

Literacy Difficulties of Dyslexic Students in Bahasa Malaysia: A Case Study in Kelantan

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ABSTRACT

The purpose of this qualitative case study is to explore difficulties experienced by school children with dyslexia in literacy. This study involved five school children diagnosed with dyslexia by medical practitioners. The school children were from three different primary schools and were enrolled in a dyslexia special education programme. Data were collected through multiple techniques including in-depth interviews, observations, and documentation. The findings indicated that all participants showed literacy difficulties in terms of letters reversals, inaccurate naming of letters of the alphabet, inaccurate in sounding out the spelt words, and difficulty in spelling task. Based on literacy abilities of dyslexia participants in this study, it is worth mentioning that poor readers should be explicitly taught grapheme-phoneme knowledge, syllable segmentation and phoneme manipulation. This method of teaching also was suggested by Lee and Wheldall (2010).

Keywords: Literacy difficulties in Bahasa Malaysia; Dyslexia; Case study of dyslexic students

INTRODUCTION

Dyslexia is one of specific learning disability, which is neurobiological in origin and results from an unexpected phonological deficit (Ferrer, Shaywitz, Holahan, Marchione, & Shaywitz, 2010). The predominant theory of dyslexia is phonological deficit theory and this theory proposed that the specific reading difficulties of dyslexia is directly and exclusively caused by a cognitive deficit that is specific to the representation and processing of speech sound (Snowling, 1998).

The phonological deficit interferes grapheme-phoneme knowledge, which leads to difficulties in mastering the alphabet (Vellutino, Fletcher, Snowling, & Scanlon, 2004). The phonological deficit can be further broken down into deficits in phonological awareness, deficits in phonological memory, and deficits in naming (Vellutino et al., 2004). These deficits can be observed from the symptoms such as difficulty counting syllables in words or difficulty recognizing rhymes, which lead to the eventual difficulties with learning to read (Goswami, 2008).

In Malaysia, dyslexia is listed as a specific learning difficulty and entitled for special education services (Special Education Division, 2011). Special Education Department, Ministry of Education Malaysia, hold the responsibilities in providing educational services to students with special needs. To date, there is no concrete data and research evidence on the prevalence of children with dyslexia in Malaysia (Leong, 2015). A study conducted in Penang, Malaysia identified 9.4% of children in Grade One elementary schools as having learning difficulties, and 92.3% of these children were found to have severe reading disabilities (Socio-

economic & Environmental Research Institute Penang, 2003). Department of Special Education Statistics, Ministry of Education Malaysia (2014) estimated that 53,685 students with learning disabilities have been involved in formal education in 2014. From that total, 0.03% or 1,681 students have been involved in the dyslexia classroom programme.

Dyslexia and Literacy Difficulties

According to Reid (2009, p. 30) a pattern of difficulties in attainments in literacy for dyslexics may also be focused on, such as difficulties in phonological awareness, word recognition, spelling rules, visual errors in spelling, letter and word confusion with similar-sounding words and omissions of words, parts of words and individual letters and sounds.

Moody (2009) argues that when it comes to literacy, there is an even greater problem about which 'bits' of literacy to assess. She suggests following tests to be included: Reading single words, Spelling, Reading comprehension and Reading speed. A dyslexic person with intellectually-able who has had a reasonably good education may have compensated well enough for his difficulties to score well on simple tests of basic reading and spelling, but he/she may score badly on tests of higher-level literacy skills, such as silent reading comprehension and structuring written work; and the reading and writing speeds may be below average (Moody, 2009).

Lee (2008a) suggests word reading accuracy, reading fluency, spelling and decoding tests to assess literacy difficulties that characterise dyslexia in Malay language. According to Joshi and Aaron (2008), decoding, which is the ability to pronounce the written word, is a skill that is independent of general intelligence (Spearman's 'g' factor), which is what intelligence tests measure. Carver (1998) described decoding as 'low level processing skill' and comprehension as 'higher level processing skill'. Decoding skills can be assessed with the aid of a test of non-word reading and a test of spelling (Reid, 2009, p. 31).

