



## **READABILITY OF ESL PICTURE BOOKS IN MALAYSIA**

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### **ABSTRACT**

*Predicting readability of a reading text for second language learners is important for teachers, educators, and other concerned parties to make sure the text matches targeted readers' proficiency. Suitable reading materials would promote language development among readers, especially children. In Malaysia nowadays, English story books for children which are published locally can be easily found in libraries or bookstores. However, the readability of these reading materials has remained uncovered. Hence, this study aimed to investigate the readability of Malaysian English children story books on five aspects (narrativity, syntactic simplicity, word concreteness, referential cohesion and deep cohesion) as provided by the computational tool, Coh-Metrix Common Core Text Ease Readability Assessor (T.E.R.A). Ten local English children story books were selected as samples. It was found that the majority of the samples have high narrativity, syntactic simplicity, and word concreteness but average referential cohesion and deep cohesion. The result revealed that there is lack of attention given to the aspect of cohesion in children story books. This study recommends that children book writers consider the readability of ESL children story books to help children's language development.*

**Keywords:** readability, assessment of reading materials, Coh-Metrix, picture books, children

### **1.0 INTRODUCTION**

As mastering English becomes more crucial every day, locally and even globally, children story books in English have become more in demand. Before this, most of English reading materials including children books were imported from foreign countries such as Britain, America and Australia. Because of this, local writers and publishers started to notice the potential of this market and join in. Nowadays, we can find a lot of English children books written by local authors and published by local publishing companies. The government also encourages this effort to reduce the over-reliance on reading materials sourced from foreign countries. Moreover, local children books are important to cultivate our own cultural values in our children and help them to learn English in the Malaysian context rather than foreign context with foreign cultural values in the imported books. Nowadays, we could find more locally published children English books in school libraries or public libraries than twenty years ago. However, the quality of our children books is questionable. Some researchers have criticized the quality of our local children books, claiming that the books are unsuitable for children

(Faridah, 2003), not appealing, lacking in quality, not systematic and not classified according to children's age, and not even in line with the current national development (Chew & Ishak, 2010). Furthermore, research pertaining to local English children storybooks has yet to be conducted.

It is important to have a good quality of products to compete in the publishing market. The quality of a book is divided into a few aspects such as content and materials. Content can be branched out into smaller parts such as pictures, legibility, and readability. While pictures and legibility are more noticeable, readability is more complicated and difficult to be analysed. Readability refers to what makes text easier to read than others (DuBay, 2004). "Read" here means to be understood; how well the reader will be able to understand the text. Readability is often confused with legibility, which also refers to aspects that can make a text easier to read. However, while aspects of legibility include typeface and layout, readability is only concerned with the linguistic aspects of a text. The examples of readability aspects are word count, word concreteness, syntax and cohesive devices.

Readability has been studied for many decades. It is because predicting the difficulty level of a reading text for second language learners is important for teachers, educators, and other parties concerned to make sure the text matches the targeted reader's proficiency. Suitable reading materials would promote a reader's language development while too easy texts would bore readers and too difficult texts could diminish learners' motivation (Carrell, 1987). To study readability comprehensively, theories, formulas, and tools have been developed by researchers. With the development of various disciplines and approaches today such as computational linguistics, corpus linguistics, information extraction and discourse processing, it becomes possible to evaluate readability computationally (Crossley et al, 2007). Coh-Metrix Common Core Text Ease and Readability Assessor (T.E.R.A) is a computational tool which was developed to analyse the text in multi-levels as it includes indices that more directly correspond to psycholinguistic and cognitive models of reading (Crossley, Allen & McNamara, 2011).

## **2.0 LITERATURE REVIEW**

Children books are different from other types of books mainly because they are written and constructed to attract children. Children story books particularly are beneficial to young readers. Story books are books with a narrative text; a story line with characters and settings. Children understand ideas and information better through stories, where they are able to connect the ideas better in narrative texts compared to informative texts. A story would allow children to feel, think, and experience. In fact, they are very effective learning tools, compared to even the text books (Jones, William & McKinney, 1994). Children books alone can be categorized into many types such as board books, picture books, and chapter books though there has yet to be any specific classification.

