DEVELOPMENT OF A READING READINESS INVENTORY FOR KINDERGARTEN STUDENTS IN MALAYSIA

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ABSTRACT

A Malay Reading Readiness Inventory was developed based on Yeo's and Othman's reading readiness test, and previous studies which aimed to provide content for the Samsung Galaxy Tab- a new format of reading readiness test for kindergarten students. Subjects of this study - 240 kindergarten students from government-owned kindergartens completed the pencil-paper test of Malay Reading Readiness Inventory to examine the item discrimination, validity and reliability. A total of 81 items were selected via item discrimination analysis. Content validity and internal consistency reliability were also provided. Item adaption and development were suggested for the future study.

Keywords: reading readiness

INTRODUCTION

The concept of readiness usually connects development to the requirements of a particular context (Graue, Kroeger, & Brown, 2003), which also can be viewed as a level of maturity that is determined by certain social skills, such as self-control and cooperation (Nelson, 2005). Other researchers categorize readiness as basic skills or abilities that allow students to perform successfully in a school setting (Hair, Halle, Terry-Humen, Lavelle, & Calkins, 2006). Students's readiness to participate in learning experience particularly when they first enter a school depends on a number of conditions: his skills as related to the new learning, ability, socioemotional maturity, motivation and interest.

A continuous concern of the schools lies in the reading readiness of the students. When students lack such readiness skills, it is recognized that their learning will be slow. To ensure more successful reading or remedy for insufficient readiness had led to studies and programs on reading readiness. The names may vary, but the aims, rationale or goals have much in similar. For instance, the test known as KIA2M (equivalent to Early Intervention for Reading and Writing) introduced by Ministry of Education in 2006 and LINUS (literacy and numeracy screening test) in 2010 were among the examples of tests with reading readiness as the main component administered when students enter Year One in their primary education.

In the Malay language syllabus, reading is defined as reading various materials as a practice to gain knowledge and fill leisure time (Roziah, 2005). A national study indicated that students with poor reading ability at third grade are four times more likely to leave high school without a diploma than those with better reading ability (Hernandez, 2011).

Since reading is a critical medium to explore and gain knowledge, the development of reading-related abilities and readiness of kindergarten students become a concern to educators and parents. Reading readiness for young students involves an array of cognitive development while will affect the reading skills as as well as academic achievement in their future study (Majzub & Kurnia, 2010). In Malaysia, reading readiness is considered a fundamental component of formal schooling as Year One students (Majzub & Kurnia , 2010; Yeo & Othman, 2008).

Previous studies indicated that reading readiness is related to many aspects of cognitive development such as phonological awareness, visual discrimination and memory, letter-sound understanding, auditory discrimination, vocabulary (Majzub & Kurnia, 2010; Ritchey, 2008; Zales & Unger, 2008; Vervaeke, McNamara and Scissons, 2007; Muter, Hulme, Snowling & Stevenson, 2004; Anvari, Trainor, Woodside & Levy, 2002; Kavale & Forness, 2000; Ehri, 1998). The development of those abilities do not affect the reading skills separately but they are inter-related (Woodrome, 2006) and predict the future reading difficulties (Anthony & Lonigan, 2004; Carroll & Snowling, 2004; Jenkins & O'Connor, 2002; Juel & Meier, 1999).

Monitoring the progress and assessing the reading readiness in kindergarten students has been suggested to be useful and beneficial to parents and educators since it should detect students' weakness in the early stages as well as assist in providing more appropriate instruction for them (Ritchey, 2008). The importance of developing a reading readiness test for Malay language has been emphasized by numerous Malay researchers (e.g.Yeo and Othman, 2008). With the advent of of computer technology new format for readiness testing and training has become popular and attractive to students. This study describes the development of a new reading readiness test in Malay, adapted from the Samsung Galaxy Tab.

Objectives

The purpose of this research was to develop a reading readiness test in Malay language which could help educators identify student reading skills prior to entering formal education in Year One. Psychologists often find a reading readiness test a useful tool in assessing a young child's capacity and potential to learn (Anastasi & Urbina, 1997). The outcome of a reading readness assessment might be more effective measures for planning and implementing a program to to help students who have deficiencies in readiness skills. Parents need the information to enable them to work more closely with kindergartens or primary schools to improve the child's readiness skills to a satisfactory level. Students who are found unready for formal reading or at risk of reading failure should be exposed to some special or remedial programme earlier.

