

The relationship among culturally responsive leadership and PLC practices in small schools in Peninsular Malaysia

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ABSTRACT

The study's goals were to find out how much culturally responsive leadership headmasters are employed and how many professional learning community (PLC) are set up in small schools. It also looked into the relationship between these two variables by using a questionnaire in a quantitative survey design, which was administered to 546 respondents out of 754 that had been distributed. Descriptive statistics were used to study the level of perception of all variables, and inferential statistics used Pearson's correlation coefficient to study the relationship between the variables. The findings of the study showed that school headmasters practiced a culturally responsive leadership style, and teachers also participated a lot in PLC. Teacher participation in PLC had a significant relationship with culturally responsive leadership at the 0.05 significance level. The results of the study also showed that culturally responsive leadership accounts for 48.7% of the variance in teacher participation in PLC. This finding greatly suggests that culturally responsive leadership practices are important in contributing to teachers' practices in PLC, which in turn will improve student learning.

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1. INTRODUCTION

Malaysia has a uniquely diverse society rich in racial, religious and ethnic variety. In Malaysia, Malay, Chinese and Indian people make up the majority of the citizens. However, there are other racial and ethnic minorities living in Peninsular Malaysia as well as Sabah and Sarawak. In addition, Malaysia has an indigenous population consisting of various races and ethnicities. For instance, there are 27 *Orang Asli* ethnic groups in the State of Sarawak and 32 in the state of Sabah [1].

Cultural and ethnic diversity in Malaysia not only affects the environment of Malaysian society but also the diversity in school environments. Diversity in the schools requires school leaders, specifically headmasters and principals, who can carry out their responsibilities effectively to meet the needs and wishes of all students who come from various backgrounds [2]. Malaysia has a large number of schools, which are 10,231 primary and secondary schools to cater to all Malaysians; however, some schools in Malaysia have only a small number of students. According to the definition provided by the Malaysian Ministry of Education (MOE), if the number of students in a school is 150 or less, it is classified as a small school [3]. According to MOE data for 2022, out of 10,231 primary and secondary schools across the country, a total of 30.75% are regarded as small schools [4]. Based on the data, it was also found that almost 73% of small schools were located in rural areas.

Additionally, the contributing factors that lead to students in rural areas obtaining low results include students' family background, school location, students' socioeconomics, teachers' teaching methods, student learning, and school leaders' leadership approach [5]. The MOE has placed focus on the academic and co-curricular achievements of students in small schools through various initiatives that have been implemented under the Malaysian Education Blueprint (MEB) 2013-2025. Among the strategies taken under this plan are implementing effective leadership practices, teacher teaching, as well as parent and community involvement in improving the performance of small schools [3].

A good school is one that is effective, of high quality, and has high achievements [6]. Based on shift four in the MEB 2013-2025, a primary focus is on cultivating a culture of emulating and sharing best practices among teachers; mentoring is an effort to enhance teacher professionalism, and additional efforts are made to increase accountability of teachers for adhering to professional standards. A successful organisation is a learning organisation [7], which is defined as one that engages in ongoing professional development and cultivates a learning pattern over time. The purpose of the learning organisation is to create continuous learning among the members of the organisation [2]. Based on this notion, professional learning community (PLC) practices have been implemented in Malaysia from 2011 until now as a platform for the development of teacher professionalism in Malaysia as an element of continuous learning [8]. Therefore, this study identified the level of culturally responsive leadership of headmasters and teachers' PLC practices in small schools in Peninsular Malaysia. In addition, the main purpose of this study was to find out the extent of the relationship between culturally responsive leadership practices practiced by headmasters and PLC practices in small schools in Peninsular Malaysia.

2. RESEARCH METHOD

2.1. Research design

This study used a survey with a quantitative method to measure data from a set sample size and learn about the population as a whole [9]. The population of this study was teachers from primary schools with the status of small schools in Peninsular Malaysia. This study used stratified random sampling and systematic random sampling. The researchers utilised the stratified random sampling method because of its suitability to represent the population of this study, whose population distribution was uneven, being either too small or too large [10].