Of the many types of children books, picture books especially are very popular among young children as parents or teachers usually use picture books to introduce literature to children. These books hold a prominent place in children's literature because of the juxtaposition of pictures and words (Nodelman, 1996). Moreover, young readers may be more attracted to pictures because of their limited language skills. However, people tend to confuse picture books with illustrated books but there is a significant difference between these two categories. Nikolejeva (2003) explained that picture books are based on complex interrelations between words and images, and the story heavily depends on both the words and pictures. Other than facilitating meaning construction, pictures in picture books also can establish

settings, define and develop characters, extend or develop texts, provide a different viewpoint, contribute to textual coherence and reinforce texts (Fang, 1996). In contrast, pictures in illustrated books do not serve or help in meaning construction. They are there solely to appeal to the children. In this study, picture books are used as the sample because of their importance in children's literature development.

Since the 1920s, there have been many attempts to predict text difficulty using shallow indices such as vocabulary and sentence length. Nonetheless, progress and research on the formulas were popularized in the 1950s by researchers like Rudolf Flesh, George Klare, Edgar Dale and Jeanne Chall. Formulas such as Flesh Reading Ease Formula, Gunning Readability Index, Fog Count, and Fry Grade Level were introduced (DuBay, 2004). However, these traditional readability formulas had received a lot of criticism because of their shallow assumption which analyses limited features of texts (McCarthy et al., 2006). For example, Flesh Reading Ease Formula and Flesh- Kincaid Grade Level Formula rely mainly on word length to assess the difficulty of texts. While many comprehension models proposed that there are multidimensional levels of understanding that emerge during the comprehension process, readability formulas assume only a uni-dimensional representation (McNamara et al., 2011) which is not comprehensive.

Coh-Metrix Common Core Text Ease Readability Assessor (T.E.R.A) is a version of Coh-Metrix. One of the goals of Coh-Metrix is to improve our ability to measure text difficulty (Crossley & McNamara, 2010). The original Coh-Metrix offers more than 52 linguistic indices to the public but Coh-Metrix T.E.R.A has selected only five indices which proved to be useful in analyzing lower grade texts as the indices. The five indices are narrativity, syntactic simplicity, word concreteness, referential cohesion and deep cohesion (McNamara et al., 2011). Coh-Metrix is based on theories of discourse and text comprehension that describe comprehension at multiple levels. The six levels of comprehension that are considered in developing Coh-Metrix are words, syntax, the explicit text base, referential situation model, the discourse genre and rhetorical structure, and the pragmatic communication level (McNamara et al., 2014). Nevertheless, the situational settings, speakers, audience and broader contexts are often absent when a text is analysed, which results in few findings at the sixth level.

This tool was proven to be able to analyse linguistic features and detect subtle differences in different types of texts in many studies. Crossley (2006) demonstrated that Coh-Metrix can differentiate between authentic and simplified texts as accurately as human participants and this was supported by another study (Crossley, McCarthy & McNamara, 2007) which presented a similar finding. Other than that, Coh-Metrix was found to be able to distinguish between authentic and simplified text essays written by different levels of proficient writers (Crossley et.al. 2010; Crossley et. al 2011), different text levels (advance, intermediate, beginner) (Crossley, Allen & McNamara, 2011) and essays that are written by first language writers and second language writers of English (Crossley & McNamara, 2009) in other studies. It is safe to say that Coh-Metrix is able to analyse various types of texts. One of the prominent advantages of Coh-Metrix lays in its construct that presents the analysis of many linguistic features in the form of indices. This will facilitate understanding of text features and give the opportunity for researchers to develop new theories and formulas, just as the L2 readability index which was developed based on lexical, syntactic and meaning construction index (Crossley, Greenfield & McNamara, 2008).

Moreover, Coh-Metrix T.E.R.A offers the source of difficulty by presenting five *easability* indices. *Easability* indices are introduced in Coh-Metrix T.E.R.A as variables that promote comprehension (as oppose to difficulty) (McNamara et al, 2014). The variables are narrativity, syntactic simplicity, word concreteness, referential cohesion and deep cohesion. Compared to other formulas or tools which only categorized texts into a level that is deemed to be suitable, Coh-Metrix T.E.R.A shows the result of five indices of a text. A text can have a high percentage of narrativity and syntactic simplicity but a low percentage of other three variables. The result can be a various score combination of the five variables. It can offer a complete picture of the potential challenges that may be faced by a reader as well as the potential scaffolds in the text (McNamara et al., 2011). Therefore, this study aims to describe the readability of local English children picture books. The readability will be discussed in terms of the Coh-Metrix T.E.R.A's five indices (narrativity, syntactic simplicity, word concreteness, referential cohesion and deep cohesion).

