INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN PROGRESSIVE EDUCATION & DEVELOPMENT

OPEN ACCESS JOURNAL

Vol 13, Issue 2, (2024) E-ISSN: 2226-6348

Reading Errors of Dyslexic Pupils in Malay Language According to Dyslexia Syndrome Theory

Nadia Shuhada Abdan Nasir and Vijayaletchumy Subramaniam

Faculty of Modern Languages and Communication, Universiti Putra Malaysia, Serdang Malaysia

To Link this Article: http://dx.doi.org/10.6007/IJARPED/v13-i2/21354 DOI:10.6007/IJARPED/v13-i2/21354

Published Online: 17 April 2024

Abstract

The aim of this study was to identify dyslexic students' reading mistakes in Malay words in accordance with Levinson's Dyslexia Syndrome Theory (1994). Four dyslexic students from Taman Tun Dr. Ismail, Kuala Lumpur, with a medium reading level in Malay, were the study subjects. Research data was collected using reading test methods, questionnaires, interviews and observations. The research tools included tape recordings, field notes, questionnaires and reading texts. Reading texts are used in reading tests to identify reading errors. The words listed in the reading text are selected according to the learning level of the study subject and the words have 24 syllable structures which are referenced from the Malay Teaching and Learning Guidebook for the Special Rehabilitation Program by the Special Education Division, (Ministry of Education Malaysia, 2019). The results of the analysis from the reading test found that the study subjects had the highest difficulty in spelling words with KVKK syllables that contain the combined consonants /-ng/, diphthongs, paired vowels and digraphs. Levinson (1994)'s Theory of Dyslexia Syndrome is used to analyze each reading error. The results of the analysis found that the study subjects conformed to the characteristics of Levinson's (1994) reading errors, namely elimination, transfer, insertion, substitution, reversal, guessing, except condensation. In the meantime, this study also discovered two other errors that are not within the scope of Levinson's Theory (1994), which are division and pronunciation-type reading errors.

Keywords: Dyslexia, Reading Problems, Syllables, Reading Text, Dyslexia Syndrome Theory.

Introduction

In order for students to communicate and interact when reading, they must possess basic literacy skills. According to Clay (1991), the development of a person's literacy starts from birth and experiences at home become the basis for the development of literacy, which will then be acquired formally at school. This illustrates the significance of parents at home being responsible to strengthen the foundation of early childhood development. Beaty (2009); Lonigan (2006) support this viewpoint, believing that children's literacy mastery is a continuous process that starts at a young age. According to Foorman and Moats (2004); Lyon,et al (2004), the age period of children from birth to 8 years is the most critical period

because they are begin to develop early language and literacy skills, which are the main factors in improving reading skills and building knowledge about the world around them. But unlike dyslexic children, they are not able to read at that young age (Lidwina, 2012). Despite adulthood, they are still struggling with reading. Dyslexic students are unable to read as well as other children because dyslexia is generally classified as a language disorder (Subramaniam & Kunasegran, 2022). Although some dyslexic children may be able to read, their reading proficiency is lower than their age level and the development of the mind depends on the individual (Walda et al., 2021).

Normal children are usually able to master reading skills by the age of 6 or 7. However, dyslexic children are not able to show their ability to read at that young age (Lidwina, 2012). The Department of Special Education, Ministry of Education Malaysia states that dyslexic children have mental intelligence that is on par with or above normal students but face great difficulty in mastering the skills of spelling, reading, writing and counting. According to Nasir (2019), it is necessary for students to master reading skills first before they can master writing skills. If the reading problem among dyslexic students are not overcome, then they will be considered less intelligent in schools that only care about academic achievement, and even parents will also think that their children are facing a disease. Thus, the special talents possessed by dyslexic children cannot be discovered and revealed.

