

The Influence of Distributive Leadership and School Culture on Professional Learning Community (PLC) among Preschool Teachers

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ABSTRACT

This study examines the influence of distributive leadership and school culture on Professional Learning Communities (PLCs) among preschool teachers. PLCs serve as collaborative mediums that support knowledge sharing, practice reflection and continuous improvement of teacher professionalism. The approach of this study is quantitative, utilizing a survey method with a questionnaire as the main instrument, involving preschool teachers in the Kota Belud district of Sabah, Malaysia. The raw data obtained were then analyzed using IBM SPSS version 30, employing descriptive analysis, one-way analysis of variance (ANOVA) and regression analysis. The study's results showed no significant difference in distributive leadership and school culture based on age. However, both had a significant influence on the formation of PLC. The beta coefficient value showed that distributive leadership ($\beta = .312, p = .004$) and school culture ($\beta = .239, p < .001$) were significant predictors of the effectiveness of PLC. This finding confirms that distributive leadership and a collaborative school culture can continuously strengthen teacher professionalism. Overall, this study offers important implications for school leaders and education policymakers to strengthen distributive leadership practices and foster a school culture that supports the development of a PLC among preschool teachers in Malaysia.

Keywords: Distributive Leadership, School Culture, Professional Learning Community, Preschool Teachers

INTRODUCTION

Preschool teachers play a crucial role in laying the foundation for early childhood education. In an effort to enhance the quality of early childhood education, particularly in preschools across Sabah, the Professional Learning Community (PLC) approach is one initiative that can foster continuous, collaborative professional development among teachers. PLC is a strategic approach that encourages continuous learning, peer collaboration and reflection on practice among teachers (Zuhailla Za'aba, Bity Salwana, Mohd Izham, 2024). However, research on the implementation of PLC among preschool teachers still receives little attention in local research.

The main objective of the Ministry of Education (MOE) Malaysia is to ensure that every school in Malaysia is led by high-performing leaders, as outlined in the Malaysian Education Blueprint (PPPM) 2013-2025, which in turn is an education transformation plan towards 21st-century education. Therefore, distributive leadership aligns with the leadership requirements at the Second Wave stage of PPPM, starting in 2016, specifically quality leadership in schools through the implementation of capacity development that draws on international practices. Distributive leadership of school leaders is one of the initiatives that can contribute to a collaborative culture in schools through collective. The effectiveness of PLC is also influenced by the school culture that exists in an educational organization. PLC practices are influenced by a school culture that supports the values of collaboration, professional organizational trust, and pedagogical innovation, which can encourage active teacher involvement (Lee & Louis, 2019; Hargreaves & O'Connor, 2017; Wan Fadhlurrahman, Al Amin Mydin, & Aziah Ismail, 2020). A lack of consensus among professionals is often observed in educational organizations (Golden, 2017). This problem is a significant factor in the failure to meet expectations, which is necessary for improving the teaching culture. Therefore, PLC can foster a collaborative environment, provide emotional

support, and promote self-confidence through cooperation to achieve what cannot be accomplished individually (Golden, 2017).

Study Objectives

This study examined the effects of distributive leadership and school culture on PLC among preschool teachers in the Kota Belud district, Sabah. In this regard, this study formulated the following objectives:

1. Identify the level of distributive leadership, school culture and PLC.
2. Identify the differences in distributive leadership, school culture and PLC based on age.
3. Identify the influence of distributive leadership and school culture on PLC.

Research Hypothesis

Based on the study's objectives, a null hypothesis has been formulated. The null hypothesis level in this study is set:

Ho1 There is no significant difference in distributive leadership based on age.

Ho2 There is no significant difference in school culture based on age.

Ho3 There is no significant influence of distributive leadership and school culture on PLC.