### 3.0 RESEARCH METHOD

This study collected ten local English children picture books from public libraries as samples. The picture books collected have features consisting of at least 50% of pictures, have a storyline and are not more than 48 pages. All of the picture books were published by local publishers between 2005 until 2015 to keep the data updated.

First of all, Optical Character Recognition (OCR) software was used to help recognize words and letters from various picture formats (.jpg, .tnt, and etc.) and turn them into text (.txt) format. Since the samples were printed books, this software became the medium to change the data into electronic data, so it could be analysed by Coh-Metrix T.E.R.A. In the process, only narrative texts were taken as data. Other words and numbers which were not part of the narration such as contents guide, chapter title, page numbers, glossary, comprehension questions and notes were not included because they would affect Coh-Metric T.E.R.A indices scores. Even though the texts were scanned using the OCR software, there was still a need for manual editing for wrong letters, punctuation marks and they were edited according to the picture books.

In the following process, the text was evaluated in online Coh-Metrix T.E.R.A (<http://129.219.222.66:8084/Coh-Metrix.aspx>) for five variables; narrativity, syntactic simplicity, word concreteness, referential cohesion and deep cohesion (McNamara et al., 2013). Coh-Metrix T.E.R.A score can also be called as *easability* score because it measures how easy the text is. The high percentage of the result showed that the text was easy to be comprehended. The result for each variable has been presented in percentage and represented in bar charts with a narrative description.

### 4.0 DISCUSSION AND ANALYSIS

Picture books that are collected are as follows;

Table 1: List of Picture Books Sample

No.	Title	Author	Publication	Year
1	A Day at The Market ( <i>Market</i> )	Becka Rus	Penerbit Enam	2012

2	The Greedy Cat ( <i>Cat</i> )	Maria Kay	Mostgain Resources Publications	2010
3	The Buffalo and The Tiger ( <i>Buffalo</i> )	Akmar Effendi	Junior Pages Publication	2010
4	The Flower Parade ( <i>Parade</i> )	Sarah M. Ganasegeram	Sasbadi Sdn. Bhd.	2008
5	The Special Cake ( <i>Cake</i> )	Victoria Wei Yah	Future Text Publication Sdn Bhd	2008
6	New Friends in Magical World ( <i>Magical</i> )	Shamsinar	Innasco Sdn Bhd	2007
7	Big Mouth Nabil ( <i>Nabil</i> )	Shamsinar	Info-Didik Sdn Bhd	2007
8	The Bird's Seed ( <i>Seed</i> )	Kumara Velu	Pustaka Permai	2006
9	Mr. Jabbar's Special Pie ( <i>Pie</i> )	Naima Gany Shaik Dawood	Nikaz Publication	2005
10	Helping Flood Victims ( <i>Flood</i> )	-	Early Learner Publications Sdn Bhd	2005

The *easability* scores of the picture books by Coh-Metrix T.E.R.A have been presented according to the indices. The sequence of the index presented did not imply the degree of importance. The scores for narrativity for the selected picture books ranged from 31% to 94%. According to Coh-Metrix T.E.R.A description, a score below 25% is considered low, above 75% is high and a score between the two figures is average. It seems the range for the average score is the biggest. All of the indices were considered to be equally significant to evaluate readability. The picture books have been represented by one-word keywords in the graph. The result for the first index narrativity is shown in Figure 1.