Letter-name knowledge has proven to be a remarkably good predictor of eventual reading and spelling attainment because children who learn letter names easily are more likely to have good phonological skills (Goulandris, 2006, p. 110). Byrne, Fielding-Barnsley, Ashley, and Larsen (1997) found that letter knowledge accounted for more variance in a decoding task within a teaching experiment with preschool and kindergarten children than did a measure of phonemic awareness. Knowledge of letter names or sounds is an important prerequisite for children learning to read and spell in an alphabetic orthography such as English (Muter, 2004).

A research done by Fawcett and Nicolson (1994) found that children with dyslexia were significantly slower at naming colors, digits and letters than their chronological age controls, and equivalent to their reading age controls, thus suggesting that children with dyslexia have persistent, and unexpectedly severe, problems in naming speed for any stimuli, regardless of whether the stimulus requires grapheme-phoneme decoding.

Word reading measures letter and word decoding through letter identification and word recognition. Ehri (2002) suggests that for sight word reading to develop, learners must acquire and apply knowledge of the alphabetic system. She asserts that a weakness in the whole-language approach is the absence of systematic phonics instruction at the early stages. The ability to recognize words quickly and accurately, also referred to as lexical processing, is a hallmark of skilled reading (Goulandris, 2006, p. 104). The best way to assess word recognition is by using a single-word reading test that precludes the use of psycholinguistic, pictorial and contextual cues. Children will normally attempt to use all possible cues when trying to read, particularly if reading does not come easily to them (Nation and Snowling, 1998).

A study by Lee and Wheldall (2011) investigated acquisition of Malay word recognition performance of low-progress early readers. They found that both syllable awareness and

phoneme blending were significant predictors of word recognition, suggesting that both syllable and phonemic grain-sizes are important in Malay word recognition. They also analysed the source of errors of participants and classified the errors due to inefficient syllable segmentation, oversimplification of syllables, insufficient grapheme-phoneme knowledge and inefficient phonemic code assembly.

In spelling, a child requires to represent spoken words in writing. At a basic level of spelling, learning to represent sounds with letters requires a two-way mapping between phonology and written symbols, and it is here that difficulties will first be encountered by the child with any sort of limitation in phonological skills (Jamieson & Simpson, 2006, p. 199). A child needs to acquire knowledge of the relationship between sounds and letters and this knowledge requires phonological learning. Then, the child needs to segment the target word into, at the very least; its salient sounds and then represents these sequentially with symbols (Jamieson & Simpson, 2006, p. 199).

Spelling requires the child to be familiar with phonological representations and the correspondence between phoneme and grapheme. Spelling also is more difficult to use context. Thus, the children with dyslexia consistently possess difficulty with spelling, particularly as they often learn to read through the use of contextual strategies rather than phonological systems and because they cannot utilise context as successfully in spelling as in reading (Snowling, 2000). In addition, spelling task places demands on the memory and because it is a written activity; that also place demands on mental operations involved in the kinaesthetic factors associated with integrating writing with a mental activity. (Reid, 2009, p. 128).

In addition, Snowling (2000) indicated that there was a significant difference in the nature of the spelling errors in dyslexic children compared with a control group. The dyslexic children showed more 'phonetically unacceptable' errors than the control group. In other words, the errors of the dyslexic group may not have been recognisable as the word because of a lack of phonetic similarity. This implies that the dyslexic children may have not developed phonological representation, but use letter naming strategies to spell phonologically regular words.

Malay Phonology and Morphology

Malay language, including mutually intelligible forms is spoken by about 250 million people living in Indonesia, Malaysia, Brunei, and Singapore (Tadmor, 2009). Malay language is a member of the Western Branch of The Great Malayo-Polynesians Austronesian. It has very little inflectional morphology, but it is rich in derivational affixes and generally polysyllabic in nature (Onn, 1976). It also has a shallow alphabetic orthography, simple syllable structures, and transparent affixation which is in contrast with English language (Yap, Liow, Sajlia Jalil & Siti Syuhada Faizal, 2010). Malay is usually written in Rumi, which contains 5 simple vowels and 20 consonants. There are three main morphological processes in Malay: affixation, reduplication and compounding (Nik Safiah Karim, Farid M. Onn, Hashim Haji Musa & Abdul Hamid Mahmood, 2005).

