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THE ROLE OF THE IMPLEMENTATION OF THE PROFESSIONAL LEARNING COMMUNITY ON THE COMPETENCE OF SCIENCE TEACHER IN SABAH

Roziah Rusdin[1]
Abdul Said Ambotang[2]

[1]rdian2009@gmail.com.my
[2]said@ums,edu.my

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Abstract:*This article will discuss the implementation of the professional learning community (PLC) on the competence of Science teachers in Sabah. The objective of this discussion is to identify the relationship and influence of the Professional Learning Community (PLC) on the competence of Science teachers in Sabah. A proposed study will be conducted using a questionnaire instrument to get feedback from 100 respondents comprising Science teachers across Sabah. Data analysis is made quantitatively. The findings show that there is a relationship and influence between the Professional Learning Community (PLC) on teacher competence. The expected results of the study will be guided by teachers to evaluate and improve the teaching and learning in the classroom.*

Keywords : *Quality,Professional Learning Community, Competence*

Introduction

In general, competence is one's ability to achieve interactive goals, in a specific social context, using the accepted means and generating positive results significantly with other elements. Competency can be defined as the ability of a person to produce a result that has been mutually agreed upon through the terms of which the measurement stage has been determined. Whereas in particular, competence means a set of measurements for a teacher in mastering the various competencies required to meet the aspirations of students and society (Siraj, 2012).

The competence of a teacher is closely intertwined with the effectiveness of the teacher's teaching and learning. According to the Report of the Inspectorate who conducted their monitoring and evaluation they found that competence among teachers in teaching and learning was at the critical stage. Based on figure 1.1 below, 52% of teachers are at the expectation level, 31% of teachers are at a satisfactory level, 12% of teachers are in good and excellent level and 5% of teachers are at a weak level (Ministry of Inspector and Quality Assurance KPM, 2013). The small percentage of teachers attained in good and excellent

levels illustrates that there are still weaknesses in teachers that need to be identified and improved. The effectiveness of these teachers can be improved by implementing professional learning community programs among them. Therefore, teachers need to understand, demonstrate their determination and commitment to implement new approaches towards improving the quality of teacher education (Kamarul Azmi Jasmi, 2010; Mohammed Sani Ibrahim, 2005; Esah Sulaiman, 2004).

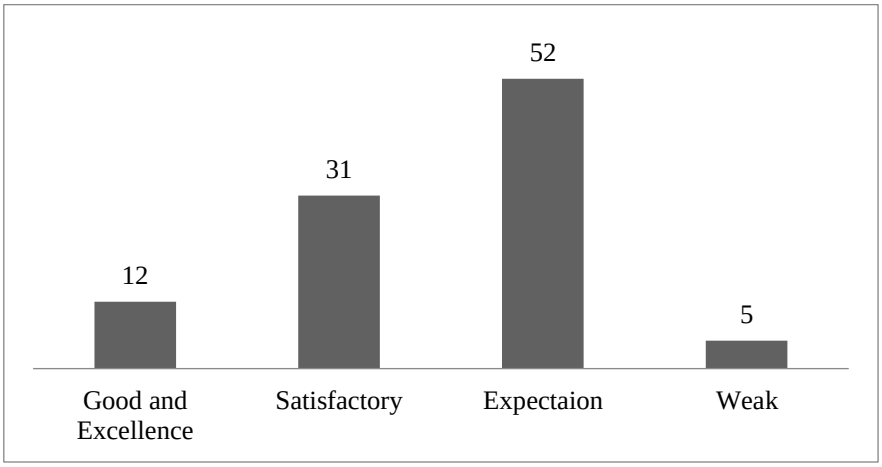


Figure 1.1: Teacher Competencies In Teaching And Learning
Source: Ministry of Inspector and Quality Assurance KPM, 2013

As such, the role and role of teachers, especially science teachers, should be strengthened every time in ensuring the education sector in our country changes to a better and more dynamic one. Teachers must have the necessary knowledge and skills in line with the changes made in education. This is because teachers' skills and skills need to be continuously updated as content changes or teaching and learning approaches (Omar Abdul Kareem & Khuan Wai Bing, 2005).). Through the implementation of programs such as the professional learning community (PLC) knowledge and skills of science teachers can be improved and improved. The Professional Learning Community (PLC) is a platform for a group of science teachers to meet, share, discuss, improve and suggest strategies, techniques and methods of teaching and learning in the classroom. Their sharing of indirectly helps to further enhance the competence of science teachers in terms of their knowledge and skills. According to Mahaliza Mansor, Norlia Mat Norwani and Jamal @ Nordin Yunus (2011), Through continuous professional learning programs, teacher education knowledge can be enhanced so that their knowledge and skills are in line with current demands. In other words, educators should have a learning revolution that can change the way the school community develops and develops.