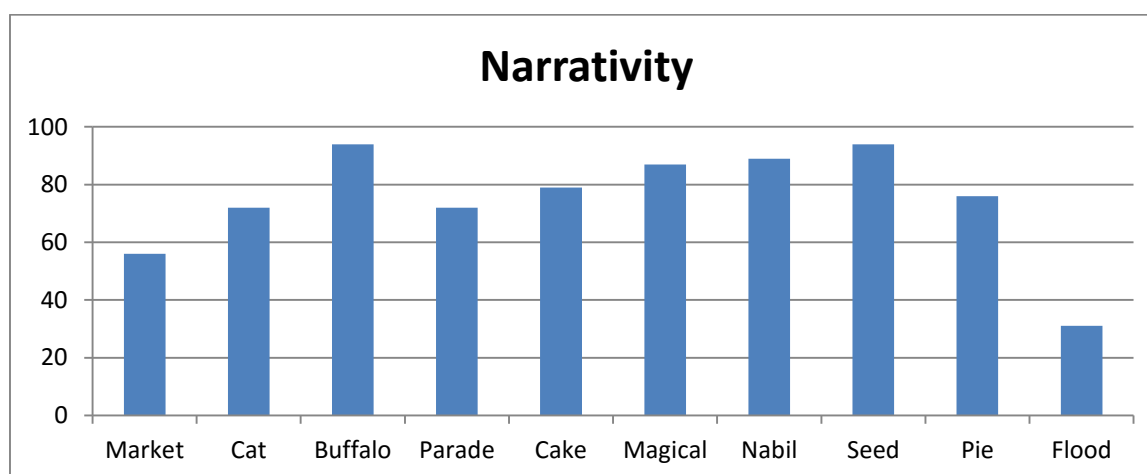


Figure 1: Coh-Metrix T.E.R.A result for narrativity

With regard to narrativity, no low scores could be noticed and it was expected because all of the samples were fiction books. Narrativity indicated that the text was a story-based text

and it was younger-reader-friendly. Out of the ten samples, six books scored high and the rest were average in narrativity. However, *Helping Flood Victims* showed a possible difficulty in narrativity. Narrativity scores indicate the extent to which a text is likely to contain more familiar, oral language that is easier to understand (McNamara, 2014).

Lipson and Cooper (2002) described narrative text characteristics as having a setting, characters, problem or event, outcome or consequences that solve the problem and the theme. There is no empirical evidence but educational publishers believe that narrative text is more interesting, comprehensible and memorable (Shilfhout, 2014).

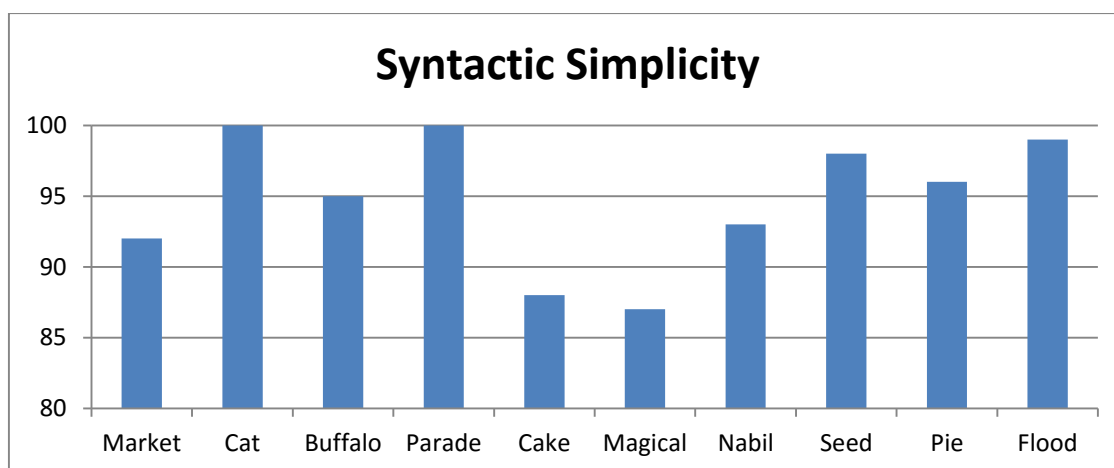


Figure 2: Coh-Metrix T.E.R.A result for syntactic simplicity

In syntactic simplicity, the scores for all samples were very close. The range was from 87% to 100%. All of the samples had high scores for syntactic simplicity and two of the samples (*The Greedy Cat* and *The Flower Parade*) actually scored the maximum percentage (100%), proving that they used the most basic level sentences. Syntactic simplicity has been long used as readability indicator in terms of the number of words per sentence. Many traditional readability formulas such as Flesch Kincaid Grade Level, Gunning Fog Index and Fry Graph are based on word count per sentence. Coh-Metrix measures syntactic simplicity by word count, clause count, sentence count and sentence structure. Other than containing simple sentence structure, texts with similar sentence structures also scored high for syntactic simplicity. Similar syntactic structure results in lower cognitive demands from the reader and more attention can be paid to meaning (Crossley, Allen & McNamara, 2011).

In the simplification process, a text is often simplified in syntactic structures and lexicon aspect to make it more comprehensible (Hill, 1997 as mentioned in Crossley, Allen & McNamara, 2012). The sentences are usually shortened by the crossing out coherence markers such as connectives and signaling phrases to reduce the word count. However, this result in coherence gaps and readers will have to determine the type of coherence relation between the clauses themselves (Shilfhout, 2014). This can be a problem to inexperienced readers.