The relationship between orthography and phonology, and between orthography and morphology, determined how many rules children need to learn and apply to become proficient readers and spellers (Yap et al., 2010). The most common method of teaching word reading in Malay is to first spell out the letter names of segmented syllables, followed by the sounding out of the syllables before blending of the syllables to form words (Lee, 2008a). As an example, to spell out 'bola' (which means ball), the letter names of the first syllable is spelt (b+o), and then the second syllable (l+a) is spelt out. Both syllables are then be blended together to sound the word *bola*. This method involves syllable segmentation, syllable blending and letter name knowledge.

Malay orthography differs from English both in terms of transparency and syllable structure, and the cognitive-linguistic processing demands for reading and spelling would be more similar to those for Finnish, Greek, Spanish, and Italian than Danish, Dutch, German, or French (Yee, 2009). The impact

of phonological processing deficit is understandably less, and dyslexia is rarer, whereas learning to read in a deep orthography (such as English or French) stands to aggravate the literacy impairments of otherwise mild cases of dyslexia (Lishman, 2006, p. 4).

Mastery of Reading, Spelling and Writing of Dyslexia in Malay Language

Few studies have been published regarding literacy difficulties of dyslexia students in Malay language. Vijayaletchumy Subramaniam (2013) conducted a case study of five dyslexia children to assess the mastery of the 3M (reading, spelling and writing) based on the Revised Dyslexia List Instrument Screening Test (known as Instrument Senarai Semak Disleksia). She found that all the subjects struggled to master the 3M skills even though they were in Dyslexia Specific Learning Problem Integration Programme for up to two years.

Another study by Wan Muna Ruzanna Wan Mohammad, Vijayaletchumy Subramaniam, Adi Yasran Abdul Aziz and Abdul Rahim (2011) investigated the errors made by the dyslexics especially from the angle of spelling errors. They found that dyslexics have difficulties in identifying phonemes and the exchanging of letters occurs very often during the spelling process. The findings also indicated that the students often mixed-up the letters of 'b-d', 'u-n', 'm-w', 'g-q', 'p-q', and 'b-p'.

Rosana Awang Bolhasan (2009) investigated the degree of dyslexic reading problem among primary school students and the relationship between the degree of dyslexia and the demographic factors. Based on her observation on the aspect of writing, she found that dyslexics have great difficulties in writing, poor skill of spelling, oral and written vocabulary and also weak in arranging the content of the compositions. The results also indicated that demographic factors do not have any correlation with dyslexia symptoms.

PROBLEM STATEMENT AND RESEARCH OBJECTIVES

Presently, there are no Malaysian standardised screening instruments to identify children with dyslexia, however there is an existing localised screening instrument, namely 'Instrumen Senarai Semak Disleksia (ISD)' that has been used widely in Malaysia to screen students with dyslexia difficulties (Special Education Division, 2011). This checklist was prepared by the Ministry of Education officials from the Department of Special Needs collaborated with professionals from the Universiti Putra Malaysia. This screening instrument consists of three elements: (i) students' level of mastery in reading and writing (spelling) and numeracy skills (difficulties); (ii) teachers'/parents' perception of students' abilities (strengths); and (iii) predictors of dyslexia.

Comprehensive understanding on dyslexia characteristics is important to support children with dyslexia which could be provided by teachers and parents accordingly. Liyana Ahmad Afip, Nurul Fatimah Hanapi, and Khuzaiton Zakaria (2015) indicated that most special education teachers in their case study had insufficient knowledge on dyslexia symptoms, thus lack knowledge on how to assist children with dyslexia in the special education class. In addition, Tengku Iffah Tuan Yazid and Yin (2015) stated that parents of children with dyslexia especially from rural areas have lack of understanding on causes and treatment for dyslexia. Mohd Zulkifli, Rodger, and Ziviani (2012) also indicated that special education teachers in Malaysia lack understanding on 'learning disabilities' and 'Specific Learning Disability' such as dyslexia. In the same vein, Norizan Abdul Ghani, Zahidah Anisa Mohamad, and Che Wan Takwa Che Wan Abu Bakar (2013) also indicated that teachers faced challenges in teaching children with dyslexia placed in special education classes as teachers were not given comprehensive exposure on dyslexia.

