 269-286. 2011.