

Assessment of English Reading Age through Reading Evaluation and Decoding System (READS): A Measure of Effectiveness and Inequality in Malaysian ESL Education

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Abstract

Recent international comparative research on English proficiency found a strong positive correlation between a country's level of English language skills and its gross national income per capita. Considering the role of English as a lingua franca in the global exchange of goods, culture, information and innovations, a sufficient command of English is a basic requirement for almost the entire labour force in knowledge-based economies. A key foreign language competence is reading, which functions as a gateway to the world, enabling individuals to effectively participate and compete in a knowledge-based environment. Therefore, effectiveness of English as a Second Language (ESL) reading skills is essential to the success of both socio-cultural and economic development. A principal criterion of effectiveness is equal opportunity to the whole society to access formal education and to achieve academic success. In most education systems, however, the social background of students tends to have a major impact on academic achievement, to the extent that it may affect their whole educational and professional careers. The current study is based on empirical data about the reading age of 3,567 Malaysian secondary school students from various social backgrounds, obtained by the use of a standardised evaluation tool named READS. We found that less than half the students had attained the curriculum standard for ESL reading skills, as defined for their biological age. Moreover, significant disparities were found between the reading age of students by gender, income status and ethnicity, highlighting a substantial level of inequality which challenges the establishment of a knowledge-based economy.

Aim of the Study

A recent international comparative research study on English proficiency found strong positive correlation between a country's level of English language skills and its gross national income per capita, especially in the case of export-oriented developing countries (Education First). Malaysia is a typical example of a rapidly developing country, where the transformation of labour-intensive manufacturing activity to a knowledge-

based economy is envisioned in the national development policy (Mahathir 1991). While the early industrialisation of the country relied on natural resources and a vast influx of migrant workers, the current policy is aimed at upgrading both physical and human capital to the levels of developed countries, through the creation of efficient democratic institutions and good infrastructure, coupled with a range of attractive incentives for investors and employees (Fleming & Soborg 2010).

Considering the role of English as a *lingua franca* in the global exchange of goods, culture, information and innovation, a sufficient command of English is a basic requirement for much of the labour force in knowledge-based economies. A key foreign language competence is reading, which functions as a gateway to the world, enabling individuals to effectively participate and compete in a knowledge-based environment (Taguchi et al. 2004). As English is not the first language of the majority of Malaysians, the education system plays a crucial role in the development of English reading competence among the populace. Therefore, similarly to many other developing countries around the world, effectiveness of English as a Second Language (ESL) reading skills is essential to the success of both the socio-cultural and economic development of the country.

A principal criterion of effectiveness is equal opportunity to all members of society to access institutions of formal education and to achieve success in their studies. In most education systems, however, the social background of students tends to have a major impact on their academic achievement, possibly to the point of determining their educational and professional futures (Burney & Beilke 2008; Rothstein 2004). From a national development perspective, it is particularly important that all segments of the society be provided with the opportunity to learn. Exclusion of any geographical, ethnic, subcultural etc. group from academic success is not only an injustice towards the members of the respective group, but indeed a waste of talent and loss of human capital for the whole society. Accordingly, mitigation of social inequalities in academic achievement is among the principal responsibilities of the national education system. The current study aims to find empirical evidence as to the extent to which social inequality is an obstacle to acquisition of English reading competence in the Malaysian public education system.

Inequality in Education

The influence of social background on academic achievement is conceptualised by various theories that offer a critical approach about the latent functions of education. Schooling may feature a hidden curriculum to maintain social disparities, contradicting its manifest goal to provide equity of opportunities for every student. From a socio-linguistic approach, the impact of social class on academic success is explained by the disparities between the discursive styles used by children of different social backgrounds (Bernstein 1975). The Pygmalion effect is another socio-linguistic explanation for the role of schools in social reproduction. According to this theory, teacher expectations of student

performance affect student achievement. Hence teachers' prejudice based on the social background of their students has an indirect impact on student achievement (Rosenthal & Jakobson 1968).

One of the most influential critical concepts of education is social reproduction theory, which suggests that the cultural capital possessed by middle- and upper-class families is rewarded by the education system, while at the same time, its lack is punished by the school setting. Well-off families have strong interests in the transmission of inequalities to the next generation, and the education system provides them with an opportunity to convert their cultural capital into academic achievement (Bourdieu & Passeron 1977). Although Bourdieu's theory was primarily designed to understand the influence of socio-economic status, it was successfully applied recently in an analysis of gender inequality in academic achievement (Dumais 2002).

The first step to mitigate inequality in education is to uncover the real achievement gap between the various groups of students according to social background. Using an objective method of assessment is crucial at this phase, without which the existing social inequalities cannot be recognized much less mitigated (Broadfoot 1986). Taking into consideration the great importance of ESL competence to both national and individual success from a developmental perspective, the assessment of students should be focused on real language competence that can benefit them in their daily lives outside formal education. Therefore, our study requires an assessment method that is capable of excluding those school-related but not language-related skills such as test-wiseness, which are commonly measured, along with 'real' language skills, by most national final examinations around the world (Matoush & Fu 2012).