It is well-known that dyslexia affects the learning process of reading, writing, and spelling. Vijayaletchumy Subramaniam (2013) indicated that children with dyslexia have difficulty in learning reading, writing, and spelling even though they were in dyslexia classroom programme for up to two years. The studies that documenting dyslexia difficulties in reading, spelling, and writing in Malay language are also limited. Thus, this study aims to describe and explore the dyslexia difficulties facing by the dyslexia students in reading, spelling, and writing in Malay language that can be used by the trained teachers to identify students with dyslexia in primary school level. Specifically, the objective of this study is to explore the common literacy difficulties presented by the dyslexic students.

To gather evidence of literacy difficulties that characterise dyslexia in Malay, performances in the following skills need to be assessed: word reading accuracy, reading fluency, spelling and decoding (Lee, 2008a). For the purpose of literacy difficulties screening, this study involved three test items (i) Letter naming; (ii) word reading and (iii) spelling. These sets of tests are identified as necessary to be included in a Malay reading-related assessment battery for the purpose of dyslexia screening.

METHODOLOGY

Research Design

The author employed a case study design in order to explore dyslexia characteristics exhibited by each dyslexia participant in this study. Data were collected through multiple techniques including in-depth interviews, observations and documentation.

Participants

This study involved five children with dyslexia from three different schools in Kelantan. Two of them are female and their age ranged between seven to eleven years old. All of them were diagnosed as dyslexics by medical doctors and have been undergoing dyslexia classroom programme.

Procedure

After gaining permission from school authority to conduct the study, the primary researcher asked for permission from participants' parent to include their child in the study. The primary researcher conducted interview session with each participant, individually. The interview sessions involved three questions of alphabet naming, word reading and spelling. It was conducted twice for reliability purposes. The first session was conducted as an audio recording and the second session was conducted as a video recording.

Data Analysis

The case study analysis was adopted using the following procedure: 1) organising and preparing data for analysis 2) listening and verbatim transcribing of the audio-recording and video-recording for first and second interview sessions respectively; 3) extracting units of meaning from each interview and clustering common themes together; 4) reviewing the participants' documents of school worksheets for triangulation purposes.

FINDINGS

Textural Description of Findings

Alphabet Naming Task

There are sixteen letters that participants need to read out loudly. In the first interview, it was found that only Participant 2 (P2) could name all letters correctly and without any hesitation. Participant 1 (P1) could also name all the letters, but showed letter reversal between b-d in which she named letter 'b' as 'd' and otherwise. Participant 3 (P3) could not name several letters correctly. She named letter 'c' as 'e' and letter 'v' as 'q'. She also confused to name several letters in which she named letter 'q' as 'x' but changed her answer to letter 'q' after several seconds. She also confused to name letter 't' in which she named it as letter 'i' but changed her answer to letter 't' after several seconds. Meanwhile Participant 4 (P4) showed letter reversal between n-m in which he named letter 'n' as 'm' and otherwise. He also confused to name letter q as he paused at this letter several seconds before name it correctly. Participant 5 (P5) showed letter reversal between v-y in which he named letter 'v' as 'y' and otherwise. He also confused to name letter 'q' as he paused at this letter several seconds before name it as letter 'e'.

In the second interview, none of the participant could name all the letters correctly without hesitation. P1 showed letter reversal between b and d when she had to read the letter lists as fast as possible. P2 also showed confusion between b and d; in which he named 'b' as 'd' but then he realised his mistake (i.e naming b as d) when he need to name the letter d. Meanwhile P3 showed letter reversals between c-e and b-d. On the other hand, P4 showed letter reversal between n-m in which he named letter 'n' as 'm' and otherwise. Meanwhile P5 showed letter reversal between q-p and named letter 'v' as 'u'.