Problem Statement

Fletcher et al (2007) observed that the majority of dyslexic students are unable to identify syllables and comprehend phonological components. According to Subramaniam et al (2022), a person's language proficiency is influenced by their comprehension of the phonemic, phonetic, and phonological aspects of the language. However, dyslexic students struggle to match letter shapes with letter sounds correctly. This obstacle is causing their vocabulary mastery to be less satisfactory, resulting in their language level not aligning with the language level of normal children. In addition, Luh et al (2018) also found that dyslexic students find it difficult to process the sound of words so they are unable to spell and pronounce syllables.Unlike normal children, they are taught words that start with the same sound such as *mama, makan, mana, bapa, bawa, baju* and then they are taught that those words start with the same letter or syllable but carry different meanings (Hamid, 1991).

However, Jan et al (2011) showed that these children were unable to read words with similar spellings due to morphological disorders and impaired vision and hearing. This was also confirmed by Tamboer et al. 2014, who stated in their study that the major factors influencing a person's diagnosis of dyslexia were audiovisual, vision and auditory disorders. Consequently, children with Dyslexia are facing serious difficulty in understanding the syllable structures that can lead to a lack of identification skills for spelling structures (Awada & Plana, 2018). This problem may lead to reading material being scrambled, which makes it difficult for them to see what the sentences mean (Jamian, 2011). Therefore, it is very important for dyslexic children to receive specific learning in phonology because the relationship between phonology and reading is interconnected and this can improve the reading ability of dyslexic children better (Mather & Wendling, 2012). Suarez-Coalla et al (2016) also concur with the belief that the connection between phonology and reading can enhance the spelling skills of dyslexic pupils. It was noted that, in view of the prior studies, further study and research are still needed for improving reading skills among students with dyslexia. Thus, a researcher may

conduct a study on reading structures of dyslexic students in Malay which will focus on this problem.

Methodology

Research Subject

This study uses qualitative and quantitative methods for data collection and the data of the study is statistically calculated and then transferred into a table so that the data can be analyzed more clearly and descriptively. A total of four moderately dyslexic students aged between 6 and 16 years old were selected as study subjects from a dyslexia center in Kuala Lumpur, namely Dyslexia Genius Malaysia, Taman Tun Dr. Ismail. Although there is a significant difference in age, the study subjects have the same reading level of Malay, which is at a moderate level and they also have equivalent exposure to Malay words. The criteria for selecting study subjects are that they are proficient in recognition of letters and letter sounds, have the ability to communicate in Malay, and are familiar with Malay reading materials.

Research Instrument

The collection of research data was done through questionnaires, reading tests, interviews, and observations. The research tools include tape recordings, field notes, questionnaires, and reading texts. The reading text is used in the reading test and the text contains words that have 25 syllable structures that are referred from the Malay Teaching and Learning Guidebook for the Special Rehabilitation Program by the Special Education Division, (Ministry of Education Malaysia, 2019). Three criteria are used to select the words used in the reading text, which include:

i. words that have meaning,
ii. words that have been heard or used to be heard by the study subject, and
iii. words whose meaning is understood by the study subject.

Table 1
25 Malay Syllable Structures for Special Rehabilitation Students.

No.	Syllable Structures	Examples
1	CV + CV	*bola, meja*
2	V + CV	*api, ibu*
3	CV + CV + CV	*kereta, tomato*
4	CVC	*gam, kek*
5	V + CVC	*ayam, ikan*
6	CV + CVC	*jarum, nenek*
7	CVC + CV	*lampu, bomba*
8	CVC + CVC	*biskut, cermin*
9	CV + CV + CVC	*basikal, telefon*
10	CVC +CV+CVC	*pembaris, komputer*
11	CVCC	*zink, bank*
12	CV + CVCC	*kucing, helang*
13	V + CVCC	*asing, udang*
14	CVC + CVCC	*kambing, kumbang*
15	CVCC+ CV	*mangga, tangga*
16	CVCC + CVC	*tingkap, pinggan*