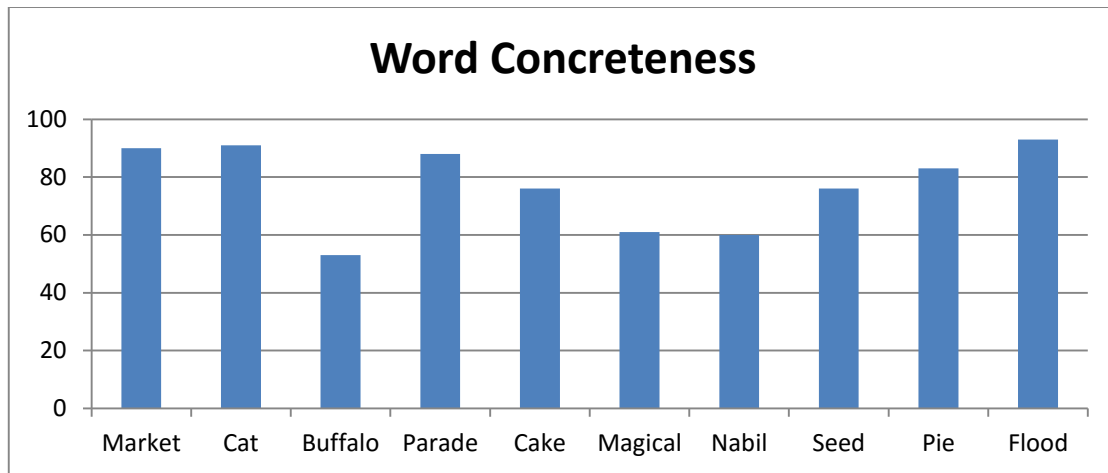


Figure 3: Coh-Metrix T.E.R.A result for word concreteness

For word concreteness, seven of the samples scored a high percentage while another three picture books scored average. Even then, the average scores were quite high as the lowest score for word concreteness was 53%, by *The Buffalo and the Tiger*. This suggests that it contained more words with high imagery than abstract words. The storybook that scored the highest percentage was *Helping Flood Victims* with 93% which scored the lowest in narrativity (31%). There is a logical explanation to the contrasting result of narrativity and word concreteness. This is because connectives and pronouns can establish a good flow of a story (narrativity) but at the same lack of concreteness. When they are taken out of the text, the word concreteness score increases but the narrativity reduces. This was supported by the high percentage of narrativity by *The Buffalo and the Tiger* but their average percentage on word concreteness. Moreover, word concreteness is also related to syntactic simplicity. In short and basic sentences, abstract words such as adjectives and prepositions are used at the minimum.

Texts with concrete words, titles and examples are more comprehensible and interesting than abstract texts (Silfhout, 2014). Concreteness influences children’s mental lexicon so that they can comprehend concrete words faster than abstract ones (Carroll, 1999 as mentioned in Rafi, 2013). It applies to both native speakers and second language learners. Moreover, in children picture books, concrete words are easier to be presented in images (pictures) to facilitate children's understanding.

