

A Study on Relationship between Teachers' Instructional Practices and School Performance of Rural Public Secondary Schools in Malaysia

Mahidah Ab Wahab and Siti Maziha Mustapha

Infrastructure University Kuala Lumpur, Jalan Ikam-Uniten, 43000 Kajang, Selangor, Malaysia

Keywords: Teacher Instructional Practices, School Performance, Rural Public Secondary School.

Abstract: The research attempts to investigate the levels of instructional practices among teachers of rural public secondary schools, the performance of rural public secondary schools, the relationship between instructional practices of teachers and school performance of rural public secondary schools and the dimensions of teachers' instructional practices that contributed towards school performance. Survey instrument was used to measure teachers' instructional practices. 379 out of 22979 teachers were randomly selected as respondents. SPSS was used and data analysis was carried out using descriptive statistics, Spearman Rho and Multiple Regression. It was found that overall Teachers' Instructional Practices were at high levels. 100% of the rural schools performed below the national average score expected for secondary schools which was 4.89 in 2018. A significant relationship was indicated between teachers' instructional practices and rural secondary school which are public performance. The multiple regression showed that out of the three dimensions, Instructional Strategies was the dimension that contributed the most to the school performance. Recommendations were made to improve teachers' instructional practices.

1 INTRODUCTION

Teachers face many challenges in pursuit of school performance especially in rural public secondary schools. Malaysia struggles to attain an established nation status by the year 2025 and many parts of the country including rural areas are being established to help quicken the development. Developments in rural areas are critical because more than 7% of the rural population in Malaysia is living in deficiency (Ganeswaran, ; Vogler, 2002). Suppression of deficiency is vital as it is seen as a faltering block towards a nation's development. One of the strategies to eliminate deficiency is through education (World Bank, 2013). Although there were much persistence effort, however, it has been realized that equality of outcome is not achieved through equality of access. The obvious inequality of outcome between rural and urban schools proves that this inequality exists in Malaysia (Pantik et al., 2011).

Education can be defined as the development that enables a student to learn or the accumulation of knowledge along with skills, beliefs, values and habits (Mannan, 2018). Education is destined to play a key role in reinforcing the development of a citizen with positive quality which contributes to the

progress of country's economic, social and cultural aspect. (Mannan, 2018) and in the search towards national standards and goals and transforming the country as centre for education with quality (Farhana, 2017; Azman et al, 2016). To respond to the country's goal, the Malaysia Education Blueprint is outlined from 2013-2025 to achieve the achievement planned in the system of education. The focus has been shifted to the leadership quality and teaching practices in schools which are the main factors in enhancing schools' performance all over Malaysia either urban or rural schools, primary or secondary schools (Malhoit, 2005; Kim and Sheridan, 2015).

2 PROBLEM STATEMENT

Essential players in improving school effectiveness are teachers as they have specific strength to produce excellent especially when the teaching and process goes on (Malhoit, 2005). Teaching practices which have good quality are able to steer the school towards good performance in addition to good education.

Through a quantitative method, this study aims to highlight the level of teachers' instructional practices and their influences on rural public secondary school

performance. This study hopes to contribute towards the influence of teachers instructional practices which can lead to good academic achievement of students along with contouring schools into excellent ones for future government programs to be implemented successfully.

3 RESEARCH QUESTIONS

The following are the research question:

- Research Question 1: What are the levels of teachers’ instructional practices of rural public secondary schools?
- Research Question 2: What are the levels of school performance of rural public secondary schools?
- Research Question 3: Is there a significant relationship between teachers’ instructional practices and school performance of rural public secondary schools?
- Research Question 4: Which dimension of teachers’ instructional practices influences largely towards the performance of rural public secondary schools?

4 REVIEW OF LITERATURE

An open-system perspective from system theory, was applied by the researcher. This is an input-throughput-output research because students’ academic achievement is the outcome of the principals’ instructional leadership that can influence and bring an impact to teachers’ instructional practices.

The Sijil Pelajaran Malaysia (SPM) Examination Results were used to calculate the scores of school performance. SPM examination results were reported based on the candidate’s achievement and performance of subjects. Candidate achievement refers to the degree to which candidates dominate the learning in all subjects tested. The index used to show the achievements of candidates across the country is the National Grade Point Average (NGPA). Smaller National Grade Point Average (NGPA) value indicates better performance. The performance of the subject refers to the degree to which candidates dominate the knowledge, skills and values measured in each subject. Index used to reflect the performance of the subjects is the average point for Grade Point Average for Subjects (GPMP). The smaller

value of GPMP also showed better performance. Achievements of the Candidates for the year 2018 was better than in 2017. The National Grade Point Average (GPN) for 2018 was 4.89 compared to 4.90 for the year 2017 with an increment of 0.01.