17	CVCC + CVCC	*pinggang, longkang*
18	CV + CV + CVCC	*belalang, pepatung*
19	CV + CVC + CVCC	*selendang, pelancong*
20	CVC + CV + CVCC	*tempurung, pendayung*
21	CVCC + CV + CVC	*bungkusan, cengkerik*
22	CV + CVCC + CVC	*gelongsor, belangkas*
23	Diphthong (a combination of two vowel sounds pronounced in one syllable)	*tupai, kerbau, harimau*
24	Vowel pairs (two vowels sit next to each other but pronounced separately in different syllable)	*daun, buaya, piano*
25	Digraph (a combination of two consonant letters representing one sound)	*ngaji, syabas, monyet*
*C = consonant; V = vowel		

Procedures to Identify Errors of Dyslexic Students' Reading

According to Husni and Jamaludin (2018), there is a systematic method that can be used to identify dyslexic students' reading problems, which is through reading activities. Therefore, researchers have used the measures.

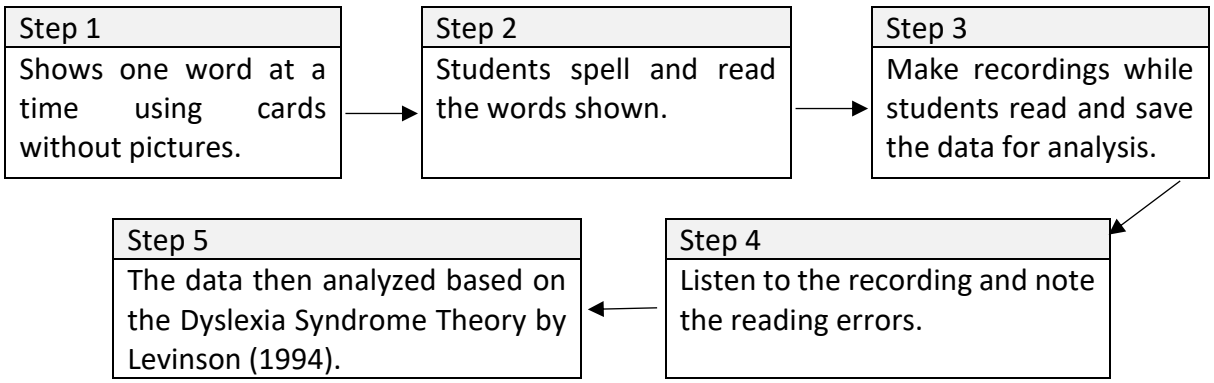

Figure 1. Procedures to identify errors of dyslexic students' reading.

Dyslexic students easily lose focus when studying in a large group and quickly get bored if they do the same thing repeatedly. Therefore, the reading test is conducted individually and is done for five sessions for each student. Five sessions were conducted to ensure the consistency of syllable structures read by the student. If the reading test is conducted in only one or two sessions, the probability of detecting errors in reading is inaccurate. This is because each student will read a word with a different pronunciation in a different session. Step 1 and step 3 will be repeated for other words. After completing the reading test session, the researchers will listen to the recording again, examine the mistakes highlighted by each student and make notes. The data obtained were then analyzed using the Dyslexia Syndrome Theory by (Levinson, 1994).

Theory of Dyslexia Syndrome by Levinson (1994)

According to the Theory of Dyslexia Syndrome by Levinson (1994), the reading characteristics of dyslexia in reading show that they are hard to balance the memory of letters and sounds, visually or phonetically. When reading, our eyes generally follow the shape of letters.

However, dyslexic individuals struggle to understand the content of reading material because their eyes cannot distinguish between letters, words, or sentences. This is due to the scattered position of the letters or words scanned by their eyes on the reading material. According to Levinson (1994), dyslexic students tend to make seven errors during reading, namely elimination, transfer, insertion, substitution, reversal, condensation, and guessing/like.