Word Reading Task

There are six words on the card and the participants were asked to read each word loudly. The words were arranged in order of increasing difficulty. The responses for each participant were displayed in the Figure 1.

From the word reading task, the researcher found that only P2 managed to read out the words spontaneously without need to spell the letters of words. However, he did hesitate in reading the word list but managed to realise his mistakes. Two participants (P1 and P4) were unable to sound out any word accurately in both interview one and interview two; but they managed to sound out a part of syllable of the word (e.g; bebola was sound out as bola). Meanwhile, P3 and P5 could read several words accurately.

When the comparison was made across the interview one and two, only P3 and P5 showed improvement in terms of correct responses of word reading. This study has shown that the reading difficulty of dyslexic students is apparent across the period of time.

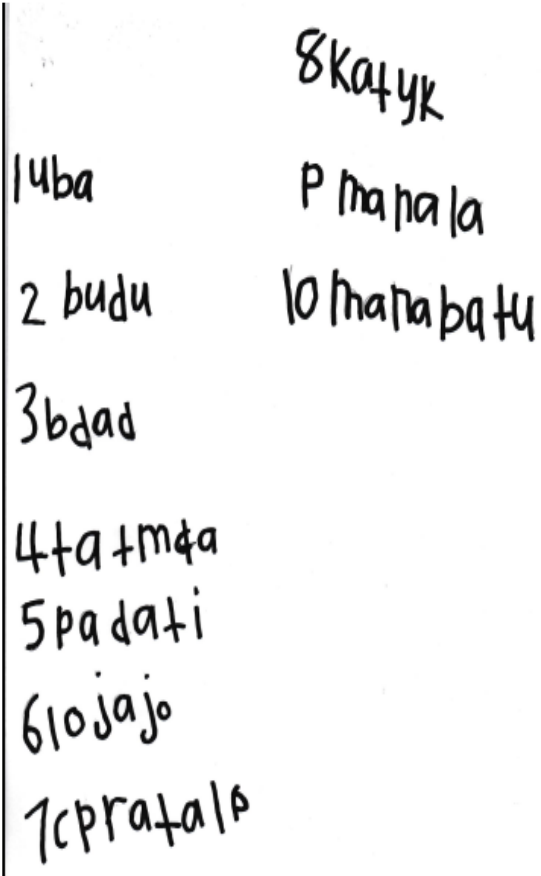
Spelling Task

The participants were asked to write down the word that was read out by the researcher on a piece of paper. There are ten words which have different word length and phonological structure. The responses for each participant were displayed in the Figure 2.

Q11: Please read the word shown on each card.		
Participant	Responses	
P1		
a. besi	b+e (be) s+i (si)	basi
b. along	a+l+o+n+g	ke
c. bebola	b+e (be) b+o (bo) l+a (la)	bola
d. bakau	b+a (ba) k+a (ka) u	baka
e. sabtu	s+a (sa) tu (tu)	satu
f. pesta	p+e (pe) s+t+a (ta)	peta
Summary	<ul style="list-style-type: none"> • P1 attempted to sound out a syllable which approximate a part of word in all words; except for (b). • Response for (c) showed deletion of prefix. • Responses for (d), (e), and (f) showed deletion of letter to become a Consonant Vowel (CV) syllable. 	
P2		
a. besi	besi	
b. along	along	
c. bebola	bebola	
d. bakau	bakau	
e. sabtu	sabtu	
f. pesta	pisita eh pesta	
Summary	<ul style="list-style-type: none"> • He could read all words correctly. • He read the (f) word incorrectly at first but managed to realise his mistake. 	
P3		
a. besi	b+e (be) s+i (si)	besi
b. along	a (a) l+a+n+g (lang)	alang
c. bebola	p+e (pe) b+o (bo) l+a (la)	bola
d. bakau	b+a (ba) k+a+u (kau)	bakau
e. sabtu	s+a (sa) t+u (tu)	satu
f. pesta	p+e (pe) s+ t+a (ta)	
Summary	<ul style="list-style-type: none"> • P3 was unable to spell all letter names correctly in (b). • Response of (c) showed letter reversal between p-b and deletion of prefix. • Response of (e) showed deletion of letter to become a CV syllable. • P3 was able to spelt all the letters in word (f) but unable to sound out the words. 	