2.2. Research sample

The location of small schools in Peninsular Malaysia has an uneven distribution by state; therefore, the stratified random sampling technique was very suitable for this study. The researchers also used the systematic random sampling method to figure out how far they have to go from the first sample to the next one to find respondents. Systematic sampling is the selection of samples from a population at uniform intervals measured in order, time, or space [11]. In determining the study sample, it was selected according to the four zones in Peninsular Malaysia determined by the MOE. The four zones of Peninsular Malaysia are the south zone, central zone, east zone, and north zone. The researchers chose a state to represent each zone; southern zone was represented by the state of Johor, the central zone was represented by the state of Perak, the northern zone was represented by the state of Kedah, and the eastern zone was represented by the state of Pahang. A total of 754 questionnaires were distributed in 754 small schools in Peninsular Malaysia, covering the north, central, east, and south zones. Although only 546 questionnaires were returned, the number was sufficient as per Krejcie and Morgan's [12] sample determination, which only requires 377 minimum samples.

2.3. Data collection method or instrumentation

A quantitative research design was implemented for the study, which used a questionnaire instrument. Three components made up the instrument. The respondents' demographic information, including gender, education levels, and professional experience, was presented in Part A. Part B contained questions related to culturally responsive leadership, and part C asked questions related to PLC. To measure culturally responsive leadership practices in small schools, the researchers chose to develop a questionnaire based on the culturally responsive leadership framework developed by Khalifa, Gooden, and Davis. Four constructs in the framework were used to measure the level of culturally responsive leadership of headmasters in small schools. Next, for the PLC variable, the questionnaire used by the researchers was an adaptation of the professional learning community assessment instrument (PLC-A), developed by [13] and adapted from the school professional staff as learning community questionnaire (SPSLCQ) by Hord.

Prior to its distribution, the instrument underwent a comprehensive face and content validation process conducted by qualified experts. The expert panel was tasked with evaluating the structure, content, and language style and offered feedback as well as recommendations in these particular domains. Ten experts with a minimum of five years of experience and a doctor of philosophy degree in the fields of competence,

measurement, and evaluation, as well as Malay language proficiency, were convened as an expert panel to assess the instrument's validity. After expert review, a pilot study was also conducted involving 102 teachers in small schools in Negeri Sembilan, Terengganu, and Melaka. Through the findings of the pilot study, construct validity was conducted using exploratory factor analysis (EFA), and reliability tests were conducted using Cronbach's alpha.

2.4. Data analysis method

This study used the statistical package for social science (SPSS) software version 26 to test the relationship between the study variables and the study sample obtained. The inferential analysis was used to explain the relationship between variables and sample characteristics selected from the study population [14]. In this study, Pearson's correlation test was used to answer the research question. As stated in reference [15], a positive relationship is established when a change in one variable's value directly influences a change in the value of another variable. Conversely, a negative relationship can also arise when a change in the value of one variable influences a change in the value of another variable.

However, before the researchers conducted this correlation analysis, several pre-condition tests were conducted for each independent and dependent variable. The tests were linearity and normality tests used to ensure that the data distribution was normal [16]. Pearson's correlation test was used in this study to measure the relationship between the headmaster's culturally responsive leadership and PLC practices in small schools.

3. RESULTS

The research findings that were obtained first explained the level of culturally responsive leadership and PLC practices in small schools, and subsequently the relationship between the two variables.

3.1. Level of culturally responsive leadership and plc practices in small schools

The results of this research are discussed based on the research questions. The initial findings were descriptive findings related to culturally responsive leadership as an independent variable and teachers' PLC implementation practices as a dependent variable. Apart from that, the researchers intended to determine the inference findings about the relationship between culturally responsive leadership and the practice of PLC implementation by teachers in small schools. A total of 546 distributed questionnaires were successfully collected. Table 1 identifies the level of each variable as suggested by the [17].

Table 1. Mean score and interpretation

Mean Score	Interpretation
1.00-1.80	Very low
1.81-2.60	Low
2.61-3.20	Average
3.21-4.20	High
4.21-5.00	Very high

Tables 2 and 3 show summaries of the mean score analysis to measure the level of culturally responsive leadership and the level of PLC practices in small schools in Peninsular Malaysia. Table 2 shows the mean score distribution for the culturally responsive leadership variable. Overall, the level of culturally responsive leadership was at a very high level in the studied schools, with a mean of 4.22 and standard deviation (SD) of 0.423. Table 2 also shows that the highest mean score of respondents in small schools was for the critical self-reflection dimension, which obtained a mean of 4.49 and SD of 0.446. The lowest mean score of 3.97 and SD of 0.527 of the respondent's assessment in small schools was for the dimension of forming culturally sensitive teachers, indicating that headmasters need to give more emphasis in this area. Nevertheless, for the level of headmaster's culturally responsive leadership practice, the dimensions of critical self-reflection and an inclusive school environment were both at very high levels, while the dimensions of parent and community involvement as well as forming culturally sensitive teachers were at high levels.