Result and Discussion

Based on the 25 Malay language syllable structures as in Table 1, this study found that all the study subjects have the highest difficulty in reading these four syllable structures, which are :

i. CVCC syllables that have a combined consonant /-ng/,
ii. diphthongs,
iii. vowel pairs, and
iv. digraphs.

The tables below are the words most often read incorrectly by the study subjects in the five sessions of the reading test. The reading errors are then analyzed according to Levinson's Dyslexia Syndrome Theory (DST) reading errors.

Table 2
Words containing the CVCC syllable of /-ng/.

Syllable structure	Subjects	Words	Reading errors	Type of DST reading errors
CVCC /-ng/	S1	*asing* *helang*	*asina* *helana*	substitution substitution
	S2	*longkang* *pinggang*	*lonkang* *pinggan*	elimination elimination
	S3	*asing* *langsing*	*asin* *lansin*	elimination elimination
	S4	*udang* *longkang*	*uda* *longkan*	elimination elimination

Table 2 shows the reading errors made by the study subjects when they are reading words that contain CVCC syllables of /-ng/. S1 read the word /asing/ as /asina/. S1 has replaced the letter /g/ to the letter /a/. S1 also does the same letter substitution on the word /helang/ which is pronounced as /helana/. This shows that S1 faces difficulty to identify the shape of the letter /g/ correctly because he sees the letter /g/ as letter /a/. The similarity between these two letters is at the shape of their heads. Normal children can see the difference between these letters by looking at the tail on the letter /g/. However, it is quite difficult for dyslexic students to identify the difference. Furthermore, S1 is a visual dyslexic. According to Amirin (2000), dyslexic students in the visual dyslexia category experience problems recognizing and remembering letters, especially the letters that are almost identical in shape.

In the meantime, S2 read the word /longkang/ as /lonkang/, while the word /pinggang/ as /pinggan/. These two words, /longkang/ and /pinggang/ have two syllables and both syllables are CVCC structures that contain the combined consonant /-ng/. Through the pronunciation

read by S2 of these two words, S2 can only pronounce the combined consonant /-ng/ on one of the syllables. S2 has eliminated the letter /g/ in the first syllable of the word /longkang/ while eliminated the letter /g/ in the second syllable of the word /pinggang/. This shows that S2 can still read the combined consonant /-ng/ for words with a CVCC syllable structures, but S2 gets confused if there is more than one /-ng/ in one word.

It is different from S3 who is unable to directly read words that contain the combined consonant /-ng/. S3 reads the word /asing/ as /asin/, while the word /langsing/ is read as /lansin/. S3 eliminated all /g/ in those words. S3 seems to ignore the existence of the letter /g/. Elimination of letter /g/ occurs because S3 cannot say two consonant sounds together even though S3 knows every sound of the letters in the word. For example the word /asing/, S3 spells by saying the letter sounds /a-s-i-n-g/ one by one, but when reading those sounds simultaneously S3 will drop the letter sound /g/. The same thing happens with the word /langsing/.

Next, S4 read the word /udang/ as /uda/, while the word /longkang/ as /longkan/. S4 eliminated the combined consonant /-ng/ in the word /udang/, while eliminated the letter /g/ in the second syllable in the word /longkang/. Although the word /udang/ is read as /uda/, this study cannot conclude that S4 is unable to read the combined consonant /-ng/. This is because S4 can still read the combined consonant /-ng/ in the first syllable in the word /longkang/. The reason for the elimination of certain words is because dyslexic students forget easily because they have a short-term memory.

Table 3
Words containing diphthong.