Q11: Please read the word shown on each card.		
Participant	Responses	
P4		
a. besi	b+e (be) s+i (sa)	besa
b. along	a+l+o+n+g	
c. bebola	b+e+b+o+l+a (la)	la
d. bakau	b+a (ba) k+a (ka)	baka
e. sabtu	s+a (sa) b+ t+u (tu)	satu
f. pesta	p+e (pe) s+t+a	
Summary	<ul style="list-style-type: none"> • P4 was unable to sound out the spelt syllable correctly in (a). • Responses for (b) and (f) showed that P4 unable to sound out any words. • P4 could sound out a part of syllable in (c). • Responses for (d) and (e) showed deletion of letter to become a CV syllable respectively. 	
P5		
a. besi	besi	
b. along	a (a) l+o+n+g (long)	along
c. bebola	b+e (be) b+o (bo) l+a (la)	bebola
d. bakau	b+a (ba) k+a+u (kau)	bakau
e. sabtu	s+a+b (sab) t+u (tu)	sabtu
f. pesta	p+e+s (pes) t+a (ta)	pasta
Summary	<ul style="list-style-type: none"> • P5 was able to sound out the (b), (c), (d), and (e) correctly after spelt the letters. • Response for (f) showed vowel substitution of the letter e. 	

FIGURE 1. The participants' responses in the word reading task.

Q13: I will pronounce several words and you should try to spell those words on the paper.	
Participant	Written responses
P1 1. uda 2. budu 3. bandar 4. tetamu 5. pedati 6. lonjak 7. penting 8. kualiti 9. menelan 10. membantu	 <p>Handwritten responses for P1:</p> <ul style="list-style-type: none"> 1. uda 2. budu 3. bandar 4. tetamu 5. pedati 6. lonjak 7. penting 8. kualiti 9. menelan 10. membantu
Summary	<ul style="list-style-type: none"> • P1 could spell the (1) and (2) correctly but showed letter reversal between b-d for (1) • P1 was able to spell the first letter of words correctly for (3), (4), (8), (9), and (10); spell the two letters of words correctly for (6); and could spell the suffix for (5) correctly.

Q13: I will pronounce several words and you should try to spell those words on the paper.	
Participant	Written responses
P3	
1. uda	1. baia
2. budu	2. baka
3. bandar	
4. tetamu	2 bang-baka
5. pedati	
6. lonjak	3. pakaia
7. penting	
8. kualiti	
9. menelan	
10. membantu	4 kanan
Summary	<ul style="list-style-type: none"> • P3 refused to continue this task until the end and request to stop when be asking to spell the fourth word. • P3 managed to spell the first letter of (2) correctly.
P4	
1. uda	1 u da
2. budu	2 bdu
3. bandar	3 bra
4. tetamu	
5. pedati	4 tau
6. lonjak	
7. penting	
8. kualiti	
9. menelan	
10. membantu	5 peb
Summary	<ul style="list-style-type: none"> • P4 managed to spell the first word correctly. • P4 could spell the end syllable of (2) correctly. • P4 could spell the first letter of (3) and (4) correctly. • P4 could spell the first two letters for (5) correctly. • P4 refused to continue the task until the end.

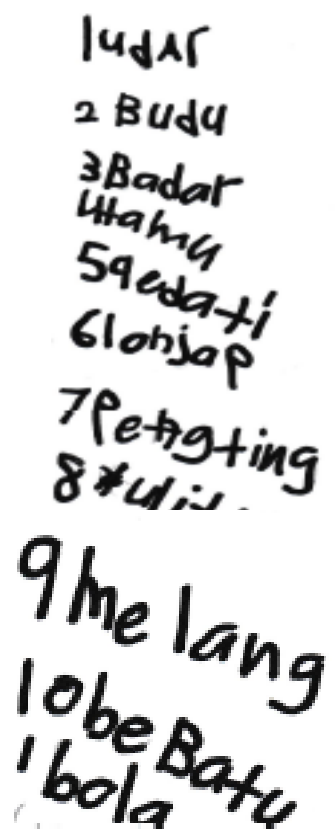
Q13: I will pronounce several words and you should try to spell those words on the paper.	
Participant	Written responses
P5 1. uda 2. budu 3. bandar 4. tetamu 5. pedati 6. lonjak 7. penting 8. kualiti 9. menelan 10. membantu	
Summary	<ul style="list-style-type: none"> • P5 could spell the (2) and (5) correctly but the letter orientation for p was incorrect. • P5 showed phonological plausible for (1), (3), and (6). • P5 could spell the first syllable for (9); and spell the second syllable for (7) correctly.