Table 3 shows the mean score distribution for the PLC variable. Overall, the level of PLC was at a very high level in the study schools with mean score of 4.31 and SD of 0.307. Table 3 also shows the highest mean score of the respondent's evaluation was for the personal practice sharing dimension, with a mean of 4.42 and SD of 0.399. On the other hand, the lowest mean score of 4.25 and SD of 0.328 of the respondent's evaluation was for the leadership sharing and supportive leadership dimension. However, the PLC and all four dimensions showed a very high level in small schools. Therefore, based on the results in Tables 2 and 3, it can be concluded that, realistically, headmasters and teachers from small schools in Peninsular Malaysia always

implement culturally responsive leadership practices, in addition to also implementing PLC practices following the high levels found in the research findings.

Table 2. Mean score and SD for the level of culturally responsive leadership

Item	Mean	SD	Level
Critical self-reflection	4.49	0.446	Very high
Forming culturally sensitive teachers	3.97	0.527	High
Inclusive school environment	4.40	0.472	Very high
Parent and community involvement	4.01	0.571	High
Culturally responsive leadership overall mean	4.22	0.423	Very high

Table 3. Mean score and SD for the level of PLC by dimension

Item	Mean	SD	Level
Leadership sharing and supportive leadership	4.25	.358	Very high
Sharing values and vision	4.29	.371	Very high
Collective learning and application	4.32	.405	Very high
Personal practice sharing	4.42	.339	Very high
Conditions support	4.29	.333	Very high
PLC overall mean	4.31	.307	Very high

3.2. Relationship between culturally responsive leadership and PLC practices

The results of Pearson's correlation test in this study, shown in Tables 4 and 5, were used to analyse two study variables, namely to find out the relationship between culturally responsive leadership and PLC in small schools in Peninsular Malaysia. The relationship between these two variables can be proven as follows. Tables 4 and 5 show the findings to test the correlation between variables, namely the relationship of culturally responsive leadership to PLC practices through the Pearson correlation test. In this section, the results of the correlation analysis of the two variables were reported. According to [9], the strength of the relationship between the constructs can be determined based on the suggested strength estimates, as shown in Table 6.

Tables 4 and 5 show that the relationship between culturally responsive leadership and PLC practices in small schools is statistically significant and positive, with a correlation coefficient value of 0.698 at a significant level of 0.01. This means that the relationship shown is at a medium-high level. The variance value, with $r^2 = 0.487$, shows that 48.7% of the overall change in PLC is due to the culturally responsive leadership factor. While another 51.3% of changes in PLC may be caused by other factors, this finding shows that there is a significant relationship between culturally responsive leadership and PLC practices in small schools.

Table 4. Correlation coefficient between variables

Dimensions		Culturally responsive leadership	PLC
Culturally responsive leadership	Pearson correlation	1	.698**
	Sig. (2-tailed)		.000
	N	546	546
PLC	Pearson correlation	.698**	1
	Sig. (2-tailed)	.000	
	N	546	546

Table 5. Correlation and variance value between culturally responsive leadership and teacher's PLC

Dimensions	Culturally responsive leadership		PLC		Sig**
	r	r ²	r	r ²	
Culturally responsive leadership	-	-	0.698	0.487	.000
PLC	0.698	0.487	-	-	.000

** The correlation is significant at $p < 0.01$

Table 6. Strength level of correlation coefficient value (r) [9]

Correlation coefficient value (r)	Correlation strength
±.91 until 1.00	Very strong/high
±.71 until .90	Strong/tall
±.51 until .70	Medium strong/high
±.31 until .50	Weak
±.01 until .30	Very weak

4. DISCUSSION

Discussion of the study's findings, which were based on 546 teachers, follows the research questions. Teachers' perceptions of: i) the headmaster's culturally responsive leadership approaches and ii) PLC practices are among the topics under discussion. The overall assessment of culturally responsive leadership practices of headmasters and PLC practices in small schools was very highly in line with the findings of [18], [19], and [20]. This finding clarifies that the practices of leaders who are responsive to culture always involve the community, create an inclusive school environment for all parties, emphasise fair education regardless of race, ethnicity, and religion, and so on, as well as improve school achievement. Findings related to PLC practices implemented in small schools were in line with the findings of [21] and [22], who stated that the practice of PLC in schools not only improves student achievement but can change the effective school environment. According to them, realising more productive PLC practice involves the support and participation of school leaders in encouraging them to pursue this initiative.