Syllable structure	Subjects	Words	Reading errors	Type of DST reading errors
diphthongs (ai, au, oi)	S1	*pulau* *tupai*	*puluwa* *tupagi*	guessing insertion
	S2	*limau* *kerbau*	*lima* *kerba*	elimination elimination
	S3	*pulau* *misai*	*pulan* *misa-i*	reversal **division**
	S4	*kerbau* *harimau*	*kerba* *harima*	elimination elimination

Table 3 shows the reading errors made by the study subjects when they are reading words that contain diphthongs. S1 read the word /pulau/ as /puluwa/. The type of reading error is guessing. Reading error of guessing are more likely to be seen when dyslexic students do not know how to read a letter or syllable and then they only guess the letter or syllable in the word. In other words, they like to eliminate, adding, or replace any letters or syllables in words. Like the word /pulau/, S1 replace the position of the letter /a/ with the letter /u/ in the second syllable /-lau/. Then S1 adding the letter /w/ in the middle of that two letters and create a new word that does not have any meaning which is /puluwa/. Beside that, S1 read

the word /tupai/ as /tupagi/. Thereading error made by S1 on this word is insertion. S1 inserts the letter /g/ in the second syllable to form a new meaningless word.
Next, S2 reads the word /limau/ as /lima/, while the word /kerbau/ is read as /kerba/. S2 has eliminated the letter /u/ in both words. Eliminating the letter /u/ occurs because S2 cannot pronounce diphthong syllables simultaneously even though S2 knows every sound of the letters in the word. For example the word /limau/, S2 spells by saying the letter sounds /l-i-m-a-u/ one by one, but when reading those sounds simultaneously S2 will eliminated the letter sound /u/. The same mistake is made on the word /kerbau/.

In the meantime, S3 read the word /pulau/ as /pulan/. S3 has made a reversal-type reading error by reversing the letter /u/ into the letter /n/. According to Amirin (2000), letter reversal occurs when dyslexic children cannot distinguish letters that have almost the same shape. In addition, they will write or read a letter in the form of a mirror image. Normal children can see the difference between these letters by looking at the open shape at the head of the letter /u/, while the open shape of the letter /n/ is at its foot. However, it is quite difficult for dyslexic students to identify the difference. Furthermore, S3 is a student with visual dyslexia. So, the visual problem encountered caused S3 to see the letter /u/ in reverse. Beside that, S3 also made a mistake when reading the word /misai/ by reading it as /mi-sa-i/. The reading errors made by S3 in the word /misai/ are not found in the list of Dyslexia Syndrome Theory. This is because S3 shows a new reading error which is syllable division errors by dividing syllables beyond the number of original syllables of the word. The word /mi-sai/ has two syllables, but S3 divides the word into three syllables into /mi-sa-i/. This division of syllables occurs because S3 is confused with the number of syllables in the word.

In addition, S4 reads the word /kerbau/ as /kerba/, while the word /harimau/ is read as /harima/. S4 has eliminated the letter /u/ in both words. Eliminating the letter /u/ occurs because S4 cannot pronounce diphthong syllables simultaneously even though S4 knows every sound of the letters in the word. For example the word /kerbau/, S4 can spells by saying the letter sounds /k-e-r-b-a-u/ one by one, but when reading those sounds simultaneously S4 will eliminated the letter sound /u/. The same mistake is made on the word /harimau/.

Table 4
Words containing vowel pairs

Syllable structure	Subjects	Words	Reading errors	Type of DST reading errors
Vowel pairs (aa, au, ai, ia, iu, io, ua, ui)	S1	*daun* *buaya*	*danu* *buya*	reversal elimination
	S2	*daun* *buaya*	*da-un* *bu-a-ya*	**pronunciation-type** **pronunciation-type**
	S3	*tuala* *piano*	*tula* *pino*	elimination elimination
	S4	*saat* *kuih*	*sata* *kuhi*	transfer transfer

Table 4 shows the reading errors made by the study subjects when they are reading words that contain paired vowels. S1 read the word /daun/ as /danu/. S1 has made a reversal type of reading error. For normal children, it is easy to see the difference between letters that have a similar shape by looking at the open shape at the head of the letter /u/, while the open shape of the letter /n/ is at its foot. However, it is quite difficult for dyslexic students to identify the difference. S1 is a student with visual dyslexia and this visual problem causes S1 to see the letter /u/ and the letter /n/ upside down. Therefore, S1 is confused to recognize the letter /u/ and the letter /n/ correctly. In addition, S1 also made a reading error for the word /buaya/ read as /buya/. S1 has eliminated the letter /a/ in that word.