Achievements of the candidates based on the location of the candidates’ achievements in urban and rural areas was encouraging. There was no change in the achievements of candidates in the urban areas 4.75 in 2018 and 2017. The achievements of the candidates in the rural areas increased by 0.04 i.e. 5.18 in 2018 compared to 5.22 in 2017. The result for the National Grade Point Average (GPN) for the year 2018 is. 4.89.

Table 1: Candidates’ achievements based on location for the year 2018, 2017 and 2016

Year	National Average Grade (GPN)	Urban Average Grade	Rural Average Grade	Difference
2018	4.89	4.75	5.18	0.43
2017	4.90	4.75	5.22	0.47
2016	5.05	4.89	5.36	0.47
Difference		0.14	0.14	

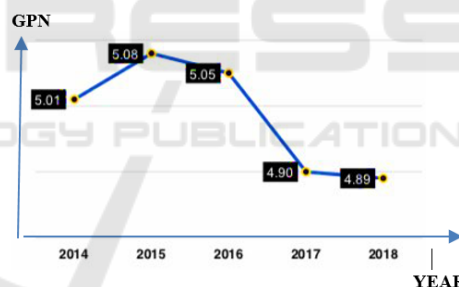


Figure 1: National Average Grade (GPN) 2014-2018

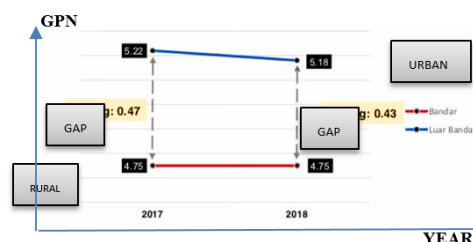


Figure 2: Achievement Gap in the Location of the Candidates

Achievements gap of the candidates based on the location in the urban and rural narrowed by 0.43 in the year 2018 compared to 0.47 in the year 2017. This is due to the increased performance of the candidates in the rural areas while urban remain the same.

There is a gap in the results obtained by rural compared to urban. Urban schools are better and their Grade Point Average result was 4.75 which was above the National Grade Point Average (GPN) of 4.89. Rural schools did not do well as their results 5.88 was way below the National Grade Point Average (GPN) of 4.89. Thus, it derives a need to study the interrelation between teachers' instructional practices and the performance of schools specifically rural public secondary schools in Malaysia.

5 RESEARCH METHOD

5.1 Sample

Stratified random sampling was used. 379 teachers (32.7% male, 67.3% female) attended secondary schools in five states; Perlis, Kelantan, Pahang, Johor and Malacca, in Malaysia were selected as participants. All participants were teachers who work full time an average of 10 years in the service and an average of 1 or 2 years teachers have been working under the present principal.

Table 2: Gender of Teacher Respondents

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	124	32.7	32.7	32.7
	Female	255	67.3	67.3	100.0
	Total	379	100.0	100.0	

Table 3: Number of sample size from each state Source. E-Operasi Statistics State Education Department for the year 2018 Morgan and Krejcie's (1970) table of sampling determination.

States representing Malaysia	Number of The Public Secondary School Teachers	Number of The Public Rural Secondary School Teachers	Number of Samples
Pahang	9280	5671	94
Kelantan	10846	6670	110
Perlis	1211	1021	17
Johor		7097	117
Malacca		2500	41
Total		22959	379

Samples comprised of teachers from the secondary public school situated in rural areas without any representation of any specific group of age and gender.

5.2 Measures

The survey instrument was evaluated using Likert scale developed by Rensis (1932). The Likert-type scale used in this study range from 1 (Never) to 5 (Very Often). This scale has proven to be a reliable tool for respondents for questions on instructional practices. Cronbach's Alpha for the scales in this study are .904, 0.915 and 0.854 respectively. According to (Pallant, 2011; Sheridan and Kim, 2015), Cronbach's Alpha exceeding 0.6 is acceptable, exceeding 0.7 is good and the most appropriate is exceeding 0.8. As shown in the table below, all the variable in the questionnaire exceed the value of 0.8.

Likert Scale is used in the section where never represented by 1, seldom represented by 2, sometimes represented by 3, frequently represented by 4 and always represented by 5.

