THE EFFECTIVENESS OF KitAB Cerdas[©] ON CHILDREN'S READING ABILITY

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ABSTRACT

The early reading ability is necessary for children's reading development. The early reading skill should be acquired by the children as early as they could in order to master the reading skill. This study aimed to test the effectiveness of early reading learning kit named KitAB Cerdas[©] for children in the Taman Asuhan Kanak-kanak (TASKA) in Malaysia. KitAB Cerdas[©] which is developed based on the principles of multiple intelligences's stimulus. It consists of a wide range of learning media. A quasi-experimental study was conducted to children aged three to four years old (3+) of the Yayasan Pembangunan Keluarga Terengganu (YPKT) TASKA. Subjects were divided into two groups of treatment and control groups. A checklist of children's early literacy and an early reading test (pre-test and post-test) were used in the study. Independent samples t-test was used to identify the mean difference of early reading achievement between the treatment group and the control group. Results showed that KitAB Cerdas[©] was effectively in the early reading instructions based on the t-test results which showed a significant difference between the treatment group and the control group, t (41) = +3.181, p < 0.05 for Kemaman Constituency, and Hulu Terengganu Constituency, t (38) = +2.764, p <0.05. Findings of this study are beneficial for teachers and parents in order to help TASKA children's acquire the early reading skill in their early years.

Keywords: Early reading skill, Effectiveness, Early reading learning kit, reading development

INTRODUCTION

Reading skill is a basic skill that affect every aspect of a child's learning, from early childhood up to secondary school. It is nearly impossible to deny the importance of reading skill for children. Previous researches had shown that reading can serve as a "bridge" for the children to acquire other skills in different subjects, and help the children to gain new experiences (Lane, O'Shaughnessy, Lambrose, Gresham & Beebe-Frankenberger, 2001; Mohd.Yusof, 2002; Morocco, 2001). Children who did not master the reading skill had a lot of trouble to understand other subjects when they continued their education to formal schooling, and even up to high school (Mohd. Yusof, 2002). The Malaysian Government had to set aside a huge amount of national budget to minimize this problem in programs such as KIA 2M and Literacy and Numeracy Screening (LINUS).

Concept of Early Reading

Early reading skill is the skill that should be acquired by the children before they are really able to read fluently. Early childhood educators need to understand the differences and the overlaps among the stage of early literacy, emergent reading, early reading and fluent reading. It is also important that early childhood educators are aware of individual differences among children, so that they will be able to guide the children individually according to their level.

Early literacy skill existed naturally in children since they were born and develop as the babies grow up (Griffith, Beach, Ruan & Dunn, 2008; Beaty and Pratt, 2007). Early literacy refers to the children's understanding of their environment, regardless of their culture and races. Development of early literacy skill begins at birth and grow rapidly from the age of six months in which the baby has started to learn from his environment, especially from parents or caregivers who are consistently with him (Berk, 2009; Morrison, 2011). Babies learn the meaning of the symbols that they had seen or heard from the mother's voice, the sounds in the environment, and objects in the environment such as a bottle of milk, the presence of another baby or toys around them.

Literacy development is rapid when the children reach two years old. At this moment of age, they begin to recognize the symbols commonly seen in their favourite books or other printed materials. Lonigan & Beth (2007) called this as print motivation. When the children understand that roman prints should be read from left to right, able to show letters in printed materials, understand that words in sentences must have some space, understand that punctuations, exclamation marks or question marks signify some meanings, then the children have reached the print convention stage (Lonigan & Beth, 2007). At this stage, children will also be able to identify that lowercase and uppercase letters are different, able to recognize the sound of prefixes and suffixes with the

objects in their environment. Sometimes children pretend to read by putting a finger on the page of books and moves his finger as if he is reading.

Another two components of early literacy which are also important as a sign of reading readiness are phonological awareness and alphabet knowledge (Beaty & Pratt, 2007; Lonigan & Beth, 2007). Phonological awareness refers to the ability of the children to associate letters with their sounds. Alphabet knowledge refers to the ability of the children to identify several letters in prints and pronounce the letters. There are no specific age for the children to acquire this skill (Griffith et al., 2008; Beaty and Pratt, 2007). At this stage children also understand that words in printed materials give specific meanings. Early literacy skill should be acquired before a child is really able to read.