LITERATURE REVIEW

Distributive Leadership

According to Menon (2011), the distributive theme was first introduced by Gibbs in 1954, who stated that leadership should not be viewed as a single individual's responsibility, but rather as a shared function and role among individuals. The distributive perspective is a leadership method that empowers the behavior of one or more leaders within an organization (Spillane, 2006). The concept of distributive leadership, which involves leadership shared within and between schools (Harris, 2008, p. 16), is a key factor in maintaining excellent schools. Furthermore, Harris (2004) defined distributive leadership as a source of guidance and direction, stemming from expertise within an organization that is made coherent through a shared culture.

Leithwood et al. (2019) discovered that older teachers were more likely to engage in distributive leadership (Ng, 2020; Abdul Ghani and Jamilah, 2020) due to their extensive experience, high level of professional maturity, and deep understanding of school culture. Since young teachers are still forming their professional identities, however, a study by Mohd Saidfudin and Ahmad (2021) found that the age factor cannot be viewed in isolation, as organizational culture and support from school administrators also play significant roles in determining how distributive leadership is implemented.

A study by Mohd Hamzah and Jamil (2020) found that distributive leadership has a significant influence on teachers' PLC practices in Malaysia. Furthermore, a fair distribution of power and responsibility can help increase collaboration and foster continuous learning. This result is supported by a study by Liu et al. (2022), which states that distributive leadership creates a positive school environment, fosters a culture of collaboration, and enhances the effectiveness of PLC (Zakaria, Abd Rahman, and Ahmad, 2021).

School Culture

School culture is determined by the values, shared beliefs and behaviours of various stakeholders in the school community and reflects the social norms of the school (Groseschl and Doherty, 2000). School culture is a pervasive element in schools. It encompasses everything in the school; how people act, how they dress, what they talk about or avoid talking about, whether or not they approach colleagues for help, teachers' feelings about their own work and their students' feelings and students' feelings about the school (Deal & Peterson, 1999).

Research highlights that age influences how teachers view aspects of school culture such as collaboration, shared vision and distributive leadership. Because they are more open to teamwork and innovation approaches, young teachers under 35 years of age have a more positive attitude towards teamwork culture (Gruenert and Valentine, 2006). In contrast, older teachers over 45 years of age have a higher regard for the stability of formal structures and traditional principles of the organisation. A local study by Goh Kok Ming (2025) found that the collaborative culture dimension in the School Culture Survey (SCS) instrument showed high scores for young teachers, while the vision sharing dimension scores high for more senior teachers.

The study by Aisha Naz Ansari and Muhammad Mujtaba (2024) has a direct factor through school leaders. Their study explains that school leaders use school culture as a context to encourage a culture of teacher collaboration and the formation of PLC. In the study by Harmen Schaap and Elly de Bruijn (2018) concluded that there are elements that influence the formation of PLC but these elements provide non-static findings. One of the elements studied is strong alignment and ownership indicating effective PLC while elements such as reflective dialogues and socialisation are considered intermediary mechanisms that encourage a developing PLC culture.

Professional Learning Communities (PLC)

In Malaysian education, professional learning communities are groups of people who work together in schools to work professionally to improve student learning. They work together improve student learning. They work together through five characteristics outlined by Hord (2004): shared and supportive leadership, shared values, mission and vision, collective learning and application, supportive environmental conditions, and shared best practices. One of the training programs developed by the MOE is PLC, which aims to enhance and develop teacher professionalism. This is done to achieve the government's objective, which has set targets in the National Key Result Areas (NKRA) in education to produce excellent teachers and school leaders (MOE, 2015). Therefore, having a deep understanding of the concept and definition of PLC in the national context is important, as PLC is a process of transitioning from individual to collaborative teaching.

Previous studies have shown that the level of PLC implementation by teachers varies according to school, leadership support, and organizational culture. In an international study, Liu, Hallinger, and Feng (2022) found that the level of PLC in China showed an increase in collaborative learning, but less in sharing practices and critical reflection. According to Mohd Saidfudin and Ahmad (2021), the implementation of PLC in Malaysian schools is still moderate, especially in terms of professional collaboration and joint reflection. A study conducted by Norazilawati et al. (2020) found that primary school teachers in Malaysia had the weakest PLC components, especially related to sharing practices and collective learning. This was due to a lack of time, numerous tasks to be completed, and a lack of support from management.