METHODOLOGY

Participants

Participants were 240 kindergarten students aged from 5 to 6 years old. They were selected from 15 schools in three states (Johor, Kedah and Pahang). There were 121 boys and 119 girls. Students diagnosed with learning difficulties or learning disabilities were excluded.

Procedure

Subjects of this study were divided into groups of 10 for group administered test. A practice booklet was used prior to the test to familiarize students with the test. For example, to look from top to bottom of the page, left to right, row to row, flipping pages, listen to instructions and to circle the appropriate responses. The kindergarten teachers assisted the researchers to ensure the smooth administration of the test. As the students are young and could not concentrate for a long time, this test was divided into two sections with 20 minutes for each section.

Item Development And Selection

The preliminary items of this Malay Reading Readiness Inventory were established based on the Reading Readiness Test for Kindergarten Students (Yeo & Othman, 2008) and other literature. This test contained eight subscales to examine eight aspects of reading readiness related abilities including visual discrimination, phonological awareness, letter sound, initial sound, listening vocabulary, reading vocabulary, basic story words, and reading comprehension. The first three subscales were mainly drawn from Yeo and Othman's test (2008). All of the items were verified by kindergarten teachers, principal and professionals. First phase of item adaption and selection were made according to professionals' suggestions.

Table 1: Result Of Critical Ratio (CR) And Item-Subscale Correlation

No.	Item	CR	Item-subscale correlation	No.	Item	CR	Item-subscale correlation
1	vd3	2.78**	.401**	42	rv1	4.94**	.390**
2	vd4	4.97**	.550**	43	rv2	4.75**	.386**
3	vd5	2.55*	.294**	44	rv3	3.99**	.426**
4	vd6	6.09**	.662**	45	rv4	4.55**	.407**
5	vd7	4.39**	.630**	46	rv5	5.32**	.470**
6	vd8	6.39**	.808**	47	rv6	4.94**	.442**
7	vd10	2.74**	.444**	48	rv7	3.99**	.374**
8	pa1	3.20**	.347**	49	rv8	5.13**	.448**
9	pa2	4.72**	.546**	50	rv9	4.92**	.508**
10	pa3	6.50**	.616**	51	rv10	3.99**	.389**
11	pa4	3.80**	.382**	52	rv11	6.50**	.525**

12	pa5	3.20**	.383**	53	rv12	6.30**	.546**
13	pa6	6.82**	.618**	54	rv13	3.80**	.278**
14	pa7	6.18**	.636**	55	rv14	2.53*	.423**
15	pa8	4.94**	.578**	56	rv15	4.94**	.463**
16	pa9	5.52**	.572**	57	rv16	5.36**	.538**
17	ls1	2.74**	.451**	58	rv17	5.32**	.478**
18	ls2	3.80**	.346**	59	rv18	5.56**	.484**
19	ls3	2.74**	.398**	60	rv19	5.97**	.459**
20	ls4	2.31*	.273**	61	rv20	5.70**	.473**
21	ls5	3.99**	.467**	62	bsw1	3.78**	.433**
22	ls6	2.78*	.433**	63	bsw2	3.61**	.371**
23	ls7	3.15**	.488**	64	bsw3	4.36**	.443**
24	ls8	3.38**	.404**	65	bsw4	5.32**	.543**
25	ls9	2.09*	.448**	66	bsw5	4.04**	.542**
26	ls10	2.55*	.329**	67	bsw6	5.32**	.524**
27	is1	2.52*	.344**	68	bsw7	3.78**	.440**
28	is2	2.31*	.296**	69	bsw8	6.33**	.555**
29	is3	5.12**	.584**	70	bsw9	6.92**	.638**
30	is4	4.17**	.532**	71	bsw10	6.30**	.606**
31	is5	4.18**	.503**	72	rc1	4.78**	.568**
32	is6	3.20**	.368**	73	rc2	7.36**	.723**
33	is7	2.55*	.315**	74	rc3	7.29**	.898**
34	is8	5.97**	.628**	75	rc4	7.29**	.898**
35	is10	2.99**	.342**	76	rc5	5.94**	.811**
36	lv3	2.55*	.425**	77	rc6	3.99**	.465**
37	lv5	3.41**	.518**	78	rc7	4.56**	.494**
38	lv6	2.31*	.568**	79	rc8	4.56**	.482**
39	lv7	2.99**	.481**	80	rc9	5.13**	.509**
40	lv8	4.75**	.699**	81	rc10	3.41**	.469**
41	lv10	3.17**	.573**				

**p<0.01, *p<0.05

The further items selection was done using critical ratio (CR) and test of homogeneity (item-subscale correlation). This research set P value below 0.05 as acceptant level for both item analysis methods- CR and item-subscale correlation. A total of nine items which did not meet the above criterion are deleted. The results of item analysis after item selection are as shown in Table 1. All of the selected items were significantly correlated to their subscale scores which ranged from 0.273 to 0.898. And their critical ratio (CR) ranged from 2.09 to 7.36. The result of these two

item discrimination indexes suggested that all the selected items are able to differentiate students with high from those with low abilities.