In improving and strengthening teacher delivery in teaching and learning in the classroom, a professional learning community was introduced in the field of education. This professional learning community is described as a continuing practice (Dufour, 2001). Through the practice of professional learning community knowledge and skills among the communities involved can be enhanced and hopefully it can give great ideas and enhance teachers' competency in realizing and developing the education field in our country.

Problem Statement

The statistics in table 1.1 below shows the achievement of SPM students in Sabah in 2016 and 2017. Table 1.1 describes the achievement of the resulting students is closely related to

the teaching quality of teaching teachers and further describes the teacher's competence. The table below shows students' achievement excellence has a lower percentage than students who achieve credits for science subjects in 2016 and 2017. This means that science teachers should constantly renew and improve their knowledge as time goes against the current curriculum changes.

Table 1.1: Student Achievement for Subjects Science 2016 - 2017

Tahun	2016	2017
	Science	**Science**
Excellenc	13.64	14.03
Credit	*51.11*	*48.21*
Passed	30.58	32.45
Failed	4.67	5.23

Sources: Sabah Education Department (2018)

The role of teachers in implementing the nation's education policy effectively to produce high-performance human capital is undeniable. Communities give great potential to teachers to educate and develop potential students in line with the set goals of education. Teachers are deemed to have certain competencies to develop their skills and knowledge. However there is still a gap between what is being drafted in the curriculum with what is practiced in the classroom. This has created many critical issues that lead to teacher teaching and learning. Therefore, in order to solve the problem, teachers' education needs to be increased through continuous professional learning programs so that their knowledge and skills are in line with current demands (Mahaliza Mansor& Norlia Mat Norwani, 2010).

According to Blank (2014) states that a teacher should not stop his learning process at an undergraduate level but teachers should always attend any program that can enhance their professionalism such as conferences, workshops and training when teachers are in school. Therefore, teachers, especially science teachers, need to improve the teaching-related knowledge to strengthen their presentation in the classroom. In this regard, in improving the teaching of teachers, the Ministry of Education through various initiatives has implemented various strategies among them through the professional learning community (PLC). Individual or group improvement processes that encourage teachers to renew, enhance committees as agents of change in education, and reflect reflection can be realized through a professional learning community (PLC).

However, according to Saedah Siraj's study (2012), the problem faced by teachers is still inadequate although KPM has provided a lot of allocation to provide teacher competence improvement programs. This shows that KPM's efforts are still less effective. Poor planning and implementation processes may be a big contributing factor. This is supported by the study of O'Sullivan (2011) and Rhodes (2004) which explains that the rapidly developing countries are still using the old methods to evaluate the effectiveness of a professional program organized. Hence, it poses a problem in assessing the effectiveness of teacher competence through a professional learning community.

The role of teachers in the effective implementation of the nation's education policy effectively in producing high-performance human capital is undeniable. Communities give great potential to teachers to educate and develop potential students in line with the set goals of education. Teachers are deemed to have certain competencies to develop their skills and knowledge. However there is still a gap between what is being drafted in the curriculum with what is practiced in the classroom. This has created many critical issues that lead to teacher

teaching and learning, especially in science subjects. Therefore, in order to solve the problem, teachers' education should be increased through professional learning programs continuously so that their knowledge and skills are in line with current demands (Mahaliza Mansor & Norlia Mat Norwani, 2010).

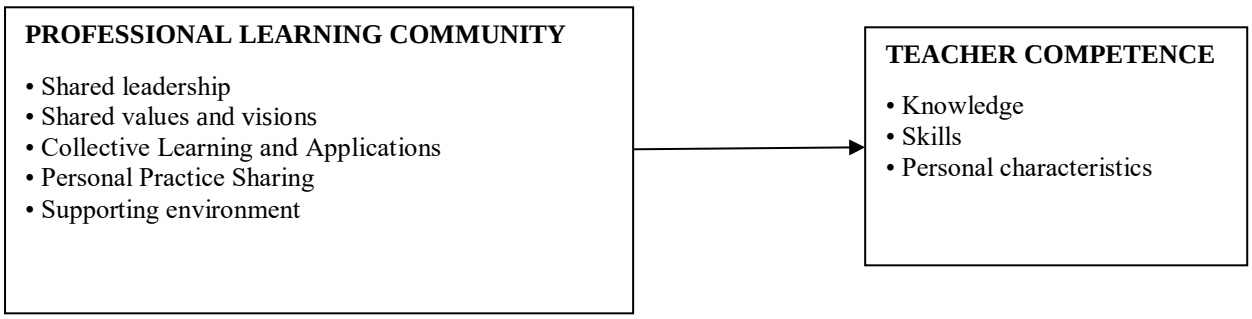
Professional development of teachers is an important component in improving the quality of education in Malaysia. The teacher-led professional development program is simply inadequate and is proven incapable of changing the prevalence of teachers. A teacher-centered development program at the school level should be created to ensure that they are constantly exposed to the opportunity to proactively improve their professionalism and competence by developing a professional learning community with co-workers. In line with the improvement of teachers' professionalism is also thought to be necessary to equip science teachers with the latest teaching approaches in order to exclude them. And it has been proven by studies conducted by researchers that the Professional Learning Community (PLC) can help and improve teachers in their teaching process.