The initial reading is the stage in which the child is first introduced to the patterns or symbols. The symbols or patterns will form letters or images (Yahya, 2007). This will lead to early reading skill. Early reading skill is the most important stage of a child to master the whole process of learning to read (Naimah, Nor Hashimah & Hashim, 2011). There is a close relationship between early literacy skill, early reading skill and fluent reading skill. All of these skills overlapped one another as shown in Figure 1 (Rashidah, 2012).

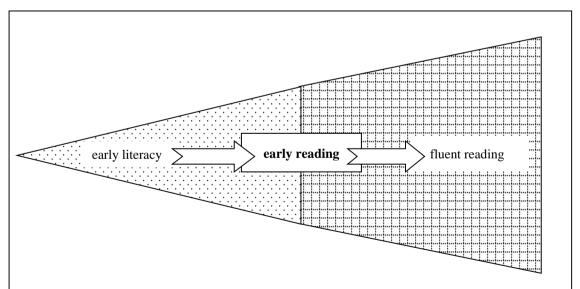


Figure 1. The early reading zone is the overlapping area between early literacy and fluent reading. In early reading lesson children will be introduced to some vocals and several consonants as a basis for the beginning reading lesson.

education system. A study by Kamisah (2011) found that for KIA2M Program in 2006, 317 out of 3155 students in Kulai, Johor primary schools were not able to read after the first screening in March. After the second screening test in November, there were still 135 students who failed the test. The figure showed a decrease of 57.4%, but we should realize that almost half of the students still were not able to master the reading skill, although they had undergone a one year period of formal schooling.

The Literacy and numeracy screening programme (LINUS) was established in 2010 to improve KIA2M programme. The objective of the programme is that all students (excluding special needs children) should be able to master basic literacy and numeracy skills after three years of primary education. The students who do not pass the screening test will enrol into remedial classes for reading, writing and mathematics. The data in Table 1 shows LINUS statistics for Cohort 2 for Terengganu. They started the programme in January 2011.

Screening	Construct	Number of	Number of Year 1 Students in Terengganu					
Screening	Construct	Male	%	Female	%			
	Main stream	5,305	26.16	6,829	33.67			
Ι	LINUS	3,692	18.21	2,230	11.00			
	hardcore LINUS	1,590	7.84	633	3.12			
	Main stream	7,923	39.07	8,553	42.18			
II	LINUS	1,999	9.86	933	4.60			
	hardcore LINUS	600	2.96	187	0.93			
	Main stream	9,189	45.31	9,229	45.51			
III	LINUS	1,054	5.20	354	1.75			
	hardcore LINUS	231	1.14	61	0.30			

 Table 1 LINUS Participation in 2011

Data from NKRA Portal Downloaded with Permission from NKRA Unit (Ministry of Education, 2012)

Total enrolment of Year 1 students in January 2011 (Terengganu) = 20,279 (excluding the special needs children)

Based on Table 1, it can be seen that the number of entries for LINUS and the hardcore LINUS decreased tremendously after the third screening, which left only 8.38%. In spite of that, there were 1,700 students throughout the State of Terengganu still remaining in the programme. The students who have difficulty in reading and writing will face problems in their formal learning. The problems will eventually develop when they are in their secondary school (Martin, Emfinger, Synder, & O'neal, 2007; Pope, 2012; Schmitt and Gregory,

2005; Xing & O'Connell, 2008). If the early reading lesson is initiated earlier, as early as four years old, the children will have the opportunity to continue the reading lesson during their kindergarten years. This is actually taking three years which is the same period of the target set by the government for the primary school to be free of LINUS.

Looking at the above scenario, this study was done to develop an early reading kit named KitAB Cerdas[®] to provide an alternative for early childhood educators and parents to facilitate the learning of Bahasa Malaysia early reading for TASKA children during the age of three to four years old (3+). The study also tested the effectiveness of KitAB Cerdas[®] for use in YPKT TASKA. Filling the gaps in previous study (Kamisah, 2011) and improving the features of commercially existing early reading kit (Rashidah, 2012), KitAB Cerdas[®] had been developed based on the stimulation of multiple intelligences, and taking into account the children's interests in music, songs, games and movement.

