

Indigenous (Orang Asli) Primary School Mathematics Performance in Selangor, Malaysia

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Abstract: The education performances among the indigenous group in Malaysia are deprived. Although the Government has given serious attention and continuous efforts to improve it, its performance is far behind other groups, especially in mathematics subjects. Hence, this study would like to identify the year six students from indigenous primary school's mathematics performance. Additionally, we investigated if their perception, interest, and knowledge will influence the performance in mathematics. Eighty-six of the year six primary students from five indigenous schools in Selangor, Malaysia, participated in this study. Statistical techniques such as cross-tabulation, t-test, ANOVA, and Spearman rho correlation uses in detailed analysis. Overall, the result identified that the level of performance is low, even though they have a positive perception of learning mathematics. The result also indicated that those who have a high level of interest performed better. Finally, the study suggested that an intervention initiative at the elementary level is crucial, especially on the delivery system, involving teachers and others responsible for these students' education and welfare. Moreover, the Government should be given serious consideration in any national transformation program to ensure that indigenous peoples can stand alike with other groups in Malaysia

Keywords: Orang Asli, mathematics, performance, Selangor, Malaysia

1. INTRODUCTION

In Malaysia, the indigenous refers to natives in Peninsular Malaysia and is called as "Orang Asli." The education opportunity and performance among this indigenous community have been critical issues as they continue to be the most educationally disadvantaged group. The performance gap in Mathematics among Orang Asli students in Malaysia is still the main problem in the Malaysian education system. The performance of Orang Asli children across the country does not meet the minimum efficiency levels. As reported by Azlina and Ma'rof, 2017 that their education achievement averagely is weak, and their performance still far behind other groups Ministry Education, 2015.

The literature indicates that more than fifty percent of Orang Asli primary student does not meet the minimum efficiency levels in Mathematics. This issue widens and affects many aspects of political harmony and low socioeconomic levels among this group. A previous study also shows that instructional or pedagogical factors, parental involvement, and student attitude are among the factors that contribute to this issue. The department of Orang Asli Development or JAKOA, 2011 reported that the percentage of the Orang Asli students who passed the public examinations in primary and secondary schools was small.

Among other issues is that the dropout is very much higher than the national average, Ministry of Education, 2013. The Malaysian Education Blueprint reported that only 30% of Orang Asli students complete secondary school, less than half the national average of 72%. They left the school as early as primary school, for the Year 2000 cohort, Year 6 to 7 had the highest dropout rates, at 47.23 percent, followed by grade 7 to grade 9 (23.26%) and grade 9 to grade 11(24.27%) (Nor, et al., 2011, JHEOA 2008).

The reason is that the fear for public examination drives the Orang Asli students out of school as they feel academically unprepared. Besides, lack of interest in schooling, low academic achievement, poor memory, high absenteeism, lack of parental involvement, poverty, and transportation issues are other reasons for dropping out often cited by their teachers (Nor et al., 2011). Finally, only 61% of Orang Asli students pass the Primary School national examinations' core subjects compared to the national average of 87% (Ministry of Education, 2013).

The Malaysian Government has given serious attention to improving the education level of the Orang Asli people. The Government takes continuous efforts to develop the Orang Asli people by the Malaysian Government since independence in 1957. The total population of the Orang Asli people is nearly 178, 197, or 0.56% of the Malaysian populations (Statistic Department, 2019).

Efforts to improve the level of education among Orang Asli students remain a top agenda of the Government said Prime Minister Tun Dr. Mahathir Mohamad today (Bernama, 2019). Recently, the Government introduces the Prokhas program; it is a special class project to encourage Orang Asli to attend the school. The students under this program will receive the supplementary food plan (RMT) aid, and on top of that, their parents will also be given food aid (Malay Mail, 2019).

In terms of Mathematics achievement, the result of standard six national exams or UPSR 2017 of Orang Asli found most of them were still at a minimum level of grading (D grade) or have not mastered the minimum level (E grade). Ministry of education began

to assist the Orang Asli to ensure that the curriculum is aligned with the Standard Curriculum for Primary Schools. The curriculum will be rebranded and known as the Special Intervention Programmed for the Orang Asli. Hence this study would like to identify the performance of Orang Asli on the core subject, specifically Mathematics, for a first level, which is a primary student.