In this study, we explored inequality in education by assessing the reading age of ESL learners with Reading Evaluation and Decoding System (READS), an ESL reading comprehension assessment method.

Reading Age

The concept of "reading age" undergirds the assessment method of READS. Reading age is a relative measure introduced by the authors, based on the expected gradual increase of academic skills throughout the course of formal education as determined by the curriculum which governs a given education system. In the case of Malaysia, all Year 10 students are 16 years old. If their level of ESL reading comprehension is on par with the skills defined by the national curriculum for Year 10, then they are considered to be 16 years old in terms of their ESL reading age. However, if their reading level is only at Year 9 level, then their ESL reading age is considered 15 (see Table 1).

Table 1: Measuring Reading Age of Malaysian Secondary School Students through READS Assessment Method

<i>Year of studies</i>	<i>Biological age</i>	Band	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>
		Reading age	<i>12</i>	<i>13</i>	<i>14</i>	<i>15</i>	<i>16</i>	<i>17</i>
7 (Form 1)	13		-	=	+	+	+	+
8 (Form 2)	14		-	-	=	+	+	+
9 (Form 3)	15		-	-	-	=	+	+
10 (Form 4)	16		-	-	-	-	=	+
11 (Form 5)	17		-	-	-	-	-	=

Key: = reading age equal to biological age
 + reading age higher than biological age
 -- reading age lower than biological age

As an example of the reading age concept, the reading age of Alice, an imaginary Year 10 student, is calculated on the basis of READS assessment. 16-year old Alice scored 57 on the READS assessment (Band 6), which indicates that her reading age is 17 in terms of the competencies defined by the Malaysian curriculum for this age. Accordingly, Alice's reading age is one year higher than her biological age (according to these standards). Alice's ESL reading performance exceeds the curriculum standard, and she demonstrates advanced knowledge and skills in reading English. Of course, as the competencies required at a particular level of study vary in different countries and systems, Alice's reading age could differ if she transferred to another country's educational system.

Methods and Database

Our data consists of test results on 3,567 students, all of whom attend Form 4 of secondary school, which is Year 10 of their formal education. The sample was drawn by choosing 47 public secondary schools randomly throughout Penang State of Malaysia, using the list of public schools published on the official website of the Educational Authority of Penang State (Jabatan Pelajaran Negeri Pulau Pinang). Within the selected schools we assessed the ESL reading skills of all Year 10 students present at the time of the testing.

Data comprises students' answers to 60 test questions (coded as dichotomous variables, i.e., correct or incorrect). Each student was assigned a test score (0 to 60) and a results category (on a six-point scale where band 1 is the lowest and band 6 the highest category). Among these result categories, band 5 is defined by READS as the minimum level of the curriculum standard of ESL reading competence for Year 10 students (Abdul Rashid et al. 2010) (Table 2). Test results are accompanied by demographic data

about students' gender, ethnicity and income status, the latter being quantified into four categories¹ (Table 3).

Table 2: Assessment Categories in READS, Malaysian Year 10 ESL Learners

	<i>Reading age below biological age</i>				<i>Reading age equal to biological age</i>	<i>Reading age higher than biological age</i>
Category	<i>Band 1</i>	<i>Band 2</i>	<i>Band 3</i>	<i>Band 4</i>	<i>Band 5</i>	<i>Band 6</i>
Score range (max. score = 60)	0 to 6	7 to 18	19 to 29	30 to 41	42 to 53	54 to 60
Reading age (years)	12	13	14	15	16	17

Table 3: Composition of Sample by Social Background

Gender	<i>Male</i>		<i>Female</i>		<i>Total</i>
	1.752		1.815		3.567
	49.1%		50.9%		100%
Income status	<i>Low</i>	<i>Low middle</i>	<i>High middle</i>	<i>High</i>	<i>Total</i>
	1.643	774	378	772	3567
	46.1%	21.7%	10.6%	21.6%	100%
Ethnicity	<i>Malay</i>	<i>Indian</i>	<i>Chinese</i>	<i>Other</i>	<i>Total</i>
	1.777	445	1.307	38	3.567
	49.8%	12.5%	36.6%	1.1%	100%

Findings and Discussion

The overall results of the READS evaluation indicates that slightly less than half the students (46%) attain or exceed the curriculum standard of ESL reading skills associated with their biological age in the Malaysian educational system. The rest of the sample, that is, more than half of the students assessed, have lower reading age, as defined by the national curriculum, than their biological age (see Table 4).

¹ Low: MYR1.000 (approx. USD330) per month or below; Low middle: MYR1.001 to 1.500 (approx. USD 330 to 500) per month; High middle: MYR1.501 to 2.000 (approx USD500 to 670) per month; High: above MYR2.000 (approx. USD670) per month.

Table 4: The overall result of READS evaluation, by result category (N=3,567)

Category	<i>Reading age below biological age</i>				<i>Reading age equal to biological age</i>	<i>Reading age higher than biological age</i>
	<i>Band 1</i>	<i>Band 2</i>	<i>Band 3</i>	<i>Band 4</i>	<i>Band 5</i>	<i>Band 6</i>
Percentage of students in the respective score category	0	8.9	18.5	26.6	40.2	5.8
Reading age (years)	12	13	14	15	16	17

Much like the prevalent theories and findings on social inequality in education, we found significant disparities between the ESL reading age of students by their gender, income status and ethnicity (see Table 5).

