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TABLE of CONTENTS

INVESTIGATING THE IMPACT OF MACROECONOMIC VARIABLES ON KLCI MALAYSIA'S STOCK MARKET RETURN: THREE DECADES OF OBSERVATION Aqilah Syafiqah Abd Aziz ¹ , Farah Farisha Akhdar Ahmad ² , Melissa Nur Hazirah Masrom ³ , Ahmad Syahmi Ahmad Fadzil ⁴ & Nur Fatimah Shaari ⁵	1 -14
THE NORMALISATION OF TROLLING ON SOCIAL MEDIA Che Nooryohana Zulkifli ¹ , Nur Afiqah Ab. Latif ² , Ruzai Syarilili Aiyu Abdul Rashid ³ & Mohamad Putera Idris ⁴	15 -26
EXPLORING OLDER PEOPLE'S EXPERIENCES OF AGEING IN PLACE: A SCOPING REVIEW Noorlailahusna Mohd Yusof ¹ & Suziana Mat Yasin ²	27 - 38
POVERTY ASSESSMENT INITIATIVES IN SELECTED ASEAN COUNTRIES Roshima Said ¹ , Noor Zahirah Mohd Sidek ² , Azlyn Zawawi ³ & Mahadir Ladisma @Awis ⁴	39 - 53
INVESTIGATING THE MACROECONOMIC DETERMINANTS OF HOUSING PRICE INDEX (HPI) IN MALAYSIA Luqmanul Hakim Johari ¹ , Muhammad Naqib Zainuddin ² , Muhammad Nur Affandi Ja'afar ³ , Muhammad Nurizz Hakim Razali ⁴ , Nurul Amira Bazli ⁵ & Ahmad Syahmi Ahmad Fadzil ⁶	54 - 71
PRE-SERVICE SCIENCE TEACHER'S MISCONCEPTIONS OF THE CHEMICAL BONDS Nur Farha Shaafi ¹ , Nurul Nabilla Mohammad Khalipah ² & Nabilah Abdulla ³	72 - 98
REALISING SUSTAINABLE DEVELOPMENT GOALS VIA ORGANISATIONAL MENTAL HEALTH WORK PLAN: RESOURCE-BASED VIEW PERSPECTIVE Corina Joseph ¹ , Nur Izyan Ismail ² & Siti Aimi Yasin ³	99 - 113
NEW TRENDS OF CLOUD KITCHEN TECHNOLOGY AND CONSUMERS' PURCHASE DECISIONS: A CONCEPTUAL STUDY Nurul Syahirah Idris ¹ , Muhammad Afiq Zulkifly ² , Muhammad Safuan Abdul Latip ³	114 - 126
SOCIAL MEDIA INFLUENCER IN MALAYSIA: A REVIEW OF LITERATURE AND FUTURE DIRECTION Mohamad Hafiz Rosli ¹ , Nor Azah Jahari ² , Muzairihana Md Moid ³ , NorHazwani Hassan ⁴ , Farahwahida Mohd@Abu Bakar ⁵	127 - 138
FREE TOOLS FOR PARAPHRASING: TO USE OR NOT TO USE Ho Chui Chui	139 - 156
TRAINING, REWARDS, AND APPRAISAL SYSTEM: PREDECESSORS AND INFLUENCES ON JOB PERFORMANCE Nur Ayunis Syairah Mohamad Zaidi ¹ & Nurul Hidayana Mohd Noor ²	157 - 169
IDENTIFYING CHARACTERISTICS SHAPING MALAYSIAN UNDERGRADUATES' ORGANIZATIONAL CITIZENSHIP BEHAVIORS Shaiful Annuar Khalid ¹ , Norshimah Abdul Rahman ²	170 - 187
REAKSI PEMIMPIN DAN MASYARAKAT TERHADAP BANTUAN PRIHATIN NASIONAL Intan Syahriza Azizan ¹ & Junaida Ismail ²	188 - 194
LAPISAN MAKSUD DALAM KENYATAAN MEDIA ISTANA NEGARA 24 NOVEMBER 2022: SATU ANALISIS TEKSTUAL Nazima Versay Kudus ¹ & Wan Noorli Razali ²	195 - 202