However, its impact studies on pupils in Malaysia are still under-studied so far. Especially studies in particular subjects such as high school science subjects. Where we know science teaching emphasizes the Inquiry-Discovery and Constructivism approach. This Professional Learning Community (PLC) is a specially designed and planned collaborative learning approach in enhancing the understanding of students in a skill taught by teachers. In fact, a strong collaboration in the Professional Learning Community (PLC) requires a systematic process involving teachers working in a team to analyze and improve the classroom environment (Mc Laughin and Talbert 2001). In other words, teachers need to work on a continuous team to create a learning team. The implication, the effort resulted in an increase in student achievement (Fullan 2001).

The process of developing quality teachers is also a long and continuous process starting from their service until they retire (Mohammad Mortadza 2005). A form of professional development program that supports the continuous improvement of teachers 'competence is essential to ensure that teachers' attitudes and minds change in line with global circulation. Thus, the development of professional science teachers should not be neglected. In situations where a teacher needs to make changes in teaching and learning, they may not know how to deal with such changes (Mohammad Mortadza 2005). Assistance and support should be given to teachers to keep them in an up-to-date environment with educational climate.

Science teachers need an ongoing program of development for professional development and enhance their competence so that they remain effective in providing the best possible service. According to Cheah & Lim (2010), teaching is a unique profession. Before engaging in training to qualify as a teacher, prospective teachers have been influenced by past learning experiences on how to teach based on their learning experience as students. This is like the chalk and talk method of teaching that teachers only lecture in the classroom where they only involve two-way communication. This method stutter the pupils' development and potential as there is no germination and sharing of ideas in learning. The effect is that this gives teachers an edge but sometimes they get carried away with a traditional picture of memorable practice in implementing the teaching process in the classroom. Thus, according to Cheah & Lim (2010), teacher development involves two processes namely forgetting traditional images and building new images for the latest teaching practice trends. Teacher development also involves the ongoing task of forgetting the old ways and learning new knowledge such as practicing the Professional Learning Community (PLC) where teachers can share knowledge in strengthening their own potential and potential.

Theoretical Framework



Research Objectives

This study is aimed to ;

a) Identify the relationship between community practice of professionalism learning and teacher competence.
b) Identify the influence between professional learning communities on teacher competence.

Research Hypothesis

H_{01} There is no relationship between the community of professionalism learning and teacher competence.

H_{02} There is no significant influence between the professional learning community and teacher competence.

Research Design

This study uses quantitative methods. This quantitative research can provide explanations about the relationship and influence of the Community of Professional Education (PLC) on teacher competence.

The research method used in this study was a non-experimental form that uses quantitative survey using questionnaire as a research instrument. Researcher used questionnaire as instrument in this study. Instrument of study is tool used for data collection process. According to Azizi Yahaya et. al (2017), the research instrument is very closely related to data collection techniques. Questionnaire is important in data collection and information that can be used in census or survey methods (Fuad Mohamed Berawi, 2017).

Research Sample and Population

According to Fuad Mohamed Berawi (2017), the population is a set of elements or elements to be studied in one place, time and condition according to the objective of the study. Population in this study is a Science teachers. The sample of 100 teachers randomly selected from different secondary schools throughout Sabah.

DataAnalysis

Data analysis is a method of controlling and presenting data in statistical procedures. The analysis of this data was to answer all the research questions or hypotheses that were set out in the questionnaire (Bhasah, 2007). The information obtained from this questionnaire was

coded and processed by the researchers using the Statistical Package for Social Science (SPSS) version 23.

Findings

H_{01} There is no relationship between the community of professionalism learning and teacher competence.

The Pearson correlation test value is alpha 0.05, which is to reject the null hypothesis if the probability value is small or equal to the alpha value (the probability value = alpha). Regression analysis was use to test the influence between the study variables.

Table 1: Test Correlation of Execution Relationships between Professional Learning Communities (PLCs) and Teacher Competence.

