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The Relationship Between Professional Development and Continual Improvement in Suburban National Secondary Schools

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Abstract

Professional development is an opportunity to improve teachers' instructional strategies and increase the students' achievement for school continual improvement. However, the short term courses and limited collaboration were ineffective in helping teachers to master their instructional strategies. Thus, teachers field competency problem affected the school continual improvement. Most of the empirical research in educational field in Malaysia focused on professional learning communities. The purpose of this research is to determine the relationship between professional development and school continual improvement. This survey research focused on two suburban national secondary schools which have the same characteristics in Subis. 97 respondents were selected randomly to answer the PDSCI instrument. The results showed that professional development and continual improvement had medium and positive significant relationship ($r=.426$, $p<.001$). The coefficient of determination of professional development standards was 18.14% shared variance. School continual improvement factors help to explain 18.14% of the variance in respondents' scores on the professional development standards. The null hypothesis was rejected and alternative hypothesis was accepted. The findings highlighted that principals should put more effort on the relationship between learning communities standard and school climate, teacher improvement and principal leadership factors. Besides, professional development design and data driven standards should match the school climate. It also serves as a valuable information for stakeholders to improve the professional development program to achieve school continual improvement goal.

Keywords: Professional development; School continual improvement; PDSCI instrument; Suburban national secondary schools.

1.Introduction

Quality education produce human capital which is able to address the challenges of globalization. Hence, teachers should equip themselves with the 21st century educator characteristics to ensure instruction is appropriate with the dynamic and challenges in the educational ecosystem (Khair Mohamad Yusof, 2016). Professional development is a process obtained through training to improve pedagogy skills, research, personal development, management and assessment (Fakhra Aziz and Mahar Muhammad Saeed Akhtar, 2014). Progressive Professionalism Development Plan was formulated to improve teachers and school leaders quality, empower teaching profession through professional development (Kementerian Pendidikan Malaysia, 2016).

In this research, learning communities, leadership and resources standards were the context of dimension framework in professional development. Learning communities encouraged collaborative and collective learning amongst teachers to produce daily social changes in school (Wested, 2000). Teachers could learn new pedagogical skills and teaching strategies through learning community to enhance students learning in order to achieve school goals. Student learning improvement required skillful school and district leaders to guide toward continual instructional improvement (Schramm, 2006). The principal, as an instructional leader need to inform teachers of the importance of continual professional development to enhance instructional effectiveness. Resources were the various sources and educational technology used by teachers. However, professional development infused technology as the most important resources to formulate, collaborate and evaluate experiences with the stakeholder (Gersten *et al.*, 2003). Thus, teachers should have mastery their Information and Communication Technology (ICT) skills through learning community, collaboration and cooperative activities to enable them effectively in classroom instruction. These learning communities, leadership and resources standards address conditions under which the professional development took place.

Data driven, design, collaboration and learning standards were the process of dimension framework in professional development. Classroom-based data was used to determine the students achievement, instructions, curriculum decisions and assessment. Educators and policymakers need the data analysis for various interventions and pilot programs designed in order to improve students performance and consequently confirm school improvement (NCREL, 2005). Teachers should always update and monitor their students learning progress for continual improvement. Systematic professional development design can improve teachers' knowledge and student achievement (Garet *et al.*, 2008). When creating any professional development programme, the principal should

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ensure that design and activity suit the needs of teacher personal development and students learning outcome. Collaboration referred to group activities, discussion, peer coaching, decision making committee, leadership team and teachers' networking (Bull and Buechler, 1996). Teachers should participate in any collaborative activity and be active leaders in collaborative teams. This will ensure that learning improve teaching strategies and capacity, networking and increase the levels of profession efficacy (Roberts and Priutts, 2003). Thus, teacher should be actively involved in collaborative learning such as peer coaching, lesson study, gallery walks and professional learning community. These data driven, design, collaboration and learning standards addressed how was the professional development designed.

Equity and quality teaching standards were the content of dimension framework in professional development. Equity referred to teachers understanding of students' needs and acknowledgement, a safe and supportive learning environment, and high expectation of students academic achievement (Schramm, 2006). Teachers should be competent to deal with issues to fulfil students' different needs.