PEMBANGUNAN SISTEM STUDENTS' COMPREHENSIVE ONLINE EXERCISES (SCORE) SEBAGAI LATIHAN TAMBAHAN BAGI KURSUS MATH2 Shahida Farhan Zakaria ¹ , Afida Ahmad ² , Liana Najib ³ , Nor Athirah Mohd Zin ⁴ , Siti Nur Alwani Salleh ⁵ , Suhardi Hamid ⁶ & Ahmad Afif Ahmarofi ⁷	203 - 215
ONLINE TEACHING-LEARNING IN HIGHER EDUCATION DURING THE LOCKDOWN PERIOD OF THE COVID-19 PANDEMIC Roshidah Safeei ¹ , Hawa Syamsina Md Supie ²	216 - 229
INTELLECTUAL CAPITAL EFFICIENCY: A COMPARATIVE STUDY BETWEEN MALAYSIAN AND SINGAPOREAN MANUFACTURERS Naqiah Awang ¹ , Nur Syafiqah Hussin ² , Fatin Adilah Razali ³ & Shafinaz Lyana Abu Talib ⁴	230 - 241
DIGITAL LITERACY AMONG STUDENTS: A CASE STUDY AT CENTRE OF FOUNDATION STUDY IN MANAGEMENT Zahayu Md Yusof ¹ , Lim Qing Jun ² , Goh Hong Quan ³ , Anis Hanisah Sobri ⁴ & Nur Athirah Mahmud ⁵	242 - 254
A STUDY ON MOTIFS OF SASAK TRADITIONAL WEDDING UNDERGARMENT DODOT AND BENDANG IN THE CONTEXT OF SOCIO-CULTURE Lalu Rizkyan Hakiky ¹ & Arba'iyah Ab. Aziz ²	255 - 270
A TEACHING STRATEGY FOR DYSLEXIC CHILDREN: UTILISING A MULTI-SENSORY APPROACH Norarifah Ali ¹ , Azhari Md Hashim ² , Mohamad Hariri Abdullah ³ , Muhammad Nidzam Yaakob ⁴ & Roslinda Alias ⁵	271 - 283

A TEACHING STRATEGY FOR DYSLEXIC CHILDREN: UTILISING A MULTI-SENSORY APPROACH

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ABSTRACT

Early detection of learning difficulties, such as dyslexia, in children aged 5 and below is crucial to provide them with the appropriate attention and support in developing essential skills such as letter recognition, spelling, and reading. Dyslexic children often struggle with spelling, highlighting the need for effective interventions. This study aimed to evaluate the effectiveness of the Smart Board, a teaching tool, in assisting beginner-level dyslexic children in developing simple Malay syllables. The intervention utilised a multi-sensory approach, incorporating kinesthetic, auditory, visual, and tactile senses to teach students how to form basic Malay syllables using lowercase letters. The research was conducted at the DAM Centre Pulau Pinang Branch, DAM Centre Sg. Petani Branch, and SK Bukit Kiara Kedah in Malaysia. The findings have indicated positive outcomes from the use of the Smart Board as a teaching tool. The participants showed improvement in recognising letters, forming syllables, rewriting accurately, and spelling correctly. The multi-sensory approach of the Smart Board enhanced their understanding and application of basic Malay syllables. The results support the effectiveness of the Smart Board in assisting dyslexic children at the beginner's level. The multi-sensory approach, integrating kinesthetic, auditory, visual,

and tactile elements, successfully addressed spelling difficulties. The interactive and engaging nature of the Smart Board facilitated the participants' learning experience and contributed to their progress in building basic Malay syllables. The study highlights the efficacy of the Smart Board as an intervention for beginner-level dyslexic children in developing simple Malay syllables. Proper utilisation of the Smart Board in dyslexia centres, schools, and therapeutic facilities is essential to maximise its benefits. Future research should focus on investigating teaching aids for dyslexic children at intermediate and advanced levels, expanding the available resources for their education.