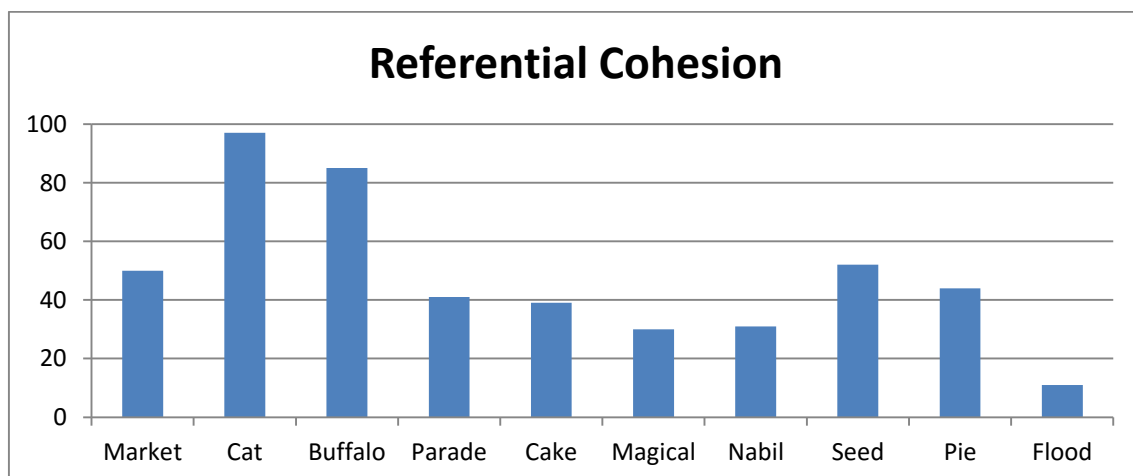


Figure 4: Coh-Metrix T.E.R.A result for referential cohesion

The fourth variable to be discussed is referential cohesion. By contrast with syntactic simplicity, referential cohesion demonstrated the biggest range of *easability* score. *Helping Flood Victims* had the least referential cohesion (11%) while *The Greedy Cat* scored the highest percentage (97%). Unlike other variables, the majority of the sample (N=7) actually scored averagely for this index and *Helping Flood Victims* demonstrated the lowest percentage. Low referential cohesion means that there was little overlap in explicit words and ideas. There were conceptual gaps that required the readers to make inferences. It should be noted that *Helping Flood Victims* also scored the lowest in narrativity but the highest in word concreteness. The connection between these two indices is plausible. As there is a lack of overlapping words, ideas, and concepts within a text (low referential coherence), it can disrupt the flow of ideas and consequently reduce narrativity.

Even though it was mentioned that sometimes low referential cohesion is desirable to let readers comprehend the text by making inferences (McNamara et. al., 2013), children are weak in making inferences. This is due to two reasons; they often lack the prior knowledge upon which such inferences would be based and they may not retrieve relevant information from prior knowledge even if they possess it (Schwanenflugel and Knapp, 2016). Thus, low referential cohesion can be a problem to children who read independently.

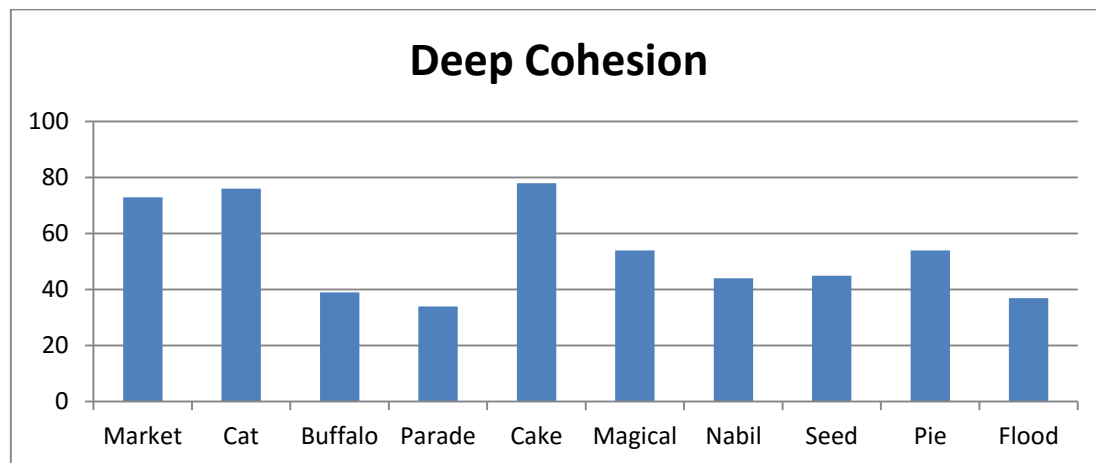


Figure 5: Coh-Metrix T.E.R.A result for deep cohesion

The last index is deep cohesion which refers to how well the events, ideas and information of the whole text are tied together (McNamara et al., 2013). Coh-Metrix T.E.R.A measures this explicit casual relationship based on connectives used such as *after*, *during*, *as a result*, *thus*, *although* and *but*. A text on an unfamiliar topic but high deep cohesion is easier to comprehend. Just as referential cohesion, the majority of the sample (N=8) scored an average percentage for deep cohesion. Only two of them had high percentages of this index. It can be due to the high percentage of syntactic simplicity because deep cohesion relies on connectives which can lengthen a sentence. As discussed above, the absence of these connectives can actually impair the comprehension of young readers as they cannot make inferences. Theoretically, word concreteness of a text can be dragged down by the existence of connectives that are low in imagery. However, the result did not support this as the sample that scored the highest in deep cohesion, *The Special Cake* had a similar percentage of word concreteness with *The Flower Parade* that had the lowest percentage of deep cohesion.

According to the frequency distribution of the five indices results, the local children picture books were found to be high in narrativity, syntactic simplicity, and word concreteness,



and average in referential and deep cohesion. The picture books contained many familiar words, a lot of concrete words, and short sentences. On the other hand, there were too little overlapping ideas and average number of connectives in the picture books. This showed that the only possible difficulty in picture books appears in terms of cohesion (referential and deep). However, this challenge is possible to be compensated by the high *easability* in other indices (eg. Narrativity, word concreteness, and syntactic simplicity). It is also to be reminded that texts in picture books function along with the pictures to construct meanings. Thus, it is possible that cohesion is maintained through pictures rather than text.