2. LITERATURE REVIEW EDUCATION OF ORANG ASLI STUDENT

The number of primary school enrollment figures for Orang Asli throughout peninsular Malaysia stands at 26571 pupils (Kamaruddin, 2018). The number of Orang Asli enrolls in primary and secondary schools is not changes since 2012. Malaysian Education Blueprint revealed a slight increase in their enrollment, especially in 2014, but a decrease in 2017. The detail shows in table 1.0.

Table 1.0 -Education Level of Orang Asli in Malaysia 2012 – 2017

Education Level	2012	2013	2014	2015	2016	2017
Primary Education (Preschool to Year 6)	28,567	28,619	27,978	28,985	27,697	27,557
Secondary Education (Remedial Class till Form 6)	10,304	10,530	13,229	11,691	12,561	11,277
TOTAL	38,871	39,149	41,207	40,676	40,257	38,834

Source: Malaysian Education Blueprint

Orang Asli School Achievement Test results in UPSR 2009 nationwide revealed that more than Sixty percent did not achieve the minimum competency level in the subjects tested, specifically for the English Language, Mathematics and Science. Yong P. C., Jiar J.K., Ahmad Zanzali N. A., 2012 found that Orang Asli students were capable of performing simple reasoning but weak in communicating mathematical ideas. The restructuring of educational programs that appropriate with their culture and thoughts should be shouldered by all those responsible (Afizi Wan et al.,2014).

JAKOA is the development agent to execute the Government's short-term and long-term development plans for orang asli in Malaysia (Zainal Abidin Hj Ali, 2012). Although the initiatives take by JAKOA to improve education among Orang Asli, however, it is still a huge challenge. The problem such as school dropout is critical; JAKOA 2011 reported that the dropout cases in secondary schools were triple compared to the actual enrolment in primary schools. Cindy and Osman, K. 2016 suggested using their culture as the primary science module toward enhancing the intrinsic motivation of Orang Asli learners in mathematics education in Malaysia. The stakeholders blame each other, as parents accused the teacher of not teaching their children well (Wong K. W. Perumal C., 2013). Meanwhile, the teacher claimed that indigenous parents do not take seriously about education, and they do not have clear goals about children's education (Abdul Wahab N et.el. 2016). They also face other problems such as the attitude and commitment from the students and parents and the students learning interest and attendance (Abdullah R. et al., 2013). Finally, students complained that they were having difficulties in learning Mathematics (Abdullah R. et al., 2013) due to teacher's attitude and teaching pedagogy that cannot stimulate students' interest in learning mathematics.

Norlizah and Thava, 2017 found that Orang Asli students are moderately motivated by extrinsic factors such as praises and recognitions. However, the less motivated by their intrinsic factors, such as encouragement. Another motivating factor among them is attitude and culture. Misnaton, Hamidah & Marinah, 2015 said the Aboriginal students Learning commitment and academic achievement showed improved parental commitment and involvement (Misnaton, Hamidah & Marinah, 2015; Hamidah, Norasibah, Khoo, Mahaliza & Maryam 2017).

2.1. ACADEMIC ACHIEVEMENT AND MOTIVATION OF ORANG ASLI STUDENT

Academic achievement is one of the descriptors of learning motivation. Hassan & Thava, 2017, found out that academic achievement is significantly affected by intrinsic and extrinsic motivation. Orang Asli students have low self-esteem, lack of interest in school, not doing their revision, introvert, and having difficulty mixing with other races in the school (Abdullah R., Mamat, Zal, & Ibrahim, 2013). Nevertheless, a study was done by Salim, & Harun, 2015, result contrarily, as Orang Asli students at Royal Belum Forest perceived themselves as having positive self-belief, goals, and awareness of the importance of education (Salim, & Harun, 2015).