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1. Introduction

This paper explores the integration of research on interventions for dyslexia, focusing specifically on the recognition of alphabets when designing teaching aids for dyslexic children who are beginners in learning the Malay Language. Dyslexic children face challenges in letter recognition, which can impede their reading, spelling, and writing abilities, as well as their ability to concentrate during learning or reading (Hebert et al., 2018).

Dyslexia is a prevalent learning difficulty affecting a significant number of children worldwide. The Malaysia Ministry of Education has reported approximately 15,118 students with dyslexia in 2022 (Ministry of Education, 2022), and this number has continued to rise (Yazid & Yin, 2015).

Dyslexic children encounter difficulties in letter recognition (Jamali et al., 2019), which can hinder their reading skills (Izzati Suffiah & Ai Cheng, 2022), as well as their ability to concentrate during learning or reading (Nadelson et al., 2019).

Dyslexia is associated with visual confusion, a common learning challenge that impacts language, literacy, memory function, reading, and motor skills (Ramus et al., 2003). Unfortunately, dyslexic children often lack access to specialised treatments, such as special educators or extra classes, which results in unequal opportunities and limited access to quality education (Abd Rauf et al., 2018).

Despite the challenges that are faced by dyslexic children, there is a growing body of research on interventions that are aimed at supporting their learning (Yuzaidey et al., 2018; Lee, 2007). One area of research focuses on developing teaching aids to assist dyslexic children in their learning process. These teaching aids are designed to help dyslexic children to recognise letters, construct simple words, and improve their reading, writing, and spelling skills. In correspondence, the Smart Board is a teaching aid that has been specifically developed to support dyslexic children in their learning process. This educational tool emphasises differentiating vowels and consonants through touchable, 3D embossed letter shapes. Additionally, the Smart Board utilises distinct colours for each alphabet to facilitate letter recognition and differentiation for dyslexic children.

For dyslexic children, the Smart Board aims to be user-friendly and engaging. This teaching aid focuses on alphabet recognition by segregating vowels and consonants. Simultaneously, the term 'Board' refers to rewriting letters to facilitate the dyslexic children's learning. The Smart Board proves effective as it provides the dyslexic children with a fun and engaging method to enhance their reading, writing, and spelling skills. Significantly, teaching aids play a crucial role in supporting teachers and students by improving learning strategies and skills.

They can enhance learning outcomes for all students, including those with learning difficulties such as dyslexia. Specifically designed for novice learners in Grades 1-3 who struggle with recognising lowercase letters and constructing simple syllables in the Malay Language, the Smart Board serves as an effective teaching aid for dyslexic children in the classroom.

Dyslexic children require additional assistance to enhance their learning progress. Dyslexia is a condition that affects children differently, and there is no one-size-fits-all approach. However, instructional aids such as the Smart Board have proven beneficial in improving the reading, writing, and spelling skills of dyslexic children. The Smart Board, as an engaging and effective teaching aid, can support dyslexic children in their learning process, leading to improved learning outcomes and academic performance.

2. Literature Review

The word 'Dyslexic' is Greek and it refers to problems with words (Benton, 1976). The definition of dyslexia can vary based on specific criteria but generally involves difficulties with recognising letters, reading words, and spelling accurately, leading to low levels of fluency and accuracy (Adlof & Hogan, 2018). Dyslexia can also impair speech and writing language, coordination, self-control, and focus. These obstacles might make learning to read and write difficult, also to perform mathematical calculations are more challenging for individuals with dyslexia.