A study by Yang Li and Chia-Ching Tu (2018) revealed that young teachers under 30 had higher mean scores for each PLC element than older teachers. This is because teachers tend to be more open to collaborating, sharing values and visions, and being open to innovation in PLC. A study by Dandy George Dampson (2021) found that young teachers have a greater tendency to use a collaborative approach, while older teachers tend to emphasize aspects of leadership support and organizational tradition. Similarly, Fred Huijboom, Pierre van Meewen, Ellen Rusman and Marjan Vermeulen (2023) in their study found that older groups of teachers who chose traditional, face-to-face approaches had a lower tendency to build dynamic and digital PLC structures.

STUDY METHODOLOGY

Study Design

This study is quantitative research using the survey method. A questionnaire form was used as a research instrument to gather information from respondents about distributive leadership, school culture, and PLC implementation among preschool teachers in Kota Belud District, Sabah. Data analysis was conducted using both descriptive and inferential analysis. The respondent profile was explained through frequency and percentage analysis. To explain the difference in distributive leadership, school culture and PLC based on age,

the researcher used one-way ANOVA analysis. The influence of distributive leadership and school culture on PLC can be explained through multiple regression analysis.

Population and study sample

According to Ahmad (2015), a population is defined as a group of entities, elements, things, or objects that are the subject of study. In this study, the study population consists of teachers who teach at KPM preschools in Kota Belud district primary schools, which comprise a total of 130 preschool classes in primary schools. The sample size in this study comprises 100 KPM preschool teachers, and the sample size estimate is based on the sample size calculation by Krejcie and Morgan (1970).

Research instruments

The questionnaire consists of three parts. Part A consists of demographic items, namely age and length of service. Part B measures the construct of distributive leadership, namely the Distributive Leadership Model, which contains 16 items. In contrast, Part C measures the construct of school culture, namely the SCS, which contains 23 items, and Part D measures the construct of PLC (Assessing and Analyzing Schools as PLCs), which contains 15 items. Items in Parts B, C, and D use a five-point Likert scale, where point 1 represents the statement “Strongly Disagree,” point 2 represents “Disagree,” point 3 represents “Unsure,” point 4 represents “Agree” and point 5 represents “Strongly Agree.”

A questionnaire instrument was used to obtain accurate, valid, and reliable data. The validity and reliability of the questionnaire were assessed through statistical analysis, with Cronbach's Alpha and Kaiser-Meyer-Olkin (KMO) values exceeding 0.70, respectively. Furthermore, the instrument was adapted to align with the study's context. To assess the relationship between distributive leadership and school culture towards PLC among preschool teachers in the Kota Belud district of Sabah, statistical analysis was conducted using IBM SPSS Version 30.

STUDY RESULTS

The assessment of the three study variables based on age shows the mean score analysis. Distributive leadership recorded a mean score below $M=3.000$ for all age groups. The 20 to 25 year old group category showed the highest mean score ($M=2.7500$, $SP=0.9329$), while the 31 to 35 year old group showed the lowest mean score ($M=2.5337$, $SP=0.5256$). In contrast, school culture showed a mean score recorded below $M=3.000$. The analysis showed that the 41-year-old and above age group recorded the highest mean score ($M=2.7812$, $SP=0.5182$). The 26- to 30-year-old group recorded the lowest total ($M=2.4969$, $SP=0.4755$). Overall, the mean score based on age showed a high level in all groups, as given in Table 1:

Table 1: Mean Score of Study Variables Based on Age

AGE		DL	SC	PLC
20 – 25 years old	M	2.7500	2.6739	4.3831
	SD	0.93291	0.6023	0.42793
	N	6	6	89
26 – 30 years old	M	2.5982	2.4969	4.3500
	SD	0.46559	0.4755	0.43199
	N	14	14	90
31 – 35 years old	M	2.5337	2.6644	4.319
	SD	0.5256	0.6095	0.473
	N	39	39	143
36 - 40 years old	M	2.7273	2.6877	4.3838
	SD	0.6738	0.6474	0.39781
	N	11	11	99
41 years old and above	M	2.5896	2.7812	4.4008
	SD	0.52566	0.5182	0.39483