Table 4: Likert Scale

Scale	Represents
1	Never
2	Seldom
3	Sometimes
4	Frequently
5	Always

Table 5: Reliability Coefficient for Each Dimension (N=379) for Teacher's Instructional Practices

Variables	Item No.	Deleted Items	Cronbach's Alpha
Instructional Strategies	20	0	0.904
Teaching Techniques	7	0	0.915
Instructional Materials and Tools	13	0	0.854

*Value after item deletion

5.3 Demographic Data

The respondents were required to give details about themselves for extraneous variables. They reported in detail data regarding gender, their age, years of service, years of working with present principal and service category.

5.4 Teachers Instructional Practices Survey

The participants were required to do ranking of their best five teachers' instructional practices factors which are Instructional Strategies, Teaching Techniques and Instructional Materials and Tools that could have influenced their schools performance.

5.5 Statistical Treatment

Descriptive statistics were used. Spearman Rho correlations were derived to analyse the interrelation among variables. Data were analysed using SPSS.

6 RESULTS AND DISCUSSION

The study aimed to answer the following research questions:

- Research Question 1: What are the levels of teachers' instructional practices of rural public secondary schools?
- Research Question 2: What are the levels of school performance of rural public secondary schools?
- Research Question 3: Is there a significant relationship between teachers' instructional practices and school performance of rural public secondary schools?
- Research Question 4: Which dimension of teachers' instructional practices contributes the most towards performance of rural public secondary schools?

6.1 Descriptive Statistics

The Descriptive Statistics Table 6.1 shows that the mean score for the participants' age as on 1st Jan 2018 is 40.87 with a wide dispersion as the SD is 7.911.

Table 6: Descriptive Statistics for teacher Respondents

Descriptive Statistics					
	N	Min	Max	Mean	Std. Deviation
Age on 1st Jan 2018	379	21	59	40.87	7.911
You are in teaching service for	379	1.0	38.0	15.464	7.5572
How long have you been working under the present principal?	379	.0	24.0	2.420	2.5511
Valid N (listwise)	379				

This indicates that there is a wide range of ages among teachers. The mean for the participants' years

in teaching service is 15.464 years. The standard deviation is 7.5572 indicating the dispersion is rather wide too.

6.2 Teachers' Instructional Practices

Research Question 1: What are the levels of teachers' instructional practices of rural public secondary schools?

Based on Table 6.2, overall the Teacher's Instructional Practices are at high level (Mean=3.87). All the dimensions of the Teacher's Instructional Practices are also at high level 3.87. Standard deviation is .45435.

Table 7: Mean Score and Standard Deviation of the Teachers Instructional Practices

Dimensions	Mean	Standard Deviation	Level
Instructional Materials and Tools	3.84	.46321	High
Teaching Techniques	3.88	.49160	High
Instructional Strategies	3.91	.55598	High
Overall Teachers' Instructional Practices	3.87	.45435	High

Note :(Mean 0 to 2.39 as Low; 2.40 to 3.69 as Moderate; more than 3.70 as High)

Research Question 2: What are the levels of school performance of rural public secondary schools? Table 6.3 shows that 100% of the rural schools performed below the national average score expected for secondary schools which was 4.89 in 2018.

Table 8: Academic performance or the Average Grade Score GPN or GPS

States representing Malaysia	Number of Samples Rural Sec schs	GPS SPM 2018 Rural Sec schs	GPN set by MOE
Pahang	94	5.00	4.89
Kelantan	110	5.20	
Perlis	17	5.54	
Johor	117	4.96	
Malacca	41	5.50	
Total	379		4.89

Research question 3: Is there a significant relationship between teachers' instructional practices and school performance of rural public secondary schools? A correlation test that was conducted in order to address research question 3 whether there is a significant interrelation between teachers' instructional practices on the performance of rural public secondary schools. Spearman correlation is

often used to evaluate relationships involving ordinal variables.

Table 9: Academic Correlation Test Teachers' Instructional Practices and School Performance of Rural Public Secondary Schools.

Correlations						
		GPS_rec	TIP_2	PIL_2		
Spearman's rho	GPS_rec	Correlation Coefficient	1.000	.238**	.271**	
		Sig. (2-tailed)	.	.000	.000	
		N	379	379	379	
	TIP_2	Correlation Coefficient	.238**	1.000	.667**	
		Sig. (2-tailed)	.000	.	.000	
		N	379	379	379	

** . Correlation is significant at the 0.01 level (2-tailed).

Table 6.4 shows the correlation test of Teachers' Instructional Practices. The test results indicates a significant positive relationship between Teachers' Instructional Practices and with school performance of rural public secondary schools (H1: Research Question 2).