Dyslexia manifests in several ways. Firstly, directional confusion is a common problem among dyslexic children which can manifest in various ways, ranging from the difficulty in distinguishing left from right to having trouble in reading maps accurately (Bald, 1994). Additionally, this confusion with direction can lead to the reversal of letters, words, or numbers. Symptoms of directional confusion include the tendency to reverse letters, such as m and w, or p and q, while reading or writing. Dyslexic children often struggle to identify the correct orientation of letters and may mistake them for others, such as confusing [n] with [u], [m] with [w], or [p] with [d] or [b].

Secondly, children with dyslexia struggle with the sequence of letters, such as comprehending and remembering the order of things. As a result, their reading and spelling abilities are hindered. Third, underlying deficits such as poor motor skills, inaccurate visual interpretation of symbols and words, and trouble remembering visual impressions can all have an impact on their handwriting ability (Monczka et al., 2011). The dyslexic children's learning processes differ from those of normal developing children, necessitating more help, precise instructions, and face-to-face tutoring as the most successful teaching method. The Dyslexia Association of Malaysia (DAM) has classified learning into three levels: beginner, intermediate, and advanced. At the beginner's level, which typically occurs between 7 and 9 years of age, dyslexic children face difficulties in remembering and recognising letters and numbers. They may also struggle with recognising letter and number shapes, spelling, and sounding out each letter, counting and saying numbers, building two simple syllables, and rewriting letters and numbers. As the dyslexic children's learning processes differ from those of other children, they necessitate additional guidance, precise instructions, and face-to-face tutoring for the optimal teaching strategy. The Dyslexia Association of Malaysia (DAM) classifies learning into 3 levels: beginner, intermediate, and advanced. Dyslexic children between the ages of 10 and 12 are better able to enhance their skills in producing hard syllables and building entire sentences in the intermediate stage. At the advanced stage, dyslexic children aged 13 and above continue to learn by monitoring and observing their capacity to form complex phrases and use more advanced vocabulary, eventually leading to the ability to read full paragraphs or books.

To effectively support the teaching process for dyslexic children, teachers need a diverse range of teaching tools. The play while learning strategy is useful and appropriate for dyslexic children who struggle to concentrate for long periods and benefit from repetitive teaching techniques. Thus, the problem of reading is one of the challenges in writing and counting

because writing skills are needed for development and progress to stimulate successful reading (Al Hadhrami et al., 2022). Multisensory interventions based on the Orton Gillingham's theory, which focuses on letter recognition and sentence construction activities, have been shown to increase the reading comprehension in dyslexic children (Ana Lorena, 2020; Diane Hansen, 2017).

Play-based learning engages and inspires dyslexic children to learn without getting burdened or overwhelmed. Indeed, Al Hadhrami et al. (2022) mention that the right and effective strategy is one of the methods to encourage and improve the reading ability among dyslexic children (León et al., 2017). Former initiatives, such Madrigale, Bijak Membaca, and MyLexics, were created to create instructional action games, encourage engagement and motivation, and help dyslexic children to visualise Malay letters, words, sentences, and pronunciations (Di Tore et al., 2014; Muhammad Haziq et al., 2009). These interventions can help the dyslexic children to recognise letters, spell, and read more effectively without becoming bored or frustrated.

The goal of this study is to look into the Orton-Gillingham Approach as a method for teaching dyslexic people literacy. The method is based on Dr Samuel Orton and Anne Gillingham's theory that in order for individuals with severe dyslexia to learn reading, writing, and spelling, they need a multimodal approach that involves their auditory, visual, tactile, and kinesthetic channels (Rose & Zirkel, 2007). Through the use of all the five senses, this method stimulates the brain to take in and comprehend information. Therefore, by using all of the senses, which serve as pathways or bridges in their brains, the Orton-Gillingham Approach can be a useful manual for teaching struggling dyslexic youngsters to read. By using a multisensory teaching method, dyslexic children can learn and understand more effectively, making this approach an essential tool in literacy teaching (Subramaniam et al., 2013).