## 5.0 CONCLUSIONS

Malaysia perceives English as an important language to be mastered by Malaysians. There are a lot of emphases in the education system to help students learn English better. However, we tend to forget that language is learnt better outside of class. Storybook is a very friendly tool for children to learn English. A lot of English picture books are published by local publishers at present and they are supposed to be friendlier to our children due to the incorporation of local culture in the stories. Nevertheless, there is a question on the language structure of these reading materials; is it suitable for children? It seems there is a lack of study on local children reading materials, especially English materials. Even though this study might not have filled in the large gap of readability study on local reading materials, it could be a baseline for future studies.

This study utilizes Coh-Metrix T.E.R.A to assess local English children picture books' readability. The samples were measured in five indices; narrativity, syntactic simplicity, word concreteness, referential cohesion and deep cohesion. It was found that the majority of the samples scored high in narrativity, syntactic simplicity, and word concreteness but average in referential cohesion and deep cohesion. It implies that local writers and publishers are still holding on to traditional readability theories which believe that narrative texts, simple and short sentences, structures with a high density of concrete words are easier to be comprehended by children compared to expository texts, complex and longer sentences, and abstract words. Even though there is a possibility that pictures may compensate comprehension, they (writers and publishers) have overlooked the recent research that demonstrates the importance of cohesion (both referential and deep cohesion) in beginner texts (see Schwanenflugel & Knapp, 2016; Shilfhout, 2014). This shows that there is little awareness in our publishing industry about the recent readability studies.

In the conclusion, it is important for publishers and researchers to work together to improve the quality of our reading materials. By taking parts and updating themselves with current studies in ESL reading materials (especially readability), publishers will be able to produce high quality reading materials that can facilitate children's language developments. Moreover, it is very favorable if we can have a standard difficulty grading books in school libraries. Rather than only level grading like graded books, the grading system should present all five readability aspects (narrativity, syntactic simplicity, word concreteness, referential cohesion and deep cohesion) separately. This will help teachers to pick suitable books for their students according to students' individual abilities by presenting potential difficulty or *easability* that might arise from certain text characteristics. Future studies should examine more different types of ESL reading materials such as textbooks, reading comprehension exercises and handouts. All of these reading materials are distributed frequently at schools. Other than that, future study can examine readability in related to non-linguistic aspects such as layout, design and pictures. A study of readability that incorporates reader aspects (motivation, background knowledge and competency) is also crucial for the development in this field.

**REFERENCES**

- Carrell, P. L. (1987). Readability in ESL. *Reading in a Foreign Language*, 4(1), pp.21– 40.
- Chew, F. P. & Ishak Z. (2010). Malaysian folk literature in early childhood education. *World Academy of Science, Engineering and Technology*, 66, 557-564.
- Crossley, S. A., Allen, D. B. & McNamara, D. S. (2012). Text simplification and comprehensible input: A case for an intuitive approach. *Language Teaching Research*, 16(1), 1-20.
- Crossley, S. A., Allen, D. B. & McNamara, D. S. (2011). Text readability and intuitive simplification: A comparison of readability formulas. *Reading in a Foreign Language*, 23(1), 84-101.
- Crossley, S. A., Weston, J. L., Sullivan, S. T. M. & McNamara, D. S. (2011). The development of writing proficiency as a function of grade level: A linguistic analysis. *Written Communication*. 28(3), 282-311.
- Crossley, S. A., & McNamara, D. S. (2010). Cohesion, coherence, and expert evaluations of writing proficiency. In R. Catrambone & S. Ohlsson (Eds.), *Proceedings of the 32<sup>nd</sup> annual conference of the Cognitive Science Society* (pp.984-989). Austin, TX: Cognitive Science Study.
- Crosley, S. A., Salsbury, T., McNamara, D. S. & Jarvis, S. (2010). Predicting lexical proficiency in language learner texts using computational indices. *Language Testing*, 28(4), 561-580.
- Crossley, S. A. & McNamara, D. S. (2009). Computational assessment of lexical differences in L1 and L2 writing. *Journal of Second Language Writing*. 18, 119-135.
- Crossley, S. A., Greenfield, J., & McNamara, D. S. (2008). Assessing text readability using cognitively based indices. *TESOL Quarterly*, 42(3), 475–493.
- Crossley, S. A., McCarthy, P. M., & McNamara, D. S. (2007). Discriminating between second language learning text-types. In D. Wilson & G.Sutcliffe (Eds.), *Proceedings of the 20<sup>th</sup> International Florida artificial intelligence research society* (pp.205-210). Menlo Park, California: AAAI Press.
- Crossley, S. A., Louwse, M. M., McCarthy, P. M., & Mc Namara, D. S. (2007). A linguistic analysis of simplified and authentic texts. *The Modern Language Journal*, 91(1),15-30.
- Crossley, S. A. (2006). *A computational approach to assessing second language reading texts* (Doctoral dissertation, The University of Memphis, United States). Retrieved from <http://sunzi.lib.hku.hk/ER/detail/hkul/3851310>
- DuBay, W. (2004). *The principles of readability*. Retrieved from <http://www.impact-information.com/impactinfo/readability02.pdf>
- Fang, Z. (1996). Illustrations, texts, and the child reader: What are pictures in children's storybooks for? *Reading Horizons*, 37(2), 130 – 142.
- Faridah, S. (2003). Masalah penerbitan buku kanak-kanak. *Kertas Kerja Seminar Terbitan Sastera Kanak-Kanak* (pp.22-23). Dewan Bahasa dan Pustaka.
- Jones, J. H., William, T. C., & McKinney, C. W. (1994). A themed literature unit versus a textbooks: A comparison of the effects on content acquisition and attitudes in elementary social studies. *Reading Research and Instruction*, 34(2), pp. 85 – 96.