FIGURE 2. The participants' responses in the spelling task.

The researcher also requested the participants' teachers to provide the worksheets that were completed by the participants. These completed worksheets can be used to describe the dyslexia difficulties in dealing with literacy tasks, suggesting that the dyslexia difficulties also can be observed from the written work. From the worksheets, it can be seen that the dyslexics in this study have difficulties in accurate copying words/ sentences, errors in accurate spelling, letters reversals (i.e., b-d, b-p), and incorrect letters formation. In addition, the participants' handwriting also was lack of spacing between words.

ANALYSIS AND DISCUSSION

Based on the textural description, the researcher had identified seven types of literacy difficulties commonly faced by the participants in this study. Table 1 described types of literacy difficulties shown by the dyslexic participants in this study.

TABLE 1. Types of literacy difficulties shown by the participants

Types of difficulties	Description
Letter reversals	Three participants (P1, P2, and P3) showed letter reversals between b-d. P4 had the tendency to show letter reversals between n-m, while P5 was observed to show letter reversals between v-y, q-p, and v-u.
Incorrect letter naming	The participants incorrectly name several letters of the alphabet in the letter naming task and single word reading. Among those letters that were named incorrectly by the participants were 'q' and 'v'.
Confusion/hesitation	In the letter naming task, P3 and P4 hesitated when asked to name letter 't' and 'q' respectively. In the word reading task, P2 hesitated to read one word correctly but managed to read it later on. In the spelling task, P2 was confused between 'b' and 'd' but later managed to realise his mistakes and made corrections.
Incorrect articulation of the spelt word	Two participants (P1 and P4) had difficulties in articulating (i.e. read) any words correctly despite knowing the letter names. They managed to articulate a syllable approximating to part of word such as 'bola' for 'bebola'. While P3 and P5 showed deletion of a phoneme or syllable when articulating the words which resulted in non-words errors (e.g., 'along' was read as 'alo') and visual errors (e.g., 'sabtu' was read as 'satu')
Spelling errors	All participants managed to spell the first letter of the words. The participants also managed to spell the first or the end syllable of words. Two participants (P2 and P5) showed phonologically plausible errors in spelling. For example, 'membantu' was spelt as 'menbantu' and 'lonjak' as 'lonjap'.
Refusal	Two participants (P3 and P4) refused to do the spelling task until the end of the task because the task was too hard and difficult for them.
Letter orientation	One participant (P5) showed wrong letter orientation in the spelling task.

The study findings seem to suggest that even the dyslexic students can read well, they do make mistakes involving letter reversal, incorrect single word reading, and spelling. It is also worth noting that the dyslexic students showed hesitation and easily confused with several letters of the alphabet; such as b-d, n-m, v-y, c-e and q-p. In the word reading task, the dyslexics could spell the phonemes but sounded out the phoneme of word incorrectly.

The spelling task could be the hardest task as all participants except one were able to spell either one or none word correctly. When the comparison were made across the interview one and two, only P3 and P5 showed improvement in terms of correct responses of word reading. This study has shown that the reading difficulty of dyslexia students is apparent across the period of time.

The findings indicated that the participants tend to showed letter reversals between b-d, c-e, n-m and q-p in the literacy tasks. Based on Miles (1993), dyslexic children though they

may well write 'p' for 'b' or vice versa, could detect differences between confusable letters when these differences were pointed out to them. Reversal of letters is one of factors that can prompt concern over dyslexia difficulty (Reid, 2009). Letter-naming speed has been demonstrated to be strongly associated with dyslexia (Fawcett & Nicolson, 1994). Thus, difficulty in acquiring knowledge of letter names may be an ominous portent of a problem in automaticity of word recall in later reading.