3. Problem Statement

Dyslexia is a learning difficulty that significantly impacts children's ability to recognise letters, spell words, read accurately, and write proficiently (International Dyslexia Association, 2017). In the context of Malaysia, where Bahasa Melayu is the predominant language and serves as the medium of instruction in schools, dyslexic children face unique challenges in adapting to the curriculum. The Ministry of Education in Malaysia has mandated the use of Bahasa Malaysia as the primary language of instruction in both public and private schools (Ministry of Education, 2013). The majority of the course material is taught in Bahasa Malaysia. The education board also follows the principle of "Upholding Bahasa Malaysia and Strengthening the English Language", which states that Malay would continue to be used as the primary language of instruction in national schools.

Dyslexic children encounter difficulties in recognising lowercase letters, which impairs their ability to develop strong reading skills and to comprehend written information (Nur Amalina et al., 2015). Additionally, their struggles in spelling and word comprehension limit their readiness to learn new vocabulary. These challenges hinder their academic progress and can lead to frustration and a lack of confidence in their abilities. Furthermore, dyslexic children often face difficulties in maintaining focus and concentration during learning sessions, which further hampers their comprehension and retention of information (Manisah & Norizza, 2016).

To address these issues, there is a pressing need for effective interventions and teaching aids that cater specifically to the learning needs of dyslexic children. Multisensory teaching approaches have shown promise in supporting dyslexic learners by engaging multiple sensory modalities, such as auditory, visual, tactile, and kinesthetic, to enhance their learning experiences and concentration (Siti Zunaida & Mohd Hanafi, 2019). By providing a multisensory environment, dyslexic children can develop stronger connections between letters, sounds, and words, leading to improved reading, spelling, and writing abilities.

Unfortunately, the existing interventions and teaching tools that are available for dyslexic children in Malaysia are inadequate, resulting in limited support for their unique learning

requirements. There is a lack of comprehensive intervention guidance programs that are specifically designed for dyslexic children within the Malaysian education system (Abu Bakar et al., 2023). As a consequence, teachers may struggle to provide appropriate and effective assistance, and the dyslexic students may not receive the targeted support they need to overcome their difficulties and to succeed academically.

Additionally, the availability of teaching aids that address the specific challenges that are faced by dyslexic children in the Malaysian context is limited. Therefore, teachers need access to well-designed and effective teaching tools that can facilitate letter recognition, spelling, and word comprehension for dyslexic learners. These teaching aids should employ evidence-based strategies, such as multisensory approaches, to enhance the learning outcomes and educational experiences of dyslexic children (Yuzaidey et al., 2018). By incorporating appropriate teaching aids into the classroom, teachers can provide dyslexic students with the necessary support to overcome their learning difficulties and achieve academic success.

In summary, the challenges that are faced by dyslexic children in Malaysia, including difficulties in recognising lowercase letters, spelling, reading comprehension, and maintaining focus during learning, necessitate effective interventions and teaching aids. The current lack of comprehensive intervention programs and the limited availability of appropriate teaching tools hinder dyslexic children from receiving the targeted support they require. Addressing these issues is essential to ensure that the dyslexic children in Malaysia have equal opportunities and access to quality education, enabling them to overcome their learning difficulties and reach their full potential.

4. Significance of Study

This research holds significant implications and benefits in the following areas:

Educational Resources for Dyslexic Children:

This study provides valuable educational resources that are aimed at enhancing the literacy skills of dyslexic children who are at the initial stages of learning letter recognition, spelling, reading, and writing. The research focuses on the specific context of the Malay language and employs a multisensory approach to support dyslexic children in their learning journey. The findings of this study can serve as a practical guide for educators, parents, and other individuals who are involved in assisting dyslexic children, equipping them with effective strategies and resources to address the learning challenges that are faced by these children. By incorporating the research outcomes into educational practices, dyslexic children can receive tailored support to improve their literacy skills and overall academic performance.