Quality teaching is the understanding of lessons content, subject matter, teaching techniques and teacher's willingness to learn new skills and strategies (Nye *et al.*, 2006). Hence, teachers need to improve the quality of their instruction through formal or informal professional development in order to master multi instructional strategies to guide students. The equity and quality teaching standards assess what teachers learned through professional development.

School improvement was a journey towards excellence which involved several processes of change. Professional development encouraged individual and collective learning to ensure the school continual improvement (Tobergte and Curtis, 2002). The success of school continual improvement depends on the ability of the school to manage change and development. The most successful school improvement projects across the country are aware that school advancement is not a single activity or approach but a set of effective professional development process to improve teaching and learning competencies (Harris, 2002).

In this research, five factors of school continual improvement including school climate, principal leadership, teacher improvement, curriculum development and high level performance were used. School climate was associated with the safety, healthy relationships, engaged learning and teaching, and school improvement efforts (Cohen J. *et al.*, 2009; Cohen J. and Geier, 2010). Principal leadership distinguished how principals use targeted approaches on teachers to influence their learning and instruction (May and Supovitz, 2011).Teacher improvement is a process of identifying the strength and weaknessess in teaching to make positive changes based on students' learning outcomes. Curriculum development was defined as planned, purposeful, progressive and systematic process to create positive improvements in the educational system (Bilbao *et al.*, 2008). High level performance meant the ability of the school to achieve better results within a set period.

The Ministry of Education aims that 90% of secondary students can attain pass with credit (grade B or C) in the Malaysian Certificate of Education in 2025. However, annual report showed that non-option teachers are still unskillful in teaching Malay language (Ministry Of Education Malaysia, 2016a). In addition, although 13,000 History teachers who were Science optionists attended five weeks Add Option Intervention Program at three local universities, it is found that many are still relying on History textbooks without considering students' understanding, interpretation and analysis of the historical events (Ahmad, 2014). Those phenomenon's showed that short term courses and limited collaboration were ineffective in helping the teachers to master their instructional strategies. Passive learning (e.g. attending a workshop) has not been found to have a significant impact on teacher practices (Smith, 2010). Thus, teachers field competency problem affected the school continual improvement and the transformation of world level education in 2025.

Teachers in Europe and Asia used 15 to 25 hours per week for professional development activities such as lesson study, action research, peer coaching and evaluation guidance to improve their instructions (Darling-Hammond, 2011). Therefore, professional development is essential for teachers to improve their instruction and contribute to school continual improvement. Studies showed that the education system with a culture of collaboration through mentoring, coaching, best practice sharing and enhancing colleagues accountability can enhance professional standards for school continual improvement (Kementerian Pendidikan Malaysia, 2012). Thus, it is necessary for the researchers to carry out this research to determine the relationship between professional development and school continual improvement.

2. Methodology

This survey research focused on two of the four suburban national secondary schools in Subis, Sarawak which have the same characteristics which represent the population of the study. Both are ranked at Band 5 based on the students' public examination result, grade A boarding school with a population of more than 1000 students. Among a total of 130 teachers, 97 (Krejcie and Morgan, 1970) of them were selected randomly as respondents.

PDSCI instrument was an acronym of professional development and school continual improvement. Professional development tends to be more effective when it is an integral part of a larger school improvement effort, rather than isolated activities that have little to do with other school initiatives or changes (Darling-Hammond *et al.*, 2009). School continual improvement can be achieved by the participation of teachers in professional development programs and activities. Thus, PDSCI instrument was a combination of Standard Assessment Inventory (SAI) and school continual improvement instruments to determine the relationship between professional development and school continual improvement. Professional development Cronbach alpha was .93 and school continual improvement was .93showed that the PDSCI instrument scored high reliability, stable and consistent for

research. The person and item measurement reliability developed by Fisher (2007)indicated that <.67 was poor, .67-.80 was fair, .81-.90 was good, .91-.94 was very good and >.94 was excellent.