	N	30	30	60
Total	SD	0.55693	0.5653	4.3605
	N	100	100	0.43113
		100	100	481

Ho1 There is no significant difference in distributive leadership based on age

The descriptive analysis shown in Table 2 reveals the differences in mean scores of distributive leadership according to age. The findings of this study reveal significant variation among the study sample (N=100). Teachers aged 20 to 25 years recorded the highest mean score (M=2.7500, SD=0.9329, N=6), followed by teachers aged 36 to 40 years and below (M=2.7273, SD=0.6738, N=11), 26 to 30 years and above (M=2.5982, SD=0.46559, N=14), and 41 years and above (M=2.5896, SD=0.5256, N=30). This difference shows that teachers aged 20 to 25 years are more likely to have a positive influence on distributive leadership compared to other groups. Additionally, the analysis revealed that teachers with more than 31 to 35 years of experience recorded the lowest mean scores in distributive leadership.

Table 2: Descriptive Analysis of Distributive Leadership Variables Based on Age

Variabel		N	M	SD
Distributive Leadership	20 -25 years old	6	2.7500	.93291
	26-30 years old	14	2.5982	.46559
	31-35 years old	39	2.5337	.52563
	36-40 years old	11	2.7273	.67388
	41 years old and above	30	2.5896	.52566
	Jumlah	491	2.5938	.55693

Findings from one-way analysis of variance (ANOVA), comparing the mean scores of distributive leadership by age, as shown in Table 3, revealed no significant difference between age groups, $F(4,95) = 0.381, p > 0.05$.

Table 3: One-Way ANOVA Analysis of Distributive Leadership Based on Age

Variable		Ss	df	MS	f	Sig.
Distributive leadership	Between group	.484	4	121	.381	>0.05
	In group	30.223	95	.318		
	Total	30.707	99			

Ho2 There is no significant difference in school culture based on age

Based on the descriptive analysis of the difference in mean school culture scores according to age category in Table 4. Based on the entire study sample (N=100), teachers aged 41 years and above (M=2.781, SP=0.5182, N=30) recorded the highest score compared to teachers aged 36 to 40 years and below (M=2.6877, SP=0.6474, N=11), followed by teachers aged 20 to 25 years (M=2.6739, SP=0.6023, N=6), 31 to 35 years had a mean score value (M=2.6644, SP=0.6095, N=39). Finally, 26 to 30 years had the lowest value (M=2.6739, SP=0.6023, N=6). This analysis also shows that teachers aged 41 and above have a more positive perception of school culture. This reflects that they perceive a more conducive work environment compared to other age groups.

Table 4 Descriptive Analysis of School Culture Variables Based on Age

Variable		N	M	SD
School Culture	20 -25 years old	6	2.6739	.60230
	26-30 years old	14	2.4969	.47558
	31-35 years old	39	2.6644	.60951
	36-40 years old	11	2.6877	.64747
	41 years old and above	30	2.7812	.51829

Findings from one-way ANOVA analysis to compare mean school culture scores by age, as shown in Table 5, showed no significant difference between age groups, $F(4,95) = 0.606$, $p > 0.05$. This suggests that teachers' perceptions of school culture are largely consistent, regardless of age differences.

Table 5: One-Way ANOVA Analysis of School Culture Based on Age

Variable		<i>Ss</i>	<i>df</i>	<i>MS</i>	<i>f</i>	<i>Sig.</i>
School Culture	Between group	.787	4	.197	.606	>0.05
	In group	30.853	95	.325		
	Total	31.640	99			

Ho3 There is no significant influence of distributive leadership and school culture on professional learning communities (PLC).