Advancement in Teaching and Learning Approaches for Dyslexic Children:

The justification for this study holds relevance and significance for various stakeholders, including the Ministry of Education, rehabilitation facilities, and other organisations that are involved in supporting dyslexic children. By highlighting the need for teaching and learning approaches that are specifically tailored to the needs of dyslexic children, this research advocates for improvements in educational practices and interventions. The findings can serve as a valuable tool to guide policymakers, educators, designers, and professionals in the field, encouraging them to adopt more inclusive and effective strategies in the instruction of dyslexic children. By promoting a more engaging and interactive approach, based on the specific needs and challenges of dyslexic children, this research can contribute to enhancing the quality of educational outcomes for dyslexic students and fostering a more inclusive educational environment.

5. Research Questions:

1. How does the utilisation of a teaching tool contribute to the effectiveness of helping dyslexic children at the beginner's level in constructing basic Malay syllables using lowercase alphabets?
2. How might multi-sensory elements help beginner-level dyslexic children in building basic Malay syllables?

6. Research Objectives:

1. To examine the efficacy of a teaching tool in assisting dyslexic children at the beginner's level to construct basic Malay syllables using lowercase alphabets.
2. To explore the utilisation of multi-sensory elements as a strategy to support dyslexic children at the beginner's level to build basic Malay syllables

7. Methodology

This study has employed a methodology based on qualitative research and procedures. Qualitative research is deemed appropriate as it allows for an understanding of participants' engagement and experiences from their own perspectives, rather than those of the researchers. Therefore, class observations were utilised as the primary research tools in this study.

Participants

17 dyslexic children were chosen for the study using a purposive sample method. This method does not require a predefined hypothesis or participant pool, rather, it entails a purposeful and non-random selection of people who meet the criteria for the study. The selected participants, are in the age range from 7 to 11 and are drawn from government schools with dyslexia programs, as well as from the two centres from the Dyslexia Association Malaysia (DAM), namely, DAM Pulau Pinang Branch and DAM Sg Petani Branch, all three of which offer dyslexia programs. Their dyslexia status and their shortcomings in letter identification and syllable production served as the primary selection criteria.

Method of Data Collection

The study involved observing the beginner-level dyslexic children and their teachers who acted as instructors in using the Smart Board as a teaching tool for improving their literacy skills in the Malay language. The Smart Board was effective in teaching alphabet recognition, letter recognition, and syllable construction through colour coding. The teacher will write syllables on the board for the dyslexic students, and they will then be required to complete tasks such as word recognition and comprehension. For enhanced letter identification, the letters will be presented as 3D objects that may be touched and held. The dyslexic children then have to arrange the letters in the correct order and rewrite the spelling of the syllable. The researcher used pictures and phone recordings to document the class observation.

Data Analysis:

The collected data were analysed using Atlas.ti, a qualitative data analysis software. Specialised software such as ATLAS.ti helped the researchers to analyse data more effectively by improving organisation, memory retention, and maintaining a systematic approach (Gulsia & Yadav, 2023), through a systematic process, the data were coded, categorised, and analysed to identify patterns, themes, and relationships that were relevant to the research objectives.

Coding Process:

The coding process involved the identification and assignment of meaningful codes to segments of data related to the effectiveness of the Smart Board as a teaching tool. The initial coding was performed using an inductive approach, allowing for the emergence of themes directly from the data. The codes were then organised into categories and subcategories, forming a coding framework for further analysis.

Data Interpretation:

The interpretation of the data involved a comprehensive examination of the coded segments and their relationships. The themes and patterns that had been identified in the data were interpreted to understand the effectiveness of the multi-sensory approach that was facilitated by the Smart Board in supporting the dyslexic children's development of the basic Malay syllables.

Validity and Reliability:

To ensure the validity and reliability of the findings, several measures were taken. Firstly, multiple researchers were involved in the coding process to enhance intercoder reliability. Consensus meetings were held to discuss and resolve any discrepancies. Additionally, member checking was conducted by involving authors 2, 3, 4 and 5 who were positioned to audit the process of the analysis process to ensure accuracy and credibility (Birt et al., 2016).