PDSCI instrument consisted three sections. Section A had five items about respondent's demographics such as gender, age, qualification, teaching experience and experience of teaching in the same school. Section B had 30 items of professional development which adapted from Standard Assessment Inventory (SAI) (Giwa, 2012). Five items for learning community, four items for leadership, four items for resources, three items for data driven, two items for design, five items for collaboration, three items for learning, two items for equity and two items for quality teaching. Standard Assessment Inventory (SAI) provided school leaders and professional developers with quality standards to create effective professional learning opportunities for teachers (National Staff Development Council, 2010). Section C had 20 items of school continual improvement adapted from Kazi *et al.* (2010) which comprised four items of school climate, three items of teacher improvement, four items of principal leadership, four items of curriculum development and five items of high level performance. These critical success factors are a key focus areas in school improvement planning which were thoughtfully developed by stakeholders to ensure the campus initiatives are successful (Gates, 2010). PDSCI instrument had 50 items measured utilizing a 5-point Likert scale with the following response option: never (1), rarely (2), occasionally (3), frequently (4) and very frequently (5) (Brown, 2010).

Data collected was analysed using Statistical Package For The Social Sciences (SPSS) version 23.0, Windows 2015. The relationship between professional development and school continual improvement in suburban national secondary schools was established by Pearson r correlation coefficient. The value of correlation r=.10 to .29 was small, r=.30 to .49 was medium, r=.50 to 1.0 was large (Cohen, 1988).

3. Result and Discussion

Descriptive analysis in Table 3.1 explained the respondents' demographics information. 34 respondents are males (35.1%) and 63 are females (64.9%). 56 respondents are between 22 and 35 years old, whereas 37 respondents are 36 to 56 years old, and only 4 respondents are 57 years old and above. 97.9% respondents possessed Bachelor Degree and 2.1% respondents possessed Master Degree. 60.8% respondents with 1 to 10 years of teaching experience, 28.9% respondents with 11 to 20 years of teaching experience, and only 10.3% respondents with 21 years and above of teaching experience. 52 respondents have 1 to 5 years experience of teaching in the same school, whereas 18 respondents have 6 to 10 years experience of teaching in the same school, and 27 respondents have 11 years and above experience of teaching in the same school.

Table-3.1. Respondents' Demographics Information (n=97)

Demographic Information	Frequency	Percentage
1. Gender		
Male	34	35.1
Female	63	64.9
2. Age		
22-35 years old	56	57.8
36-56 years old	37	38.1
57 years old and above	4	4.1
3. Qualification		
Bachelor's Degree	95	97.9
Master's Degree	2	2.1
4. Teaching experience		
1-10 years	59	60.8
11-20 years	28	28.9
21 years and above	10	10.3
5. Experience of teaching in this school		
1-5 years	52	53.6
6-10 years	18	18.6
11 years and above	27	27.8

Table 3.2 presented the correlations coefficients among professional development standards which consisted of learning communities, leadership, resources, data driven, design, learning, collaboration, equity and quality teaching with school continual improvement factors included school climate, teacher improvement, principal leadership, curriculum development and high level performance.

The inference analysis showed that learning communities standards had a weak correlation and significant relationship with school climate factor (r=-.005, p<.001), teacher improvement factor (r=.027, p<.001) and principal leadership factor (r=.091, p<.001). This result indicated that there was a lack of collaborative and collective learning among the respondents. Thus, school leaders should prioritize learning communities to meet on a regular basis, several times a week if possible for joint lesson planning, learning and problem solving among the teachers (Learning Forward, 2017). Teaching and learning engagement can be improved through more interaction among the administrators, teachers and students. There should be more focus on school climate reform in order to encourage the improvement of learning climates in schools through advocacy, policy, measurement, research and educational

services that translate research into relevant practice (NSCC, 2012). Moreover, principal's leadership has direct effect on improving teaching by creating conducive conditions to a good learning environment. According toWallace Foundation (2011), improving instruction will enable teachers to teach at their best and students to learn attheir utmost.

Leadership standard and principal leadership factor had a significant positive medium correlation (r=.355, p<.001). Both leaderships help teachers to improve their instructional strategies and students learning to achieve the school goals. Leadership is all about organizational improvement, establishing agreed-upon and worthwhile directions for the organization in question, doing whatever it takes to prod and support people to move in those directions (Louis *et al.*, 2010). In addition, principal leadership effects on student learning occur largely because it strengthens professional community, teachers' engagement in professional community fosters the use of instructional practices that are associated with student achievement (Wahlstrom *et al.*, 2010). The significant relationship between leadership and principal leadership complement each other in those suburban national schools management field.