RESULT

Validity

Table 2: Inter-Scale And Scale-Total Correlations Among Reading Readiness Subscale And Total Scale

	VD	**FA**	**LR**	**S-L**	**LV**	**RV**	**BSW**	**RC**	**Total**
VD	-	.223**	.311**	.225**	.211**	.403**	.184**	.159*	.513**
PA	-	-	.309**	.423**	.385**	.301**	.288**	.160*	.577**
LR	-	-	-	.330**	.312**	.373**	.212**	0.04	.502**
S-L	-	-	-	-	.608**	.548**	.399**	0.12	.670**
LV	-	-	-	-	-	.486**	.344**	0.10	.604**
RV	-	-	-	-	-	-	.548**	.156*	.816**
BSW	-	-	-	-	-	-	-	.486**	.741**
RC	-	-	-	-	-	-	-	-	.571**

The inter-scale and scale-total correlations were applied to examine the validity of this Malay Reading Readiness Inventory. As shown in Table 2, there were significant inter-scale correlations among the subscales, between 0.184 and 0.608 ($p<0.01$), except reading comprehension. The last subscale reading comprehension was only significantly correlated to visual discrimination ($r=0.159$, $p<0.05$), phonological awareness ($r=0.160$, $p<0.05$), reading vocabulary ($r=0.156$, $p<0.05$) and basic story words ($r=0.486$, $p<0.01$). The correlation between reading comprehension and other three subscales (letter sound, initial sound, and listening vocabulary) was low and not significant. This suggested low to moderate correlations among the eight subscales, which intended to examine the different aspects of abilities related to reading readiness. The higher and significant correlations were found among the total scale and the eight subscales, ranged from 0.502 to 0.816 ($p<0.01$). This result indicated that the eight subscales were all intended to assess the same ability –reading readiness. The higher scale-total correlation and moderate inter-scale correlation are the evidence of validity for this Malay Reading Readiness Inventory.

Reliability

Table 3: KR-20 Reliability Of Subscales And Total Scales

Subscale/scale	KR-20	items
visual discrimination	.706	7
letter sound	.617	10
initial sound	.689	9
listening vocabulary	.771	6
reading vocabulary	.888	20
basic story word	.809	10
reading comprehension	.911	10
total test	.927	81

The reliability using Kuder-Richardson (KR-20) achieved satisfactory higher internal consistency of the total scale, which is 0.927, as shown in Table 3. The considerable and higher internal reliability were found on six subscales (visual discrimination, phonological awareness, listening vocabulary, reading vocabulary, basic story word, and reading comprehension), which is above 0.70. The reliability of the other two subscales-letter sound and initial sound, are lower compared to other subscales, which were 0.617 and 0.689 respectively.

DISCUSSION

The preliminary result of this research found 81 valid and reliable items for this Malay Reading Readiness Inventory, which could be considered to apply on the Samsung Galaxy Tab. The item discrimination of all these selected items was satisfied, which could detect student with lower abilities from higher ones.

The validity analysis result found low to moderate correlation among subscales, and significantly higher correlation between total scale and eight subscales, which is the evidence of content validity and certain structure validity for this Malay Reading Readiness Inventory.

As the validity was confirmed, the reliability analysis found satisfied and high internal consistency on the total scale and its subscales except two subscales-letter sound and initial sound, which showed a moderate internal consistency. Connect to the result of item discrimination analysis, although the critical ratio of items in these two subscales have achieved the significant level, most of them are lower compared to items in other subscales. Item adaption was suggested.

CONCLUSION AND FUTURE STUDY

The Malay Reading Readiness Inventory developed in this study is aimed to examine eight aspects of reading readiness related abilities. A total of 81 items were selected and suggested to play on the Samsung Galaxy Tab via examining the item discrimination, validity and reliability. This is an initial part of the research; more items should be developed to determine the most appropriate items to use in an even quality Malay Reading Readiness Inventory.

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