		Professional Learning Comunities (PLC)	Teacher Competence
Professional Learning Communities	Correlation Value	1	.366**
	Sig. (2-tailed)		.000
		100	100
Teacher Competence	Correlation Value	.366**	1
	Sig. (2-tailed)	.000	
		100	100

N: 100

Table 1, reports that there is a weak positive linear relationship between the Professional Learning Community (PLC) and teacher competence in Sabah. The findings show that there is a significant relationship (r = .366 **, p = 0.00 <0.05) between the implementation of the Professional Learning Community (PLC) with the competence of Science teachers. This relationship is a weak relationship. Therefore, H_{01} is rejected.

H_{02} There is no significant influence between the professional learning community and teacher competence.

This analysis is done to predict the contribution of the variance of predictor variables of the Professional Learning Community (PLC) to the competence of Science teachers as the criteria variable.

Table 2a :Model Summary

Model	R	R square	Adjusted R square	Standard Error of Estimate
1	.366[a]	.134	.125	.45829

Table 2b : Anova

Model	Sum. Of Squares	Df	Mean Square	F	SSig
Regression	3.177	1	3.177	15.125	.000[b]
Residual	20.583	98	.210		
Total	**23.760**	**99**			

Table 2c: Coefficients

Model		Unstandardized Coefficients		t	Sig.
Professional Learning Communities	B	Standard Error	Beta		
	2.663	.393		6.783	.000
	.359	.092	.366	3.889	.000

Regression analysis shows the implementation of the Professional Learning Community (PLC) to be the predictor of the science teacher competency score. The findings show that there is a positive linear relationship (R = .366) between Professional Learning Competency (PLC) and Science teacher competence. Significantly, tables 2b and 2c show that the implementation of the Professional Learning Community (PLC) [F = 15.125, P <.05] accounted for 13.4% of the variance (R2 = .134) in teachers' competencies (criteria variables). This conclusion was made at a significance level, α = .05 (5%) or a confidence level (95%).

Table 3 : Research Variable

Pemboleh Ubah	B	β	t-Value	P	R^2	Contribution
Professional Learning Community (PLC)	.359[a]	.366	.3.889	.000	.134	13.4

Discussion

The Relationship Between The Professional Learning Community (PLC) And Science Teacher Competence.

The findings of the study on the relationship between the professional learning community and teacher competence show that the implementation of the professional learning community in this study supports teaching and learning in the classroom. For researchers, the contribution of the Professional Learning Community (PLC) to teacher competence can prove that school teachers share feedback and education information. The results of this study are consistent with the opinion of Reichstetter (2006) and Stoll et al. (2005) which states collaborative cultures based on collaborative efforts especially teachers share responsibility and work in a team to enhance student learning.

In the Professional Learning Community (PLC) teachers learn new things in education related issues in order to adapt to the changing and current challenges. Teachers are open to accepting suggestions for teaching and learning improvements that involve activities related to curriculum development such as daily lesson plans and annual learning plans. The findings also support the finding of Jamali, Sidani and Zouien (2009) findings that individuals in learning organizations demonstrate positive learning patterns. Where teachers mutually learn something new between them, they form a positive attitude toward improving the teacher's competence.

The Role of the implementation of the Community Learning Practice (PLC) on Teacher Competence.

The findings of the study on the influence of the implementation of the professional learning community show that, the implementation of the professional learning community by teachers as a predictor factor had positive relationships and thus affecting the teacher's competence. Therefore, the implementation of the Professional Learning Community (PLC) among teachers has had a big impact on the competence of Science teachers in Sabah. Teamwork among teachers ensures the achievement of goals in the Professional Learning Community (PLC). The findings of the Atak (2011) and Celep, Konakli and Recepoglu (2011) study show that the implementation of collective learning practices and team commitment is an indication of an organizational learning within the community. Teachers in

teams also have the opportunity to improve their competence through dialogue and discussion activities and apply skills, strategies and practices in their daily tasks.

Conclusion

Overall, the increased competence of teachers is essential to prepare for the various educational challenges. The Professional Learning Community is one of the factors that contribute to ensuring student identity in the meantime helping teachers share their knowledge. For example, in order to achieve this goal, teachers and school team management have been continuously involved in finding and sharing the lessons and practicing the knowledge so that students will get the benefit. The implementation of the professional learning community in school brings positive impetus to the development of teacher competence in terms of knowledge, skills and abilities. This collaborative knowledge sharing led to the proliferation of creative ideas in improving pupil performance and directly enhancing teacher teaching. Hence, the school community should continue to work bureaucratically 'top-down' to a shared partnership towards overall education innovation

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