There were small correlations and significant relationship between resources standard and school climate (r=.228), teacher improvement (r=.296), principal leadership (r=.257), curriculum development (r=.233) and high level performance (r=.226) factors. Respondents used the resources and educational technology in teaching to achieve the students' leaning outcome. Principals influence teachers learning and instruction which were related to the curriculum and achievement within a set period. Professional learning can increase teachers' effectiveness and students' achievement through coordinating the resources (Learning Forward, 2017).

Data driven standard had significant positive and weak correlation with school climate factor (r=.057, p<.001). Classroom-based data was less used to determine the students' achievement, instructions, curriculum decisions and assessment as a teaching and learning culture in those suburban national secondary schools. Principal should provide ongoing learning opportunities for teachers to discuss and analyze their students' data (WardRoberts, 2009). Thus, teachers and administrators must gain multiple opportunities to gain knowledge and skills related to the collection and analysis of data as well as data-driven planning and evaluation (Fullan, 2014)because data analysis isbeneficial for school continual improvement.

Design standard and school climate factor had a positive and weak significant relationship (r=.039, p<.001). School leaders should ensure the professional development programmes are facilitated to the teachers' professional needs. The school-level factor can also be considered to facilitate teachers' participation in decision-making, a clear vision, support through flexible time table, the encouragement of experimentation, the auditing of knowledge and skills (Fullan, 2014). Besides, teachers should understand that learning can also occur through modes such as curriculum development, analysis of student work, study groups and professional networking (National Staff Development Council, 2008).

Learning standard had positive and medium correlation with principal leadership factor (r=.362, p<.001). The result showed that respondents learning for instruction strategies had significant relationship with principal's leadership. Some organizations treat learning as a more important level which can affect significant change, unlocking the talents of people who would not normally voice their ideas, providing an opportunity to shift working relationships, as facilitating progression, as part and parcel of their competitive advantage (UKCES, 2010). Hence, the principal should provide a good learning opportunity and environment for teachers to learn from each other, share their knowledge and pedagogigal skills to achieve their teaching effectiveness.

There were small correlations and significant relationship between collaboration standard and school climate (r=.110**),** teacher improvement (r=.129), principal leadership (r=.240), curriculum development (r=.204) and high level performance (r=.159) factors showed that respondents' less involvement in group activities, discussion, peer coaching, decision making committee, leadership team and networking. Actually, collaborative learning approaches to professional development can be difficult in a profession that is permeated by the individualistic nature of teaching (Mathews, 2010). Nevertheless, it is widely accepted that a considerable proportion of teacher learning happens through collaborative interplay with others (English, 2008). In accordance with this belief and the concept of teachers as participants within the school community focusing on school improvement need to shift from a focus on individual practices to collaborative practices within schools (Bolt, 2007).

Equity standard and high level performance factor had positive and medium correlation (r=.304, p<.001). Those schools' respondents had good understanding of students' needs, appreciation, a safe and supportive learning environment. High expectation in students academic achievement enable the respondents to achieve better results within a set period. Equity is intrinsic to all aspects of school climate work (Ross, 2013), which can help the teachers to improve students learning and hold high expectations for their academic achievement (National Staff Development Council, 2008).

Quality teaching standard had positive weak correlation and significant relationship with principal's leadership factor (r=.086, p<.001). Leadership has a profound impact on motivation and quality teaching in classrooms among teachers (Fullan, 2001; Kervin, 2007; Rhodes *et al.*, 2004), and on promoting and sustaining change (Fullan *et al.*, 2005). Therefore, principals should play their important role to improve teachers' instructional skills in order to reach increased expectations. Professional development does not just happen, it has to be managed and led' (Earley and Bubb, 2004) or led and supported (NCCA, 2010).