In addition, S2 made reading error to the words /daun/ and /buaya/. The reading errors made by S2 for these two words are not in the list of reading errors of Dyslexia Syndrome Theory. This is because S2 shows new reading error which is pronunciation-type errors by sounding out each letter in the word separately. For example the word /daun/ is read as /da-un/ not /dawun/ by S2, while the word /buaya/ is read as /bu-a-ya/ not /buwaya/. S2 did not mention the silent /w/ and /y/ sounds in his reading. This happens because S2 is used to the phonic spelling method, so S2 reads by spelling each letter sound and then combining the sounds one by one.

Meanwhile, S3 reads the word /tuala/ as /tula/ while the word /piano/ is read as /pino/. S3 has eliminated the letter /a/ in both words. Eliminating the letter /a/ occurs because S3 cannot say syllables that have a paired vowel simultaneously even though S3 knows every sound of the letters in that word. For example the word /tuala/, S3 spells by saying the letter sounds /t-u-a-l-a/ one by one, but when reading those sounds simultaneously S3 will eliminated the letter sound /a/. The same mistake is made on the word /piano/.

Besides, S4 reads the word /saat/ as /sata/ and the word /kuih/ is read as /kuhi/. S4 has done letter transfer on the second syllable of both words. The transfer error occurs to the letter /a/ and the letter /t/ for the word /saat/, while the transfer of the letter /i/ and the letter /h/ for the word /kuih/. The transfer of the letter in the second syllable occurs because S4 cannot pronounce syllables that have paired vowels simultaneously even though S4 can spell every syllable in the word. For example the word /saat/, S4 is able to spell syllables one by one like /sa-at/, but when reading both syllables simultaneously S4 will move the letter position in the second syllable. The same mistake is made on the word /kuih/.

Table 5
Words containing digraphs

Syllable structure	Subjects	Words	Reading errors	Type of DST reading errors
digraphs (kh, gh, ng, ny, sy)	S1	*ngaji* *syabas*	*nagaji* *siyabas*	insertion insertion
	S2	*ngaji* *monyet*	*naji* *moyet*	elimination elimination
	S3	*monyet* *penyu*	*monet* *penu*	elimination elimination
	S4	*ngaji* *nyanyi*	*neri* *nani*	guessing elimination

Table 5 shows the reading errors made by the study subjects when they are reading words containing digraphs. S1 read the word /ngaji/ as /nagaji/, while the word /syabas/ as /siyabas/. S1 has made an insertion-type error for both words. S1 has inserted the letter /a/ in the first syllable of the word /ngaji/ and inserted the letter /i/ in the first syllable of the word /syabas/. The insertion of these letters is due to S1 not being able to spell two consonant letters in a row that represent one sound such as /ng-/ in the word /ngaji/ and /sy-/ in the word /syabas/. Although S1 knows every letter sound in the word and spells it by saying one letter sound like /n-g-a-j-i/, but S1 is not able to combine the consonant sound og /ng-/ into one sound, so S1 inserts the letter /a/ in the middle of the letters. The same mistake is made in the first syllable of the word /syabas / that is inserting the letter /i/ in the middle of /sy-/.