The research findings are presented and discussed based on two research questions:

RQ1: How does the utilisation of a teaching tool contribute to the effectiveness of helping dyslexic children at the beginner-level in constructing basic Malay syllables using lowercase alphabets?

The study used class observation to evaluate the efficacy of employing a teaching tool to help dyslexic students at the beginner-level to construct basic Malay syllables using lowercase alphabets. The researcher has observed 17 dyslexic children in total, comprising 3 students from the DAM center of Pulau Pinang Branch, 6 students from DAM centre Sg. Petani Branch, and 8 students from a government school that runs a dyslexic program. The dyslexic children worked in pairs using the Smart Board teaching aid, which enabled them to engage in multisensory learning activities. Accordingly, the teacher instructed the children on how to use the Smart Board teaching aid to build syllables in the Malay language.

*Table 1
Findings from the observation of using the Smart Board teaching tool to Dyslexic Children*

No table of figures entries found.	Recognize Letter		Mix And Match The Letters		Rewrite The Syllables		Spell The Syllables	
	Can	Can't	Can	Can't	Can	Can't	Can	Can't
Government School	8	0	8	0	8	0	8	0
Dyslexia Association Malaysia Pulau Pinang Branch	3	0	3	0	3	0	2	1
Dyslexia Association Malaysia Sg. Petani Branch	6	0	6	0	6	0	5	1

Total Participants	17	0	17	0	17	0	15	2
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The table presents the findings from the observation of using the Smart Board teaching tool to assist dyslexic children in building simple Malay syllables using lowercase letters. The table provides data on the recognition of letters, the ability to mix and match letters, rewriting syllables, and spelling the syllables among the participants.

In the 'Recognise Letter' column, the table indicates the number of participants who are able to correctly recognise the letters. The 'Mix and Match the Letters' column shows the number of participants who have successfully combine the letters to form syllables. The 'Rewrite the Syllables' column displays the number of participants who are able to rewrite the syllables correctly. Lastly, the 'Spell the Syllables' column indicates the number of participants who have accurately spelled the syllables.

The table also includes data for two different branches of the Dyslexia Association Malaysia, namely, the Pulau Pinang Branch and the Sg. Petani Branch, as well as participants from government schools. The 'Government School' row displays the results for the participants from the government schools, while the subsequent rows represent the results for the participants from the respective branches of the Dyslexia Association.

Based on the table, it can be observed that out of a total of 17 participants, all 17 were able to recognise the letters correctly. However, when it comes to activities such as mixing and matching the letters, rewriting the syllables, and spelling the syllables, some participants have encountered difficulties. Specifically, in the 'Spell the Syllables' column, two participants from the total sample and one participant from the Dyslexia Association Malaysia's Pulau Pinang Branch had challenges in accurately spelling the syllables.

The Smart Board teaching tool intervention allowed dyslexic children to repeatedly construct simple words without conscious effort. By utilising multi-sensory techniques, the children were able to identify vowel and consonant letters, where the latter was in different colours to capture their attention. The board game serves as a tool to facilitate the dyslexic children's learning in constructing simple Malay syllables through the use of various sensory methods; it employs a repetition technique to reinforce the learning process. These findings suggest that while the participants have generally demonstrated proficiency in recognising letters, they face some challenges in other tasks that are related to building simple Malay syllables. Therefore, further analysis and interpretation would be needed to understand the factors contributing to the difficulties that were encountered and to identify areas for improvement in the utilisation of the Smart Board teaching tool for dyslexic children.

RQ2. How might multi-sensory elements help the beginner-level dyslexic children in building basic Malay syllables?

The figures were attained through class observation sessions conducted at the Dyslexia Association of Malaysia (DAM) in Penang, the Dyslexia Association of Malaysia (DAM) in Sg. Petani, and SK Bukit Kiara in Kedah. The researcher was able to learn more about the children's viewpoints and the effectiveness of the instructions during the class observation. After the researcher had used video recording, note-taking, and a camera to record each activity during the observation process, the data were evaluated using Atlas.ti. In order to validate the multi-sensory components, the researcher has sought the opinions of three independent assessors who have more than five years of experience in the study's field. The expert panel examined the format, the suitability of the measurement's component arrangement, and the significance of the question's components before making recommendations.