Table-3.2. Pearson Correlations Between Professional Development Standard and School Continuoal Improvement Factors In Suburban National Secondary Schools (n=97)

PD Standards	SC	TI	PL	CD	HLP
1. Learning communities	-.005**	.027**	.091**	.128**	.191**
2. Leadership	.104**	.162**	.355**	.190**	.311**
3. Resources	.228**	.296**	.257**	.223**	.226**
4. Data driven	.057**	.171**	.246**	.230**	.090**
5. Design	.039**	.159**	.175**	.200**	.260**
6. Learning	.127**	.211**	.362**	.236**	.328**
7. Collaboration	.110**	.129**	.240**	.204**	.159**
8. Equity	.256**	.198**	.146**	.174**	.304**
9. Quality teaching	.183**	.175**	.086**	.300**	.215**

** p <.001 (2-tailed)
Instruction:
SC = School Climate
TI = Teacher Improvement
PL = Principal Leadership
CD = Curriculum Development
HLP = High Level Performance

Pearson Correlations in Table 3.3 found that the relationship between professional development standards and school continual improvement factors were positive at medium correlation is significant (r=.426, p<.001). The coefficient determination of professional development standards was 18.14% shared variance. School continual improvement factors help to explain 18.14% of the variance in respondents' scores on the professional development standards. This result indicated that the null hypothesis was rejected and alternative hypothesis was accepted. It supported the findings cited in (Kazi *et al.*, 2010),teachers' professional development and school improvement had positive significant relationship.

Table-3.3. Pearson Correlations Between Professional Development Standard and School Continual Improvement Factors In Suburban National Secondary Schools (n=97)

Variable	Correlation Value
1. Professional Development Standards	.426**
2. School Continual Improvement Factors	.426**

4. Conclusion

Most of the empirical research in educational field in Malaysia focused on professional learning communities. This particular research contributed to the involvement of selected school teachers in profesional development and school continual improvement. The research findings explained that professional development standards and critical success factors improvements had significant correlation which can motivate teachers to be active learners in professional development programs and activities. Teachers are tasked with developing learners who independently seek to gain knowledge and skills throughout life (Blaschke, 2012). In other words, professional development is an ongoing activity which can improve teachers knowledge and teaching strategies to achieve the students learning outcomes and school goal.

This research perceived that the medium relationship between professional development and school continual improvement served as a valuable information for stakeholders especially the Ministry of Education, District Education department and school management to improve the professional development programs to achieve the school continual improvement goal. In order for teachers to change teaching practices and successfully implement inclusion, they must participate in professional development activities which can meet the needs of the individuals (Shaffer and Thomas-Brown, 2015). Thus, the diversity of professional development activities must match the teachers' and students' needs.

The result also indicated that professional development was significantly linked to school continual improvement. It highlighted that principals need to focus on the relationship between learning communities standard and school climate, teacher improvement and principal leadership factors. The principal's role is to lead the school teachers in their learning process to improve their teaching while learning alongside them about what works and what don't (Fullan, 2014) because leadership is viewed as a key mechanism for improving schools. In addition, professional learning can increase teachers effectiveness and students achievement within the learning communities committed for continual improvement, collective responsibility and goal alignment (Learning Forward, 2017). The conducive learning communities is an overview of positive and healthy school climate which enable teacher professionalism improvement and students' performance.

Professional development design and data driven standards need to be related to the school climate especially the school-based professional development program. Hence, it is highly recommended that professional development leaders make selections based on the intended outcome along with the participants' background knowledge and experience. It is not limited to coursework, training, workshops and group presentations, but can occur through modes such as curriculum development, analysis of student work, study groups and professional networking. Nowadays, it can be accomplished in many ways through the use of technology and individualized to fit within the framework of the school improvement plan (National Staff Development Council, 2008).Therefore, teachers should

make use of every opportunity be it formal or informal professional development to become knowledgeable and skilful in their teaching profession. Besides, teachers and administrators must have multiple opportunities to gain knowledge and skills related to the collection and analysis of data as well as data-driven planning and evaluation (Fullan, 2014). Data driven can help the teachers and administrators to identify teaching and learning priorities, monitor progress and achieve the school continual improvement.

Based on this research findings, the professional development standards in Malaysia to gauge school continual improvement needs to be reviewed. In order for it to be more effectiveness measuring school continual improvement, the researchers suggested three more standards such as evaluation, research-based, family and community involvement be included in the professional development standards. A comparative research can be conducted to compare the professional development standards among city, suburban and rural national secondary schools continual improvement. In addition, respondents' demographics information such as gender, age, qualification, teaching experience and number of years teaching experience in the same school can be tested to identify whether those characteristics influence the professional development standards on school continual improvement. Further research can also involve principals as respondents to evaluate the school-based professional development toward the school continual improvement.

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