KitAB Cerdas[©] consists of a set of learning aids in the form of flash cards, syllable cards, story books, games, pictures and computer software which contains vowels and syllable pronunciation, songs, electronic big books and self access exercise. A handbook is also provided to guide the teachers or parents who are to handle the early reading instruction by using this kit. All media should be used in an integrated manner by the teachers and can be taken home by the parents to guide their children at home. The target for the early reading skill is for the children to be able to sound three vowels, pronounce syllables, read words and read simple sentences.

OBJECTIVES

The aim of this study was to test the effectiveness of KitAB Cerdas^{\bigcirc} on early reading skill of children aged three to four years old (3+). Specifically, the objectives of the study were:

(i) to identify the level of existing early literacy skill among YPKT TASKA children.

(ii) to test the effectiveness of KitAB Cerdas^{\circ} on the early reading ability of YPKT TASKA children.

HYPOTHESIS

The hypothesis laid down for this study were:

 H_01 : There is no significant difference between the treatment groups and the control groups in both parliaments before the early reading instruction.

 H_02 : There is no significant difference between the treatment groups and the control groups in both parliaments after the early reading instruction.

METHODOLOGY

The study employed a quantitative approach using quasi experimental design to test the effect of KitAB Cerdas[®] on early reading ability of YPKT TASKA children. The experimental method is the best way to see the cause and effect relationship among variables (Fraenkel & Wallen, 2008). A quasi experimental design carried out since the researcher would like to maintain the actual situation on the children's learning environment. True experimental design cannot be carried out in situations involving actual situation in schools. The dependent variable in the study was the technique of teaching and learning early reading and children's reading achievement is the dependent variable.

The population was YPKT TASKA children aged three to four years old (3+). The subjects in this study were from two parliaments, Kemaman and Hulu Terengganu. The children were randomly assigned to treatment and control groups for both parliaments. The intervention took 10 weeks. This was sufficient as according to Fraenkel & Wallen (2008), a period of at least five weeks and above is normally used for the experimental study.

The study utilized a checklist for investigating the early literacy level of the subjects and an early reading test questions for the pre-test and posttest. The early reading test consisted of four sets of questions used for testing the ability of the subjects in producing the vowel sounds, pronouncing the syllables, and reading words and simple sentences. The test was administered verbally by the teachers. Each instrument developed by the researcher was validated by four experts in the field of early childhood education, two experts in Bahasa Malaysia and two experts for item construction. Reliability of the instrument was tested using Cronbach's alpha coefficients based on a pilot study, in which the alpha value of .69 to .95 is considered satisfactory (Chua, 2006). Based on the findings of the pilot study, the Cronbach alpha coefficient obtained was .85. This indicated that the reliability of the instrument was at satisfactory level and questions used in the instrument can be clearly understood by the teachers who used the instrument.

Data was collected after a written permission was given by the Director of Yayasan Pembangunan Keluarga Terengganu (YPKT). Written consent was obtained from parents or guardians of children who were involved in this study. Data from the checklist and early reading test were obtained from the teachers who administered them. This was to avoid psychological impact on the children involved. To overcome the problem of extraneous variables, the researcher gave a briefing and a special course for the teachers involved for both the treatment and control groups.

Data were analyzed quantitatively using Statistical Packages for Social Sciences (SPSS) for Windows version 18.0. Descriptive statistics were used to describe the data on the early literacy level of the subjects before the early reading lesson. The results for descriptive statistics were analyzed and presented in the form of frequency counts, percentage and standard deviation. The independent sample t-test was used in this study to compare the mean difference for the early reading scores between the treatment and the control group. There was another threat expected to violate the results of the children's early reading achievement. Extraneous variable can be detected through a pretest (Chua, 2006; Coakes, Steed & Price, 2008). Therefore, a pre-test on the children's early reading ability was administered before the learning of early reading.