Hypothesis 1: There is a significant relationship between teachers' instructional practices with school performance of rural public secondary schools.

The Correlations table indicate that the correlation value is .238. A weak linear relationship was indicated when the value of r is positive and approaches 1. The value of r also suggest that the points are grouped together in a line that slopes positively.

6.3 Multiple Regression

Research Question 3: Which dimension of teachers' instructional practices contributes the most towards performance of rural public secondary schools? For assumption 1, from the indication that there is a relationship that is significantly positive between TIP and GPS ($r=0.271$) indicates that there exists a linear relationship between the dependant variable and the independent variables.

As for assumption 2, is normally distributed as indicated by the histogram and plot below.

As for the assumption of multicollinearity, the VIF values of the variable were used to address this assumption.

Independent Variables	VIF
Instructional Materials and Tools	3.237
Teaching Techniques	3.024
Instructional Strategies	2.188

Based on the table above, there is no multicollinearity that exists since that the value

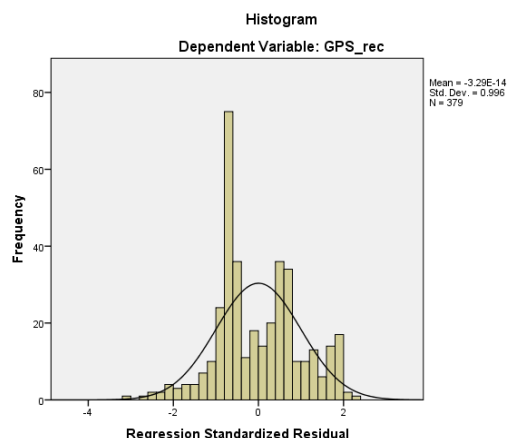


Figure 3: Histogram

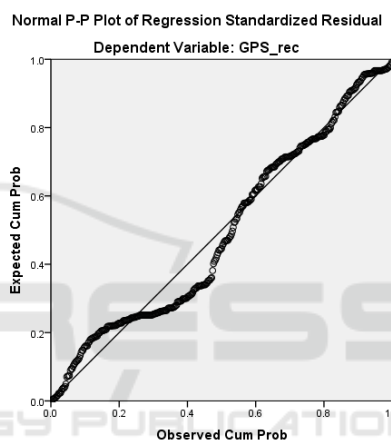


Figure 4: Normal P-P Plot of Regression Standardized Residual

of VIF for both variables are below 5 (Hair et al., 2010).

Table 10: Academic Correlation Test Teachers' Instructional Practices and School Performance of Rural Public Secondary Schools.

Model	Coefficients ^a					Collinearity Statistics		
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Tolerance	VIF	
	B	Std. Error	Beta					
1	(Constant)	3.386	.213		15.872	.000		
	Instructional Strategies	.219	.096	.201	2.290	.023	.309	3.237
	Teaching Techniques	.121	.087	.118	1.387	.166	.331	3.024
	Instructional Material and Tools	.024	.065	.027	.369	.712	.457	2.188

a. Dependent Variable: GPS_rec

The model summary Table indicates that the R (.324), R square (.105) and Adjusted R Square (.098). This means that 10% of the variance in school performance was jointly explained by Instructional Material and Tools, Teaching Techniques and Instructional Strategies. Cohen (1994), concluded

that, $R=0.10$ indicates a small effect size, $R=0.25$ indicates a medium effect size and $R=0.40$ indicates a large effect size.

Table 11: Correlation Test Teachers' Instructional Practices and School Performance of Rural Public Secondary Schools.

		GPS_rec	TIP_2
Spearman's rho	GPS_rec	1.000	.219**
	Correlation Coefficient		
	Sig. (2-tailed)	.	.000
N		379	379

** . Correlation is significant at the 0.01 level (2-tailed).

Table 12: Collinearity Diagnostics

Collinearity Diagnostics							
Model	Dimension	Eigenvalue	Condition Index	Variance Proportions			
				(Constant)	Instructional Strategies	Teaching Techniques	Instructional Material and Tools
1	1	3.981	1.000	.00	.00	.00	.00
2	2	.011	19.459	.89	.01	.02	.20
3	3	.006	25.912	.10	.10	.27	.78
4	4	.003	36.760	.01	.89	.71	.02

a. Dependent Variable: GPS_rec

Table 13: Correlation Coefficient and Strength

The correlation coefficient(r)	The strength of correlation
.91 to 1.00 or -.91 to -1.00	Very strong
.71 to .90 or -.71 to -.90	Strong
.51 to .70 or -.51 to -.70	Average / Moderate
.31 to .50 or -.31 to -.50	Weak
.01 to .30 or -.01 to -.30	Very Weak
.00	No Correlation