In line with a study by Mat R. A., 2015, Orang Asli students have an optimistic viewpoint and high interest in education. They believe that education is essential for their lives and confidence that they can have a better future through education. Nevertheless,

the study found no significant relationship between academic achievement with Orang Asli Temiar students' attitudes and interests (Abdullah R., Mamat, Zal, & Ibrahim, 2013). A study on Orang Asli at Royal Belum indicated that most students are not even aware of the importance of STEM in their everyday life.

3 METHODOLOGY

This study involved primary year six students of Orang Asli in Selangor. Five national schools of Orang Asli were selected from Hulu Langat, Kuala Langat, and Hulu Selangor, Selangor, Malaysia. Self-administrated questionnaires were used to collect the data from 86 students. The questionnaire consisted of five sections. The questionnaire is divided into five sections: the demographic profile, perception, interest, knowledge, and performance. The items of perception and interest were adapted from previous studies. Meanwhile, performance derives from the year Six syllabus; additionally, the performance items based trial exam question paper year 6, divided into two types of question, namely paper one – multiple-choice questions and paper two – structured and essay questions. Finally the data were analyzed using descriptive statistics by numerical techniques. Statistical techniques such as cross-tabulation, t-test, and spearman rho correlation are used in detailed analysis.

4.0 RESULT

4.1 RELIABILITY ANALYSIS

Reliability is expressed as a coefficient between 0 and 1.00. The closer the coefficient to 1.00, the more reliable the instrument is. Cronbach's alpha is the most common measure of the internal consistency of the items. This test estimates internal consistency by determining how all items on a test relates to all other items and the total test-internal coherence of data. If the value exceeds 0.60, then the scale is said to have internal consistency; hence a set of items is considered reliable.

Table 4.0: Cronbach's Alpha Coefficient

Variable	Cronbach's Alpha Coefficient	Number of Items
Perception	0.631	8
Interest	0.720	8
Knowledge	0.832	10

Table 4.0 shows Cronbach's alpha coefficient for 26 items from sections II, III, and IV in the questionnaire. Since the Alpha level of all items >0.6 , therefore the items are reliable.

4.1 PERFORMANCE

Table 4.1: Performance of Paper one and Paper two

PERFORMANCE	POOR	GOOD	EXCELLENCE
<u>PAPER 1</u>	73 (84.9%)	13 (15.1%)	0 (0%)
PAPER 2	86 (100%)	0 (0%)	0 (0%)
Overall	86 (100%)	0 (0%)	0 (0%)

Base on table 4.1, the performance of Orang Asli as overall is poor (86%). In paper one (15.1%) are good, and none of them under excellence. However, for paper two, all of them poor.

Table 4.2 – Correlation result analysis

	Students' Attitude	Overall Performance
Perception	Pearson Correlation	-0.205
	Sig. (2-tailed)	0.058
Interest	Pearson Correlation	-.234*
	Sig. (2-tailed)	0.03
Knowledge	Pearson Correlation	-.289**
	Sig. (2-tailed)	0.007
	N	86

*. Correlation is significant at the 0.05 level (2-tailed).
 **. Correlation is significant at the 0.01 level (2-tailed).

Table 4.3: Correlation Analysis

	Students' Attitude	Performance of Paper	Performance of Paper
		1	2
Perception	Pearson Correlation	-0.054	-.356
	Sig. (2-tailed)	0.756	0.001
Interest	Pearson Correlation	-0.045	-.397**
	Sig. (2-tailed)	0.682	0.000
Knowledge	Pearson Correlation	-0.143	-.360**
	Sig. (2-tailed)	0.188	0.001
	N	86	86

** Correlation is significant at the 0.01 level (2-tailed).
 * Correlation is significant at the 0.05 level (2-tailed).

The result from correlation analysis shows that, at a 1% level of significance (p-value=0.01), there is a significant negative correlation (r = 0.289) between overall performance and total score for knowledge among the Orang Asli students. Meanwhile, at a 5% level of significance (p-value=0.05), the result also shows a significant negative correlation (r = -0.234) between overall performance and total score for student’s interest in Mathematics. This indicates that even though the students claimed that they have knowledge and interest in Mathematics, this does not confirm the students will obtain a good result in Mathematics. In terms of student’s performance per paper category, result reveals that there is a significant negative correlation between performance in paper 2 and student’s perception (r = -0.356), interest (r = -0.397) and knowledge (r = -0.360) at 1% level of significance (all p-value < 0.01). This revealed that having positive perception, high interest, and good knowledge in Mathematics does not lead to perform well in the subject. The detail is shown in Tables 4.2 and 4.3.

