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Enhancing Reading Skills among Children with Specific Learning Disabilities

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Abstract
This article presents a literature review and recommendations on enhancing reading skills for children with specific learning disabilities. Immediately after a child is diagnosed as encountering problems in reading, we must start to plan interventions for them. This article coincides with the education demands on ensuring sustainable development among children with specific learning disabilities. We hope more reading instructions can support children with specific learning difficulties to ensure a better education. The results of this study can provide a clearer picture of the prototype product direction that needs to be developed to help more children who encounter reading difficulties. Recommendations are made through framework design and intervention with interactive teaching kits to capture their attention while learning a language. We also developed three-dimensional books covering 10 Bahasa Malaysia word clusters. Hence, language will be much easier to learn by grouping the words based on the level of difficulties. It is also important for teachers to understand students' abilities in planning learning activities accordingly.
Keywords: Reading Skills, Children with Specific Learning Disabilities, Level of Difficulties, Intervention, Interactive Teaching Kits

Introduction

Language skills including the skills of reading, writing, listening, and speaking. These skills are important in teaching the primary school students as they are useful for their future (Praheto et al., 2020). Among these skills of language, reading is the one of the most important skills as it is the foundation for daily lives, academic achievement, and careers (Kim et al., 2019). Commonly, children may face disabilities which impede their fundamental learning abilities such as reading, writing and counting. There are various type of specific learning difficulties including dyslexia, dyscalculia, and dysgraphia (Ariffin et al., 2019).

Children with specific learning difficulties are unique people. They are less fluent in writing and reading than children without learning disabilities (Foxworth et al., 2019). Children with specific learning difficulties show communication difficulties; sometimes, the boundaries

overlap and are unclear in many ways. Teachers need to know the best support and solution while dealing with them (Gallardo et al., 2015). Thus, this article tries to design a framework to enhance reading skills among children with specific learning disabilities in reading.

Background of Study

Children with specific learning disabilities seldom perform to the expected level of achievement as their peers and usually show difficulties in mastering academic skills and processing information. They have problems in reading, writing, and mathematics (Polat et al., 2019). To facilitate learning, various ways can be integrated to stimulate learning and academic improvement. Children must employ different activities and knowledge while enjoying their reading activities. They must gain information and get involved in learning by watching, listening, and reading (Ahmad & Khoo, 2020). Teachers need to move towards using interactive multimedia as an educational tool for teaching and learning, especially when it comes to reading skills (Ahmad & Khoo, 2019). Interactive multimedia tools will significantly increase reading skills among students with specific learning difficulties (Ahmad, 2020). Hence, teachers should be ready with fun activities and various teaching methods and plan their instructions according to the children's abilities.

Literature Review

Students with Specific Learning Disabilities

Children with specific learning disabilities are unique individuals because they have their strengths and restrictions. Most of the time, the educational practices show a lack of concern for children with specific learning disabilities. They are rarely correctly identified and receive less adequate intervention (Pesovaa et al., 2014). The DSM-5 estimates the prevalence rate of specific learning disabilities is around five to 15 per cent among the school age children (Morsanyi et al., 2018).

They aren't always being identified throughout countrywide or global jurisdictions. There is a tendency to refer these children via the generic, overarching term of general learning difficulties (Hardy & Woodcock, 2014). They additional revel in heightened stages of social isolation, with middle and high school students much more likely to revel in maximum kinds of isolation. They have not much friends, sense greater indifferent and disliked at school, or keep away from friendships, through surprisingly not more likely to be actively rejected (Bruefach & Reynolds, 2021). Previous study found that computer-based instruction had positive effects on children with specific learning disabilities (Kucukalkan et al., 2019). Thus, a better understanding of specific learning disabilities will surely help teachers to plan better learning activities through successful intervention as the best way to assist them.

Reading Skills

Using smartphone applications to learn reading skills in the process of teaching and learning is easier and preferable compared to traditional methods. The integration of smartphone applications can increase interest and motivation for children (Ken et al., 2017). Reading is a multifaceted skill that includes letters and words decoding and linguistic comprehension, along with other factors and assumptions such as spelling and alphabets, phonetics, phoneme recognition, vocabularies, comprehension, fluency, motivation, and attention (Ostiz-Blanco et al., 2021). One of the abilities that seem fundamental in reading acquisition is decoding, as most word orthographic knowledge is acquired implicitly during reading (Bosse, 2015). Thus,

children with reading difficulties find reading difficult because of many factors. Teachers can help them by planning differentiation of classroom instruction and providing effective intervention.

Methodology

This study uses quantitative design and basic product testing to develop the framework of the android mobile application in learning Bahasa Malaysia words. Four phases in Rapid Application Development Model have been used: the planning and analysis phase, the design phase, the development phase, and the transition phase. A questionnaire to review the feasibility of the android mobile application was distributed to randomly selected participants. Seven experts were selected using purposive sampling to ensure the validity of the application content within the framework. The process of data collection involves four phases, namely (1) designing templates, (2) creating templates, (3) validating content, and (4) testing the content of the application. The findings of this study include the framework and list of words from each of the clusters in the mobile android application. The activities in the application are suitable as a learning tool to help children with dyslexia and low-achieving children to learn reading.

Results and Discussion

At the earliest stages of reading, almost all words are unknown. So, teachers need to have more knowledge in information and communication technology and one of the ways is by using augmented reality in education (Ahmad, 2018). From the data gathered, we found that children will learn better if the words are carefully categorized according to their levels. This is in line with previous study that mentioned the importance to introduce a systematic and structured approach to reading from an early age (Gonzalez-Valenzuela & Martin-Ruiz, 2016).