Source. Chua (2013p. 258)

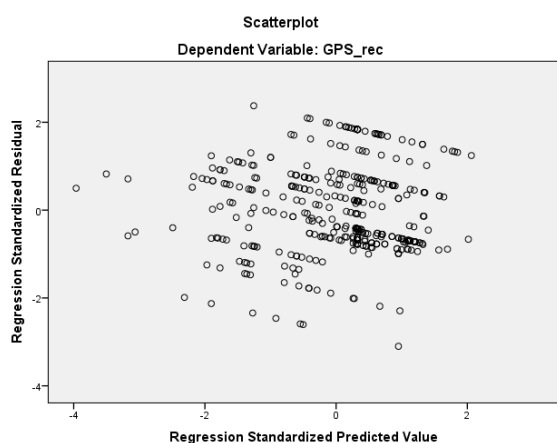


Figure 5: Scatter Plot

Homoscedasticity is the last assumption where the variability indicated in the scores for variable X should be similar at all values of indicated in the scores of variable Y. A scatterplot should

indicate a fairly cigar shape along its length. This last assumption stated that the variance of error terms are homoscedasticity which means that they were similar across the values of the independent variables. A plot of standardized residuals versus standardized predicted value will show whether points were equally distributed across all values of the independent variables. Since there was no clear pattern or cone shaped pattern in the distribution, the data was homoscedasticity. Therefore, the last assumption was fulfilled.

After all of the assumptions already fulfilled, multiple regression was used to test the impact of dimension of teachers' instructional practices towards school performance of public secondary schools in rural areas.

Dimensions of teachers' instructional practices towards school performance of public secondary schools in rural areas are shown as per results of the analysis. The dimension of Instructional Strategies is significantly correlated to School Performance of Rural Public Secondary schools. Of these three variables, frequency of Instructional Strategies made the largest unique contribution ($\beta = .201$) while Teaching Techniques made a small contribution ($\beta = .118$) and Instructional Material and Tools made a small contribution ($\beta = .027$) significance of 0.05. This is an indication that there is a significant relationship statistically between Teachers' Instructional Practices and School Performance. This means that when teachers' instructional practices goes up positively by 1 standard deviation, School Performance of Rural Public Secondary Schools goes up positively by 0.307 standard deviation. Analysis of the results indicated that independent variable, Teachers' Instructional Practices is significantly correlated to school performance of Rural Public Secondary Schools. Teachers' Instructional Practices made a statistically significant contribution ($\beta = .307$).

(Malhoit, 2005) has given a statement that good strategies allow rural schools to be excellent schools. Towards this, high quality teachers only should be employed in rural schools. In addition, quality teachers are not only encompass academic qualification such as degree also the skill that enable them to teach students with diverse need and style of learning. Teachers from rural school highlighted have "a bachelor degree in the subject(s) taught, full state certification and proof of content knowledge for each subject" (Eppley, 2009). Teachers should also be provided sufficient pay by the school. Teachers will not be motivated to teach well if they inadequately paid even though they possess

the skills. Thirdly, effective leaders should be the head of rural; Principals instructional leadership. Researchers in educational field have made it a statement that this is what rural schools should have. Without it, there will never be a good rural school. Malhoit has stated rural school should be provided facilities with good quality. Given the circumstances, rural school should take in consideration the usage of technology. In Malhoit's view, rural schools should be provided sufficient internet availability and ICT (Information and Communication Technology) facilities. Finally, without doubt, rural schools have to be provide with enough supplies for instructional purposes such as "well-equipped libraries, media centres, and laboratories" and These facilities will be able to assist students to "learn to think critically, and enhance their readiness for higher education opportunities".

Hence, due to this circumstances, teachers equipped with best instructional practices, has their work supported with CSR project because schools are to provide all that is needed for instructional purposes (e.g. books, CDs, videos, internet, software, etc). They are also provided internal courses to develop their professionalism simultaneously improving the quality of their teaching. What more, if teachers are able to ignite the awareness of students in strategies to learn language, they will engage actively in activities that aims towards these strategies. The will eventually improve the performance in English of rural schools (Thiyagarajah, 2003; Raman et al., 2015).