The participants could not name several letter correctly and showed hesitation in naming the alphabets. Wolf, Bally and Morris (1986) indicated that children with dyslexia began the school years with both a general retrieval-speed problem, and a particular difficulty with letter naming retrieval rate. Letter-naming speed has been demonstrated to be strongly associated with dyslexia (Fawcett & Nicolson, 1994). Thus, difficulty in acquiring knowledge of letter names may be an ominous portent of a problem in automaticity of word recall in later reading.

The findings from the word reading task indicated that four of the participants who could not read proficiently yet used coarse-grain syllable awareness and letter names technique to read the word. They still had problems recognizing the order of letters in a word and could not move to the next level of word reading process in Malay, that of syllable recognition and syllable segmentation.

The spelling task showed that most of participants could preserve the initial Consonant (C) Vowel (V) syllable (i.e., first two letters) than a single consonant, suggesting that syllables are more salient than phonemes for Malay speller students. Wan Muna Ruzana Wan Muhammad et al. (2011) indicated that the dyslexics have difficulties in identifying phonemes when involving spelling task and the exchanging of letters such as 'b-d', 'u-n', 'm-w', 'g-q', 'p-q', and 'b-p' occurs very often during the spelling process. In addition, the most proficient-speller in this study (i.e., P2) showed plausible spelling errors, suggesting that he seems less likely to encode phonemes, and more likely to encode larger syllables and morphemes.

Difficulties in the word recognition component of reading in children with dyslexia are usually accompanied by corresponding difficulties in spelling. This is to be expected, as there are theoretical and empirical supports to indicate that reading and spelling are so closely related as almost to look like the same ability (Ehri, 2002). Spelling, being a more demanding task, is a more sensitive test and is likely to reveal dyslexia more readily than reading (Frith, 2002). Past research in Malay has indicated that both syllable and phoneme grain-sizes are important in the acquisition of early spelling and reading (Liow & Lee, 2004).

CONCLUSION

Based on literacy abilities of dyslexia participants in this study, it is worth mentioning that poor readers should be explicitly taught grapheme-phoneme knowledge, syllable segmentation and phoneme manipulation. This method of teaching also has been suggested by Lee and Wheldall (2010). Based on Lee (2008), if a child cannot segment syllables, manipulate phonemes or have grapheme-phoneme knowledge, then the child cannot read despite the consistency of the orthography.

The results from this case study do indicate the possibility that for certain student with dyslexia, especially those showing obvious reading difficulties, other methods of intervention than the traditional may be necessary. Major reviews of early reading instruction for individuals with dyslexia concur that the key features of teaching reading at the earliest stages are that it is multi-sensory and phonologically based (Thompson, 2010).

In summary, this study indicated that children with dyslexia have literacy difficulties in identifying letter names, inaccurate word reading, spelling errors, reversion of letters especially

between b-d, m-n, v-y, q-p, and v-u, hesitation and confusion in identifying letter names and word reading, and also inaccuracy in the orientation of writing letters of the alphabets. The findings are aligned with previous research; such as by Lee and Wheldall (2011) that discussed the difficulties of children with dyslexia in reading Malay words, while Wan Muna Ruzanna Wan Muhammad et al. (2011) highlighted the difficulties faced by children with dyslexia in spelling and letter reversals. A recent study by Sharmyn Lim Sinnaduhai (2018) also indicated that children with dyslexia performed slower and less accurate than the unimpaired group in letter recognition, syllable reading, and Malay word reading tasks.

Although the findings of the study align with previous research and literature, generalization of the findings are not possible due to the nature of the study. Both teachers and parents can benefit from the study findings in obtaining better understanding on children with dyslexia difficulties in literacy. Thus, the study findings provided initial guidelines for teachers and parents in understanding the difficulties experienced by children with dyslexia in literacy. In addition, teachers can use these study findings to identify children at-risk of dyslexia and in planning intervention or teaching strategies for children with dyslexia.

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