Table 6 presents the beta coefficient analysis and significance levels for the study variables. The analysis found that the distributive leadership and school culture variables showed significant differences as predictors of the criterion variable, namely PLC. The beta coefficient value and significance level for the two predictor constructs showed that if distributive leadership changed by 1 unit, it caused a change in the criterion variable, namely TKO, by .312 ($\beta=.312$, $t=2.932$, $p 0.004$). Next, if the influence of school culture changed by 1 unit, this also changed PLC by .239 ($\beta=.239$, $t=9.904$, $p<.001$). This means that both factors play an important role in strengthening PLC implementation among preschool teachers.

Table 6 Stepwise Multiple Regression Analysis for Distributive Leadership Variables and School Culture on PLC

Predictor Variable	<i>B</i>	<i>t</i>	<i>P (Sig)</i>
DL	.312	2.932	0.004
SC	.239	9.904	<.001

Study Discussion

The study's results showed that among preschool teachers in the Kota Belud district, Sabah, school culture and distributive leadership had a significant impact on PLCs. The level of PLC increased significantly with a one-unit increase in distributive leadership ($\beta = .312$, $t = 2.932$, $p = .004$), according to the results of multiple regression analysis. Similarly, a positive school culture also made a significant contribution to PLC ($\beta = .239$, $t = 9.904$, $p = .001$). These results indicate that both variables are important predictors of increased PLC use in preschool schools.

Overall, these findings support the opinions of Hamzah and Jamil (2019) and Ismail et al. (2022) that distributive leadership is crucial for fostering a collaborative environment that promotes continuous learning among teachers. By employing a distributive leadership approach, a leader empowers teachers to share responsibility and reinforces the notion that everyone has a stake in the school's goals. Preschool teachers in the Kota Belud district were seen to be more committed and enthusiastic when they were given the trust and opportunity to be directly involved in PLC activities and decision-making processes. A good school culture also helps in implementing PLC.

This is consistent with Lee and Louis (2019) and Hargreaves and O'Connor (2017), who argue that a strong collaborative culture can enhance knowledge sharing, practice reflection and pedagogical innovation. Teachers of all ages believe that a supportive work environment is important. The ANOVA results showed that there were no significant differences in school culture based on age $F(4,95) = 0.606$, $p>0.05$). This suggests that good cultural practices are not age-dependent. They depend on the principles of collaboration and professionalism shared within the school community.

This study also supports Spillane's (2006) theory of distributive leadership, which posits that leadership is a social process shared by all members of an organization. This approach is used in preschools to create an

atmosphere of trust and shared responsibility between teachers and leaders. This is important to ensure that the goals of PLC are achieved, which are to improve the quality of teaching and learning through continuous reflection and collaboration.

However, the results also indicate that preschool teachers exhibit moderate levels of distributive leadership and a positive school culture. Factors such as teacher workload, lack of time, and reliance on school teachers' instructions can cause this. Therefore, school administrators should increase opportunities for distributive leadership training and plan to create a sustainable culture of collaboration among preschool teachers.

CONCLUSION

According to this study, two key factors that influence the effectiveness of PLCs for preschool teachers are school culture and distributive leadership. The trust, shared responsibility and collaborative spirit that underpin the success of PLCs can be developed by leaders who adopt a distributive leadership approach. At the same time, a positive school culture enables teachers to work together more effectively, which in turn supports continuous learning within the educational community

The findings of this study have significant implications for school leaders and policymakers. School leaders should expand the practice of distributive leadership by delegating responsibility, providing professional support and recognising teachers' work. However, policymakers may wish to consider increasing professional development training for preschool teachers that focuses on collaboration and leadership.

Ultimately, the success of PLCs in preschools hinges on teachers' personal commitment, as well as inclusive leadership and a school culture that fosters collective learning. A concerted effort among administrators, teachers, and policymakers is essential to ensure that the goals of improving teacher professionalism and the quality of early childhood education in Malaysia can be achieved holistically and continuously.

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