- Lipson, M. Y., & Cooper, J. D. (2002). Understanding and supporting comprehension development in the elementary and middle grades. *Current research in reading/language arts*. Boston, MA: Houghton Mifflin. Retrieved from [https://www.eduplace.com/state/author/lip\\_coop.pdf](https://www.eduplace.com/state/author/lip_coop.pdf)
- McNamara, D. S., Graesser, A. C., McCarthy, P. M. & Cai, Z. (2014). *Automated evaluation of text and discourse with Coh-Metrix*. New York: Cambridge University Press.
- McNamara, D. S., Graesser, A., Cai, Z., & Dai, J. (2013). *Coh-Metrix Common Core T.E.R.A. version 1.0*. Retrieved from <http://coh-metrix.commoncoretera.com>.
- McNamara, D. S., Graesser, A. C., Chai, Z. & Kulikowich, J. M. (2011). Coh-Metrix easability components: Aligning text difficulty with theories of text comprehension. *Proceedings of The American Education Research Association*, New Orleans, LA. Retrieved from [http://www.researchgate.net/publication/228455723\\_Coh-Metrix\\_Easability\\_Components\\_Aligning\\_Text\\_Difficulty\\_with\\_Theories\\_of\\_Text\\_Comprehension](http://www.researchgate.net/publication/228455723_Coh-Metrix_Easability_Components_Aligning_Text_Difficulty_with_Theories_of_Text_Comprehension)
- McCarthy, P. M., Lewis, G. A., Dufty, D. F. & McNamara, D. S. (2006). Analyzing writing styles with Coh-Metrix. In G. C. J. Sutcliffe & R. G. Goebel (Eds.), *Proceedings of the 19<sup>th</sup> annual Florida artificial intelligence research society international conference*, pp.764-770. Retrieved from <http://aaai.org/Papers/FLAIRS/2006/Flairs06-151.pdf>
- Nikolejeva, M. (2003). Verbal and visual literacy: The role of picturebooks in the reading experience of young children. In Hall, N., Larson, N. & March, J (Eds.), *Handbook of childhood early literacy* (pp.235-243). London: Sage Publications.
- Nodelman, P. (1996). *The pleasure of children's literature* (2<sup>nd</sup>). New York: Longman.
- Rafi, M. S. (2013). Natural order of vocabulary acquisition. *European Academic Research*, 1(5), 721-733.
- Schwanenflugel, P. J., & Knapp, N. F. (2016). *The psychology of reading: Theory and applications*. Retrieved from <https://books.google.com/books?isbn=1462523501>
- Shilfhout, G. (2014). *Fun to read or easy to understand? Establishing effective text features for educational texts on the basis of processing and comprehension research*. Retrieved from [dspace.library.uu.nl/bitstream/handle/1874/300805/silfhout.pdf](https://dspace.library.uu.nl/bitstream/handle/1874/300805/silfhout.pdf)