The findings of this study showed the existence of a significant relationship between culturally responsive leadership and PLC in small schools. These findings confirmed the culturally responsive leadership framework developed by [23], which presented four main dimensions: forming culturally sensitive teachers, critical self-reflection, parent and community involvement, and inclusive school environment. Based on this finding, it can be concluded that the framework was the actions practiced by the headmasters in this study. In addition, this study also confirmed the five dimensions proposed in the PLC dimension, which are shared vision and mission, shared leadership and supportive leadership, shared personal practice, supportive conditions, and collective learning and application that were introduced by [24] in parallel with actions practiced by teachers.

The headmaster's leadership practices in small schools had a positive and significant relationship with the PLC practices in the studied schools. Culturally responsive leadership practices shown by headmasters in this study were considered important in schools to guide teachers in implementing PLC practices and towards becoming an effective school in line with previous studies [25] and [26]. This study acquires the capacity to make a theoretical contribution of knowledge concerning the correlation between culturally responsive leadership and PLC within the Malaysian education system.

The study's findings have the potential to make a valuable contribution to the field of education, aligning with the policies and aspirations of the nation's leadership. Concurrently, this discovery may contribute to the domain of leadership within the context of the national education system. As a result of culturally responsive leadership positively impacting the implementation of PLC in participating schools, this study's findings reached a conclusion. Based on MEB 2013-2025, it has been clearly stated to ensure that the leaders who are placed in their respective schools are among the high-performing leaders in ensuring that their schools are effective and excellent. The dimensions of culturally responsive leadership and PLC in this study can provide references to educators and ministries for improving school effectiveness.

5. CONCLUSION

The researchers concluded, based on the results of this study, that for the most effective leadership, school administrators must implement and use an inclusive and collaborative strategy. The most effective leadership practices will assist teachers in raising their level of professionalism. Principals and headmasters will be able to better comprehend the effects of PLC practices and culturally responsive leadership practices in schools with the support of the data presented in this study. PLC implementation in schools should be sustained as a strategy for system-wide capacity building and school development that promotes sustainable progress and student achievement. The researchers, drawing from the literature review and the results of this study, discerned four facets of culturally responsive leadership that facilitate the adoption of PLC by teachers. The power possessed by headmasters and principals as school leaders can influence the practice of PLC among teachers according to their needs and suitability in line with the school environment.

Based on the findings of this research, it was also found that headmasters of small schools in Peninsular Malaysia are sensitive to the diverse environment found in their schools, and they also understand the importance of the relationship between school leadership and teacher involvement in creating an effective school. Therefore, headmasters and principals should adopt a more efficient leadership style and be able to understand each member of the school organisation to ensure that their respective school's function towards maximizing their potential to produce more effective results. Considering this study's findings, the researchers conclude by recommending that the MOE should offer a leader preparation programme with an emphasis on cultural sensitivity. It is imperative to prioritise the following aspects when developing future school leaders: self-reflection, cultural sensitivity, an inclusive school environment, and active participation of parents and the community. Especially in small schools, effective leadership practices have the potential to facilitate the school's transformation into an outstanding, high-performing institution. Subsequently, this study has the potential to augment comprehension of this correlation and serve as a guideline for stakeholders and

practitioners operating within the Malaysian education system, with the sincere aspiration that the institution may sustain its excellence and remain competitive on an international scale.