Overall, with the right policy, the quality of Malaysian rural schools can be improved and therefore, the gap exists between these schools and their urban counterparts would be decreased and completely shut. Throughout the years, numerous studies have failed to interrelate teachers' instructional practices and rural public secondary schools and school performance.

Thus, there should be more studies undertaken to investigate the relationship between teachers' instructional practices of rural public secondary schools and school performance. The findings derived from the studies would benefit multiple departments in the ministry and schools that deal with the facilitating education for the students to rope in school performance. In consequence, this will help them to increase teachers' instructional practices of rural public secondary schools and gain better school performance of rural public secondary schools.

7 CONCLUSIONS

Various extensive funding has been put forward by the Government of Malaysia programs in education sectors from independence till date. As indicated, teaching and learning process are related to teacher quality which is developed among the schools. Teachers and Leaders with good skills are needed urgently to in increase the learning and teaching quality. In addition, review of past studies indicate that it needs to be aligned with learning and teaching instructional practices of good quality. In regards to system in Malaysia Education, the researcher found that teachers are equipped with good instructional practices and engage these practices, in enhancing good performance of the school in rural areas. Furthermore, this study also has found that significant relationship exists among teachers' practices of instruction and school performance. Researcher also disclosed the current levels of teachers' instructional practices in rural secondary schools. Teachers are regarded as valuable possessions that establish and increase the future of nation's children. Therefore, quality of teachers directly relates to the education quality of the nation (Hanushek and Rivkin, 2007). This study has proved that teachers instructional practice are able to improve schools' performance Hence, steps should be taken by schools for teachers to come up with planning in instructional practices that encourage teamwork in schools. The findings also indicated that instructional practices have a significant positive influence on the performance of schools However, a stepwise multiple regression indicated that the predicting dimension was Instructional Strategies of teachers' instructional practice. To enhance practices of instruction, teachers need to consider creating a climate in school which encourages positive learning. Overall, teachers' instructional practices and school performance have positive significant relationship with each other. Teachers' instructional practice which can help to achieve results include knowledge and responsibility sharing, new teaching techniques discussion which will bring improvement to student learning.

8 LIMITATION

The stratified random sampling technique (teachers' respondents in five states in Malaysia) requires replication of this study in other states prior to generalizing these results to all teacher population.

REFERENCES

- Eppley, K. (2009). Rural schools and the highly qualified teacher provision of no child left behind: A critical policy analysis. *Journal of Research in Rural Education (Online)*, 24(4):1.
- Ganeswaran, L. K. Challenges of special education in rural schools: Teachers perspective.
- Hair, J. F., Black, W. C., Babin, B. J., and Anderson, R. E. (2010). *Multivariate data analysis: Global edition*.
- Kim, E. M. and Sheridan, S. M. (2015). Foundational aspects of family-school connections: Definitions, conceptual frameworks, and research needs. In *Foundational aspects of family-school partnership research*, pages 1–14. Springer.
- Malhoit, G. C. (2005). Providing rural students with a high quality education: The rural perspective on the concept of educational adequacy. *Rural School and Community Trust*.
- Mannan, F. (2018). The relationship between women principal instructional leadership practices, teacher organizational commitment and teacher professional community practice in secondary schools in kuala lumpur. *Instructional Leadership To The Fore: Research And Evidence*, 1:13.
- Pallant, J. (2011). *Spss survival manual 4th edition: A step by step guide to data analysis using spss version 18*. Maidenhead, Berkshire: Open University Press. Retrieved on from <http://www.allenandunwin.com/spss>.
- Panatik, S. A. B., Badri, S. K. Z., Rajab, A., Rahman, H. A., and Shah, I. M. (2011). The impact of work family conflict on psychological well-being among school teachers in malaysia. *Procedia-Social and Behavioral Sciences*, 29:1500–1507.
- Raman, A., Ling, C. C., and Khalid, R. (2015). Relationship between school climate and teachers' commitment in an excellent school of kubang pasu district, kedah, malaysia. *Mediterranean Journal of Social Sciences*, 6(3 S1):163.
- Sheridan, S. M. and Kim, E. M. (2015). *Foundational aspects of family-school partnership research*, volume 1. Springer.
- Thiyagarajah, P. (2003). Learning english in malaysian rural secondary schools: Difficulties, learning styles & strategies and motivation. In *Unpublished paper presented at the Learning Conference*.
- Vogler, K. E. (2002). The impact of high-stakes, state-mandated student performance assessment on teachers' instructional practices. *Education*, 123(1):39–56.