4.4 Cross Tabulation Analysis

The cross-tabulation analysis was done to determine the level of perception, interest, and knowledge in Mathematics of Orang Asli primary students towards their performance in Mathematics subject. The 5-point Likert Scale was divided into three levels: low, moderate, and high.

Table 4.4: Cross Tabulation Analysis Result – Level of Perception

			Level of Performance		Total
			Poor	Good	
Level of Perception	Low	Count	25	14	39
		% within level of perception	64.1%	35.9%	100.0%
		Count	26	8	34
	Moderate	% within level of perception	76.5%	23.5%	100.0%
		Count	8	5	13
		% within level of perception	61.5%	38.5%	100.0%
	High	Count	59	27	86
		% within level of perception	68.6%	31.4%	100.0%

The cross-tabulation analysis between perception level and performance level shows that 61.5% of the Orang Asli primary students achieved poor performance in Mathematics subject of Paper 1 even though they highly-perceived towards Mathematics. This result indicates that those with high perception levels towards Mathematics were not well-performed in Mathematics subject of Paper 1.

Table 4.5: Cross Tabulation Analysis Result – Level of Interest

			Level of Performance		Total
			Poor	Good	
Level of Interest	Low	Count	22	12	34
		% within level of interest	64.7%	35.3%	100.0%
		Count	35	11	46
	Moderate	% within level of interest	76.1%	23.9%	100.0%
		Count	2	4	6
		% within level of interest	33.3%	66.7%	100.0%
	High	Count	59	27	86
		% within level of interest	68.6%	31.4%	100%

For cross-tabulation analysis between interest level and performance level, 66.7% of the Orang Asli primary students who have a high level of interest in Mathematics have shown good performance in Mathematics subject of Paper 1. The result reveals that students with a high-interest level achieved good performance in Mathematics subject of Paper 1.

Table 4.6: Cross Tabulation Analysis Result – Level of Knowledge

		Level of Performance		Total	
		Poor	Good		
Level of Knowledge	Low	Count	20	11	31
		% within level of knowledge	64.5%	35.5%	100.0%
	Moderate	Count	38	14	52
		% within level of knowledge	73.1%	26.9%	100.0%
	High	Count	1	2	3
		% within level of knowledge	55.5%	66.7%	100.0%
Total	Count	59	27	86	
	% within level of knowledge	68.6%	31.4%	100.0%	

Lastly, for cross-tabulation analysis between knowledge level and performance level, the result shows that 66.7% of the Orang Asli primary students with a high level of knowledge achieved good performance in Mathematics subject of Paper 1. In other words, students with high knowledge levels in Mathematics subjects have performed good in Mathematics subject of Paper 1.

CONCLUSION AND LIMITATION

Base on the above result, it concluded that overall, the performance of Orang Asli Students is average to poor for paper one and poor for poor to paper two. The result also indicated a significant negative correlation between overall performance and total score for knowledge and interest, both paper one and paper two. This indicates that knowledge and interest do not seem sufficient for Orang Asli students to obtain a good result in Mathematics. The result also shows that even though they highly-perceived towards Mathematics, but they still not performed well in paper 1.

However, this study has some limitations, such as the study's participant only standard six students and only the Selangor area that represents less than twenty percent of Orang Asli as overall. Another limitation that we do not inform earlier to the consent student; there is that they do not make any preparation like other assessments.

Still, the study results can be a sign for stakeholders to look at the policy, syllabus, and facilities to help the students perform more in Mathematics. Furthermore, the result can help the Government to develop a holistic way to overcome this severe issue. The study recommended that future studies look at these issues based on students' perceptions and other stakeholders, such as teachers, parents, and community leaders. To get a clear picture of this issue, it proposes that all Orang Asli schools and students in Malaysia involved in the study.

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