In addition, S2 reads the word /ngaji/ as /naji/ and the word /monyet/ is read as /moyet/. S2 has made an elimination-type error for both words. S2 eliminated the letter /g/ in the first syllable of the word /ngaji/ and eliminated the letter /n/ in the second syllable of the word /monyet/. Eliminating these letters is due to S2 not being able to spell two consonant letters in a row that represent one sound such as /ng-/ in the word /ngaji/ and /ny-/ in the word /monyet/. Although S2 knows every letter sound in the word and spells it by saying one letter sound like /n-g-a-j-i/, but S2 is not able to combine the consonant sound /ng-/ into one sound so S2 eliminated the letter /g/. The same mistake was made in the second syllable of the word /monkey/, S2 eliminated the letter /n/.

Next, S3 also made elimination-type error when reading words containing digraphs. S3 reads the word /monyet/ as /monet/, while the word /penyu/ is read as /penu/. S3 has eliminated the letter /y/ in the second syllable of both words. Eliminating the letter /y/ is due to S3 not being able to spell two consecutive consonant letters that represent one sound such as /ny-/ in the words /monyet/ and /penyu/. Although S3 knows every letter sound in the word and spells it by saying one letter sound like /m-o-n-y-e-t/, but S3 is not able to combine the consonant sound /ny-/ into one sound so S3 eliminated the letter /y/. The same mistake is made on the word /penyu/.

In the meantime, S4 reads the word /ngaji/ as /neri/. The type of reading error by S4 is guessing. Guessing-type error are more likely to be seen when dyslexic students do not know

how to read a letter or syllable and then they only guess any the letter or syllable in the word. Like the word /ngaji/, S4 likes to eliminate half the letters in the word, namely the letters /g/, /a/ and /j/ and then replace them with new letters, which are the letters /e/ and the letters /i/. Therefore, S4 create a new meaningless word. Next, for the word /nyanyi/ S4 read it as /nani/. The reading error made by S4 on this word is elimination. S4 has eliminated the letter /y/ in both syllables. This is because S4 is not able to spell two consonant letters in a row that represent one sound like /ny-/.

Conclusion

As a conclusion, this study found that the study subjects conformed to the characteristics of Levinson's (1994) reading errors, namely elimination, transfer, insertion, substitution, reversal, guessing, except condensation. According to Subramaniam et al (2022) the condensation type of reading error does not occur in Malay language reading. In the meantime, this study also discovered two other errors that are not within the scope of Levinson's Theory (1994), which are division and pronunciation-type reading errors. Syllable division errors occur because dyslexic students are confused about the number of syllables in a word and this error most often occurs when dyslexic students read words that contain diphthong syllables. Besides, pronunciation-type reading errors most often occur when dyslexic students read words that contain paired vowel syllables. This is because dyslexic students are used to the phonic spelling method, so they spell by sounding out each letter separately and combining the sounds in one syllable.

This situation affects the reading skills of dyslexic students, not only slowing down the reading process but dyslexic students tend to create new words that have no meaning. If too many meaningless words are created by dyslexic students, then they will not understand the meaning of the content of a reading text and this will affect their academic performance at school. Therefore, the reading problems of dyslexic students still need to be studied further so that they can master reading skills well. It is very important for parents and teachers to have the awareness to create strategic learning methods and develop interventions that are effective in improving the reading skills among dyslexic children. Besides, more research in this field is also needed so that dyslexic students do not drop out in the academic field because they also deserve to receive specific learning like other children.

Acknowledgement

We would like to express our deepest gratitude to Puan Sariah Amirin, the president, the teachers and student of Dyslexia Genius Malaysia, Taman Tun Dr Ismail, Kuala Lumpur for providing the necessary data and support for this research.

Corresponding Author

Nadia Shuhada Abdan Nasir

Faculty of Modern Languages and Communication, Universiti Putra Malaysia, Serdang Malaysia.

Email: ieyanadia8194@gmail.com

References

Amirin, S. (2000). *My LexicsTM: Edisi Bahasa Malaysia Modul 1-Modul 10*. Selangor: Venton Publishing (M) Sdn. Bhd dan Persatuan Dyslexia Malaysia.