In terms of gender, female students performed much better than their male counterparts. This finding is in accordance with most studies, as in the area of foreign and second language learning, the comparative advantage of female students is supported by broad empirical evidence (Buchmann et al. 2008; Burstall 1975; Chudowsky & Chudowsky 2010; Dornyei & Otto 1998; Entwisle et al. 2007).

Income status was a particularly influential factor in relation to reading competence in ESL. High-income students are overrepresented among those whose reading age is equal or higher than their biological age, while low-income students are underrepresented. This distribution supports theories on the role of social inequality in formal education (Bernstein 1975; Bourdieu & Passeron 1977; Coleman et al. 1966).

Table 5: The impact of social background on ESL reading age (%; N=3,567).

		<i>Reading age equal to or higher than biological age</i>	<i>Reading age lower than biological age</i>	<i>Total</i>
		Gender	Male	42.9%
	Female	49.0%	51.0%	100.0%
Income status	Low	29.6%	70.4%	100.0%
	Low middle	45.0%	55.0%	100.0%
	High middle	59.8%	40.2%	100.0%
	High	75.4%	24.6%	100.0%
Ethnicity	Malay	37.5%	62.5%	100.0%
	Indian	43.4%	56.6%	100.0%
	Chinese	57.8%	42.2%	100.0%
	Other	71.1%	28.9%	100.0%

We further found that the reading age of non-Malay students, particularly ethnic Chinese, tends to be higher than that of the Malays. At first glance, this finding raises interesting questions, as the lowest reading results are associated with the *major* ethnic group. On closer look, however, this result can be explained by the prevalent patterns of language use in Malaysian society, especially in Penang. In the social patterns of this highly urbanised, Chinese-majority federal state, non-Malay children are far more exposed to the daily use of English than their Malay counterparts (Weightman 2005). This explanation is partially supported by a recent study on Malaysian students, which found that the use of English in the family and community environment is a far more influential contributor to the ESL proficiency of English learners than their regular classes in school (Lee et al. 2010). Similarly, we hypothesize that the non-Malay students in our sample reflect the influence of their relative low exposure to English language in their home environments.

Regression model

While each measured factor of social background (i.e. gender, ethnicity and income status) appeared to be related to the reading age of students, the patterns of their influence require further exploration. A linear regression model was fit with students' total test score as the dependent variable and gender, income status and ethnicity as predictors (see Table 6). The high tolerance values suggest little collinearity among the different variables, each background factor having a direct and independent influence on reading age.

Table 6: Summary of the multiple linear regression model (dependent: total test score; predictors: gender, SES and ethnicity; N=3,567)

	ANOVA		R^2	Coefficients			
	<i>F</i>	<i>Sig.</i>		<i>Beta</i> (standardised)	<i>t</i>	<i>Sig.</i>	<i>Tolerance</i>
Gender	341.222	.000	0.223	.139	9.415	.000	.996
Income status				-.389	-26.366	.000	1.000
Ethnicity				.227	15.331	.000	.996
The model as a whole					47.035	.000	

Furthermore, the standardised regression coefficients suggest that income status has a substantially greater “effect” on ESL reading skills than ethnicity or gender (absolute Beta coefficients being 0.389, 0.227 and 0.139 respectively). This pattern is in accordance with a recent study which found that the impact of income status is particularly great in the case of language and literacy competence (Hartas 2011). It also fits the huge literature on the role of formal education in the reproduction of social inequalities (Bourdieu &

Passeron 1977; Lareau 2002; Tramonte & Willms 2010), and is supported by an array of empirical findings which emphasize the important influence of income status on student achievement, in comparison to the impact of gender and ethnicity (Lee & Burkam 2002; Stipek & Ryan 1997).

Concluding Remarks

A sufficient level of English language competence among the population is crucial for establishment of knowledge-based economy. In this sense, it is alarming to find that the reading age of nearly half of the Malaysian students assessed by this study is lower than that expected for their biological age. Even more serious implications for the success of the country's developmental strategies derive from the strong relationship between low reading age and social background. This correlation is particularly strong in the case of income status, as income inequality in ESL reading comprehension is even higher than the inequality caused by ethnicity.

Beyond providing teachers with standardised and reliable data about the ESL reading age of their students, the READS evaluation provided useful information for planners and policy-makers, by highlighting the impact of social background on ESL reading skills of Malaysian students. The low reading age of ESL learners from the poorest segments of the society is not only an issue of social injustice. From a national development perspective, it poses a serious obstacle to the achievement of Malaysia's current developmental goal of becoming a knowledge-based economy. Therefore, elevation of the English reading comprehension abilities of the nation's youth in general, and the elimination of the gap between the reading ages of rich and poor, Malay and non-Malay students in particular, are crucial tasks for the country to meet the challenges of the 21st century.

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