FINDINGS

Early Literacy Level

The early literacy level was measured to ensure that the subjects have early literacy skills, as children who have early literacy skills will have the reading readiness (Tomkins, 2003; Beaty & Pratt, 2007; Lonigan & Beth, 2007). The category for early literacy level set in this study is as in Table 2. The findings for the subjects' early literacy level are shown in Table 3 below.

able 2 Calegor	y of Early Literacy Level
Mean Score	Early Literacy Level
1.00 - 2.33	Low
2.34 - 3.67	Moderate
3.68 - 5.00	High

Table 2	Category	of Early Literacy	Level
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	Kemaman			Hulu Terengganu		
Components of early literacy	No. of	Mean	SD	No. of	Mean	SD
	subjects		50	subjects		
Print motivation	41	3.45	.37	38	3.63	.32
Print concept	41	3.65	.35	38	3.68	.36
Phonological awareness	41	2.89	.46	38	3.10	.46
Vocabulary and ability to tell stories	41	3.59	.37	38	3.58	.25

Table 3 Subjects' Early Literacy Level

Alphabetical knowledge	41	1.64	.57	38	2.10	.78
Knowledge about concept meaning	and 41	2.87	.37	38	3.14	.41
Early literacy level	41	3.01	.32	38	3.20	.34

SD = standard deviation

Based on Table 3, when we refer to the early literacy level as a whole, it is clearly seen that the mean score for Kemaman was 3.01 and 3.20 for Hulu Terengganu. This indicated that the early literacy level of the subjects for both constituencies were at a moderate level (Table 2). Although the mean score for alphabetical knowledge components for both Kemaman (1.64) and Hulu Terengganu (2.10) constituencies were at a low level, the mean score for other components were at moderate to high level. The reason for this is because the subject had not been given early reading lessons yet.

The ability to recognize alphabets, syllables and the sounds was provided in early reading lesson. As a whole we can conclude that the subjects already have the reading readiness. This finding support studies by Ford (2010) and statements by Beaty and Pratt (2003) and Syed Abu Bakar (1994) that children at the age of three years old were already with reading readiness.

Early Reading Ability

The results for early reading pre-test and post-test are shown in Table 4 and Table 5 respectively. The pre-test was administered verbally by the teachers before the early reading lesson and the post-test was administered after the early reading lesson.

Constituenci	Treatr	nent gro	ups	Control groups				
es	n	Mean	SD	n	Mean	SD	t	р
		(M)			(M)			
Kemaman	19	.11	.32	22	.00	.00	+1.56	.125
							9	
Hulu	21	.00	.00	17	.18	.39	-1.281	.208
Terengganu								
n = number of s	subjects	SI	D = standa	rd devia	ation	t = t val	ue p	
= error								

Table 4 Results of Early Reading Pre-test

Table 4 shows the differences in mean scores and t-test results for the pre-test between the group of children who learned to read using KitAB Cerdas[®] (treatment group) and group which did not use KitAB Cerdas[®] (control group) in the constituencies of Kemaman and Hulu Terengganu. Based on Table 4,

the results of t-test showed that for Kemaman constituency, there was no significant difference in performance between the treatment group (M = 0.11, SD = 0.32) and the control group (M = 0.00, SD = 0.00), t (41) = 1.569, p> 0.05. There was also no significant difference for Hulu Terengganu constituency in early reading performance between the treatment group (M =0.00, SD = 0.00) and the control group (M = 0.18, SD = 0.39), t (38) = -1.281, p > 0.05. Therefore we can conclude that the null hypothesis (H₀) is accepted. This meant that children in both groups, and in both constituencies did not differ in their early reading skill before starting their early reading instruction. It also showed that the subjects in Kemaman and Hulu Terengganu constituency were at the same early reading level at the beginning of early reading instruction. We can also say that pre-test results in both constituencies showed subjects in all groups are homogeneous, regardless of their gender. age (months) and family socioeconomic level. This is very important in this study so that the effect of treatment given can be seen clearly (Fraenkel and Wallen, 2008: Creswell, 2012).

	nent gro	ups	Cont	rol groups	os			
Parliaments	n	mean (M)	SD	n	mean (M)	SD	t	р
Kemaman	19	11.05	6.21	22	6.14	3.48	3.181	.003
Hulu	21	17.38	7.39	17	11.00	6.67	2.764	.009
Terengganu								
n = number of subjects		SI	D = standa	rd devi	ation	t = t va	lue p	
= error								