Awada, G., & Plana, M. G. (2018). Multiple strategies approach and EFL reading comprehension of learners with dyslexia: Teachers' perceptions, *International Journal of Instruction*, 11(3), 463-476.

Beaty, J. J. (2009). *50 Early chilhood literacy strategies (2nd ed.).* Upper Saddle River, NJ: Pearson Education.

Clay, M. M. (1991). Introducing a new storybook to young readers. *The Reading Teacher*, 45 (4) : 264-265.

Fletcher J. M., Lyon, G. R., Fuchs, L. S., & Barnes, M. A. (2007). *Learning disabilities: From identification to intervention.* New York : Guilford.

Foorman, B. R., & Moats, L. C. (2004). Conditions for sustaining research-based practices in early reading instruction. *Remedial and Special Education*, 25, 51-60.

Hamid, S. (1991). *Pendidikan dalam politik di Malaysia*. Kuala Lumpur : Dewan Bahasa dan Pustaka.

Husni, H., & Jamaludin, Z. (2018). *Masalah pembacaan kanak-kanak disleksia: Bagaimana teknologi boleh membantu?.* Kuala Lumpur : Institut Terjemahan dan Buku Malaysia.

Jamian, A. R. (2011) Permasalahan kemahiran membaca dan menulis bahasa Melayu murid-murid sekolah rendah di luar bandar. Jurnal Pendidikan Bahasa Melayu, 1 (1), 1-12.

Jan, G. L., Bouquin-Jeannes, R. L., Costet, N., Troles, N., Scalart, P., Pichancourt, D., Faucon, G., & Gombert, J. E. (2011). Multivariate predictive model for dyslexia diagnosis. *Annals of Dyslexia*, 61(1) :1-20.

Levinson, H. N. (1994). *A Solution to The Riddle Dyslexia*. New York : Springer-Verlag.

Lidwina, S. (2012). Disleksia berpengaruh pada kemampuan membaca dan menulis. *Jurnal Stie Semarang*, 4, 9-18.

Lonigan, C. J. (2006). Development, assessment, and promotion of pre-literacy skills. *Early Education and Development*, 17, 91-114.

Lyon, G. R., Fletcher, J. M., Torgesen, J. K., Shaywitz, S. E., & Chhabra, V. (2004). Preventing and remediating reading failure: A response to Allington. *Educational Leadership*, 61, 86-88.

Mather, N., & Wendling, B. (2012). *Essentials of dyslexia assessment and intervention*. Kanada : John Wiley & Sons, Inc.

Nasir, N. S. A. (2019). *Pembalikan huruf dalam kalangan murid disleksia*. Serdang : Univesiti Putra Malaysia.

Suarez-Coalla, P., Villanueva, N., González-Pumariega, S., & Gonzalez-Nosti, M. (2016). Spelling difficulties in Spanish-speaking children with dyslexia. *Infancia y Aprendizaje*, 39 (2), 275–311.

Tamboer, P., Vorst, H.C. M., & Oort, F. J. (2014). Five describing factors of dyslexia. *Journal of Learning Disabilities*, 64 (5), 1-18.

Subramaniam, V., Wahid, P. R. A., Rahim, N. A., & Kunasegran, K. (2022). Kesalahan bacaan dalam bahasa Melayu oleh murid disleksia berdasarkan perspektif teori Levinson. *Pertanika J. Soc. Sci. & Hum*. 30 (2): 743 – 759.

Subramaniam, V., & Kunasegran, K. (2022). Kemahiran membaca murid disleksia dalam literasi Bahasa Melayu. *Jurnal Bahasa*, 22(2), 329–346. https:// doi.org/10.37052/jb22(2)no7

Walda, S., Van Weerdenburg, M., Van der Ven, A. & Bosman, A. (2021). Literacy progress in children with dyslexia and the role of attention, *Reading & Writing Quarterly, JARO*. DOI: 10.1080/10573569.2021.1897910.