After analysing Bahasa Malaysia words, a framework for the different levels of words was set up, as illustrated in Diagram 1. Diagram 1 shows three levels of words that are appropriate for dyslexic and low-achieving children in primary school, which we called (1) basic level, (2) intermediate level, and (3) advanced level. There are three-word clusters at the basic level, which are 16 words for CVCV, 13 words for CVCVCV, and 10 words for CVC. There are five-word clusters at the intermediate level, namely, 15 words for CVCVC, 18 words for CVCVCVC, 11 words for CVCCV, 12 words for CVCCVC, and 10 words for CVCCVCVC. There are 14-word clusters at the advanced level, namely 32 words for CVCVCC, 9 words for CVCVCVCC, one word for CVCVCCCVC, three words for CVCVCCV, 14 words for CVCCVCC, eight words for CVCCCV, five words for CVCCCVCC, three words for CVCCCVCVC, seven words for CVCCCVC, one word for CVCVCCCV, four words for CVCCVC, 57 words for joint vowels, 17 words for digraph and 20 words for consonant blends. As there are many Bahasa Malaysia words with /ng/, we decided to categorize the words into three categories. For prototype product/books development purposes, we have developed three /ng/'s versions, namely, (1) CVCVCC was categorized under /ng/ version 1, (2) CVCVCVCC, CVCCVCC, and CVCCCVCC were categorized under /ng/ version 2 and (3) CVCVCCVCC, CVCVCCV, CVCCCV, CVCCCVCVC, CVCCVC, CVCVCCCV and CVCVC were categorized under /ng/ version 3. All word listed has been categorized as words that can be illustrated.

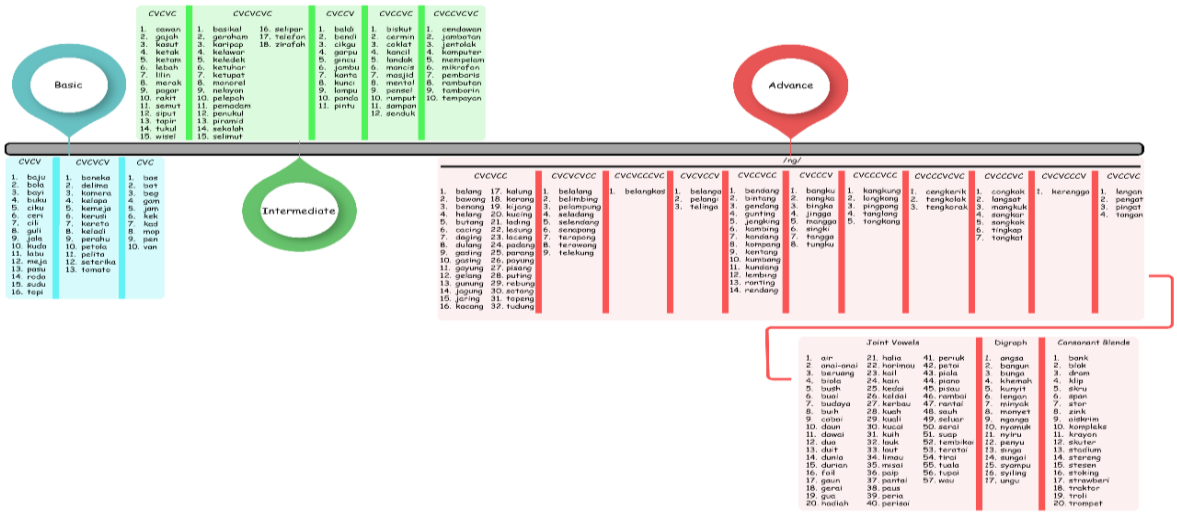

Diagram 1: Selected word lists of Bahasa Malaysia that are appropriate for children with specific learning disabilities

Recommendation

Teachers need to understand students' abilities and they need to plan the learning activities accordingly. It is a common practice among teachers to place children with specific learning disabilities and students with reading problems in an intervention program as a reading intervention program should be considered alongside their engagement in learning activities. This study shared one of the ways to implement intervention is by grouping the words and teaching them one at a time based on the word's difficulty level. Learning activities should come in a package with appropriate teaching and learning materials. We designed four interactive teaching kits to capture their attention while learning a language, namely, (1) audio images, (2) audio words, (3) arranging the syllables, and (4) choosing the correct words were developed. We also developed three-dimensional books such as picture books and graded reading materials. 10 Bahasa Malaysia word clusters were embedded in the learning materials, including CVCV, CVCVCV, CVC, CVCVC, CVCVCVC, CVCCV, CVCCVC, CVCCVCVC and basic words with /ng/ words.

Conclusion

Children with specific learning disabilities need to be given equal opportunity to learn reading. Reading skills are important for every individual hence interventions and products need to be developed to help these children especially for those who encounter reading difficulties. A friendly and creative school environment, adapting to the school society, and working systematically on changes are among several ways to coop with education.

In this study, words in Bahasa Malaysia were grouped into clusters based on their level of difficulties. It is important for teachers to plan learning activities according to their students' abilities. Aside from teachers' competence and personal engagement, teaching reading skills can be more fun with the implementation of creative e-learning, whereby teachers can plan more pedagogical methods to enhance reading skills among children with specific learning disabilities.

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