Table 5	Results of Early Reading Post-test
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Based on Table 5, t-test results showed that there was a significant difference in the children's early reading performance between the treatment group (M =11.05, SD = 6.21) and the control group (M = 6.14, SD = 3.48), t (41) = +3.181, p <0.05 for Kemaman Parliament. There was also a significant difference between the treatment group (M = 17.38, SD = 7.39) and the control group (M = 11.00, SD = 6.67), t (38) = +2.764, p <0.05 for Hulu Terengganu Parliaments in the post-test. Therefore we can conclude that the null hypothesis (Ho) is rejected. This means that there were significant differences in the achievement of early reading skills among children in the groups who learned to read using KitAB Cerdas[®] compared with the children who learned to read without using KitAB Cerdas[®]. In other words, the study showed that KitAB Cerdas[®] was effective in helping the subject to acquire the early reading skill.

DISCUSSION

KitAB Cerdas[©] is an early reading teaching and learning aids developed specifically for children to start learning early reading. Although the main objective of this study was not for the children to be able to read fluently, however the use of appropriate tools helped children as young as three years old and above (3+) to read at least words and simple sentences. This study also demonstrated that children as young as 3 years old are ready to learn, in accordance with the findings by Ford (2010). When the children have started their early reading lesson in TASKA, during their 3+ age, they will have another two years in preschool to hone their reading skill. If the children are able to read fluently before starting their formal schooling, the government does not need to allocate a large number of additional expenses to develop or conduct any special programmes such as LINUS or accommodate large number of remedial classes.

KitAB Cerdas[©] contains a variety of media, including the traditional media (non-technology based) and technology-based media which can help children to learn early reading in a relaxed and comfortable atmosphere, as noted by Husin, Nazariyah, Mastura & Siti Hajar (2011), Morrow (2007), Nani (2005), and Soderman and Farrell (2008). A variety of stimuli contained in KitAB Cerdas[©] such as objects for games, music, songs and interactive computer software help to attract the children's attention and increase their attentiveness, as what has been stated by Hasnah & Habibah (2010). Various stimulations of the instructional media in KitAB Cerdas[©] help to enhance multiple intelligences in the children (Gardner, 1983).

Computer software which is one of the media in KitAB Cerdas[©] also helps the children to familiarize themselves with current developments in educational technology. Children will be able to make the integration of text with animation, sound and visual stimuli in the computer software. These elements are very helpful in the process of early reading learning, in line with the findings by Kamisah (2011) who used computer software as a medium for learning reading in preschool. From the study findings and previous studies, we can conclude that that there is no barrier for children as young as 3+ to learn early reading using a computer. Children as young as two years old were able to explore computer games as in the findings by Lankshear and Knobel (2003).

CONCLUSION

Based on the results obtained from this study, the development KitAB Cerdas[©] helps TASKA children to take their first move to start learning to read as early as three years old and above (3+). Perhaps some people would say that children at that age are not yet ready to learn to read, but the findings of this study showed that children at the age of 3+ have had reading readiness. Though in this study most of the children were at moderate level of early literacy before they start the early reading lesson, KitAB Cerdas[©] was able to help them acquire their early reading skills.

Various media in KitAB Cerdas[©] stimulate fun learning atmosphere for the children in the process of learning. The media in KitAB Cerdas[©] takes into account the multiple intelligences stimulation, developmentally appropriate practices (DAP), and children's nature and interests. These factors should be considered by the early childhood educators because it is the nature of children to like music, songs, move around, play and socialize. Therefore the use of a variety of learning tools is necessary to avoid them feeling bored in the process of early reading instruction. Elements of computer technology can also be applied to train the child to be technology savvy in the vast development of educational technology tools at present.

It is hoped that the use of KitAB Cerdas[®] will develop confidence in the early childhood educators to start early reading instruction in TASKA. KitAB Cerdas[®] provides an alternative for suitable learning aids for Bahasa Malaysia early reading instruction which developed via a scientific research, according to the child's ability level. KitAB Cerdas[®] also takes into account the stimulation of children's multiple intelligences. All of these aspects are important to help the children to acquire the reading skills gradually in a conducive environment. At the same time children will be able to develop holistically, in accordance with the requirements of the early childhood education curriculum and standards, as well as the National Education Philosophy.

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