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REFERENCES




- [1] Department of Statistics Malaysia, *Number of Malaysian population by ethnicity and gender for the year 2020*. 2020.
- [2] M. Khalifa, *Culturally responsive school leadership*. Cambridge, MA, USA: Harvard Education Press, 2018.
- [3] Ministry of Education Malaysia, *Malaysia education blueprint 2013-2025*. Putrajaya, Malaysia: Ministry of Education Malaysia, 2012.
- [4] Ministry of Education Malaysia, *School data 2022 in Malaysia*. Putrajaya, Malaysia: Ministry of Education Malaysia, 2022.
- [5] C.-H. Cheng, Y.-C. Wang, and W.-X. Liu, "Exploring the related factors in students' academic achievement for the sustainable education of rural areas," *Sustainability*, vol. 11, no. 21, p. 5974, Oct. 2019, doi: 10.3390/su11215974.
- [6] T. D. Hailegebreal and A. Temesgen, "The effects of leadership style on students performance," *Journal of Education and Practice*, vol. 11, no. 34, pp. 20–28, Dec. 2020, doi: 10.7176/JEP/11-34-03.
- [7] F. Z. Tan and G. O. Olaore, "Effect of organizational learning and effectiveness on the operations, employees productivity and management performance," *Vilakshan - XIMB Journal of Management*, vol. 19, no. 2, pp. 110–127, Jul. 2022, doi: 10.1108/XJM-09-2020-0122.
- [8] K. Leithwood, "A review of evidence about equitable school leadership," *Education Sciences*, vol. 11, no. 8, p. 377, Jul. 2021, doi: 10.3390/educsci11080377.
- [9] Y. P. Chua, *Fundamentals of research statistics: likert scale data analysis*, 3rd ed. Kuala Lumpur, Malaysia: McGraw Hill Education, 2014.
- [10] U. Sekaran and R. Bougie, *Research methods for business: a skill building approach*, 7th ed. Chichester, U.K.: John Wiley & Sons.
- [11] L. Cohen, L. Manion, and K. Morrison, *Research methods in education* (8th ed.), Routledge, 2017, doi: 10.4324/9781315456539.
- [12] R. V. Krejcie and D. W. Morgan, "Determining sample size for research activities," *Educational and Psychological Measurement*, vol. 30, no. 3, pp. 607–610, Sep. 1970, doi: 10.1177/001316447003000308.
- [13] D. F. Olivier, K. K. Hipp, and J. B. Huffman, "Assessing and analyzing schools as professional learning communities," in *Demystifying professional learning communities*, K. K. Hipp and J. B. Huffman, Eds., New York, NY, USA: Rowman & Littlefield Education, 2010.
- [14] D. R. Cox, *Principles of statistical inference*. Cambridge, U.K.: Cambridge University Press, 2006.
- [15] C. Robert, W. Micheal, V.H. Larry, and A. James, *Research methods and methodologies in education*, 2nd ed., SAGE Publications, 2017.
- [16] J. F. Hair, B. J. Babin, W. C. Black, and R. E. Anderson, *Multivariate data analysis*, 8th ed. Andover, U.K.: Cengage, 2018.
- [17] Education Policy Planning and Research Division, "NPQH evaluation study report," Putrajaya: Ministry Of Education Malaysia, 2005.
- [18] M. A. S. A. Kadir, A. N. Mansor, K. A. Jamaludin, and R. M. Idrus, "Culturally responsive leadership among school leaders and school instructional climate," *Journal of Positive School Psychology*, vol. 6, no. 4, pp. 3331–3344, 2022.
- [19] M. de L. Vilorio, "Culturally responsive leadership practices: a principal's reflection," *Journal of Latinos and Education*, vol. 18, no. 2, pp. 171–177, Apr. 2019, doi: 10.1080/15348431.2017.1371604.
- [20] C. Hollowell, "Culturally responsive school leadership: how principals use culturally responsive leadership strategies to develop engaging and inclusive school environments for all students," Ph.D. dissertation, Brandman University, 2019.
- [21] S. N. Ismail, Z. Abdullah, and A. J. Othman, "Professional learning community of Malay language teachers (in Malay)," *Journal of Educational Leadership*, vol. 7, no. 1, pp. 1–27, 2020.
- [22] S. N. Ismail, W. R. W. Yakob, N. Mustapai, and T. R. T. Mat, "The relationship between professional learning communities and teacher motivation at Jeli Regional Secondary School (in Malay)," *International Journal of Education, Psychology and Counseling*, vol. 6, no. 42, pp. 14–29, Sep. 2021, doi: 10.35631/IJEPC.642002.
- [23] M. A. Khalifa, M. A. Gooden, and J. E. Davis, "Culturally responsive school leadership: a synthesis of the literature," *Review of Educational Research*, vol. 86, no. 4, pp. 1272–1311, Dec. 2016, doi: 10.3102/0034654316630383.
- [24] S. M. Hord, *Professional learning communities: communities of continuous inquiry and improvement*, vol. 40, no. 1. Austin, TX, USA: Southwest Educational Development Laboratory, 1997.
- [25] M. Brown *et al.*, "Challenges and opportunities for culturally responsive leadership in schools: evidence from four European countries," *Policy Futures in Education*, vol. 20, no. 5, pp. 580–607, Jun. 2022, doi: 10.1177/14782103211040909.
- [26] Y. Don and A. Raman, "School management and leadership: teamwork in schools," *Multidisciplinary Journal of Instruction*, vol. 1, no. 2, pp. 14–36, 2019.

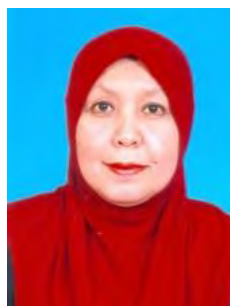
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