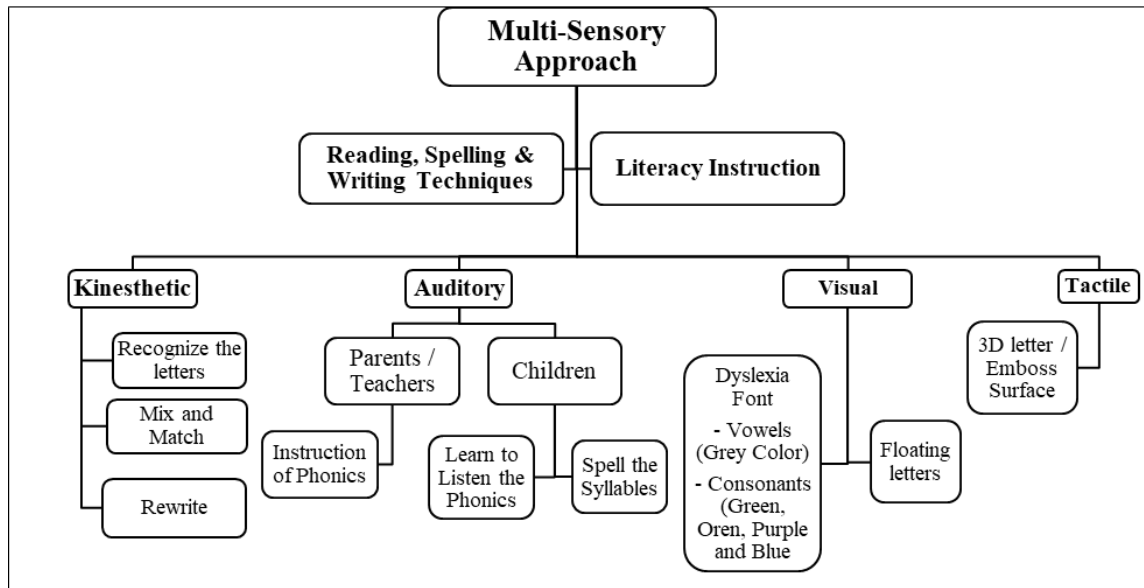


Figure 1 Elements that help dyslexic children to build Malay syllables through a multi-sensory approach

The findings presented in Figure 2 showcase the significant benefits and effectiveness of employing a multi-sensory approach to assist beginner-level dyslexic children in building basic Malay syllables. By incorporating kinesthetic, auditory, visual, and tactile experiences, this approach caters to the diverse learning needs of dyslexic children and enhances their understanding, retention, and application of the basic Malay syllables.

The kinesthetic aspect of the multi-sensory approach engages dyslexic children in various activities, such as recognising letters, mixing and matching them, and rewriting them. These hands-on activities encourage physical movement and active participation, hence, allowing the dyslexic children to internalise the concepts of basic Malay syllables more effectively. The first element, kinesthetic, requires the children to physically interact with the Smart Board by identifying the letters that are required to form a syllable and arranging them in the correct slot squares. They then rewrite the syllable on the board using a marker pen. By actively manipulating the letters, dyslexic children develop a kinesthetic connection to the syllables, leading to improved comprehension and retention.

Within the auditory component, parents and teachers play a crucial role in providing phonics instruction to the dyslexic children. By focusing on auditory recognition and differentiation of sounds that are associated with the letters, dyslexic children learn to listen carefully and identify the phonetic aspects of basic Malay syllables. This auditory training enhances their ability to identify and reproduce the correct sounds, contributing to their overall success in building the basic Malay syllables.

Visual elements within the multi-sensory approach include the utilisation of Dyslexia Font and floating letters. The Dyslexia Font incorporates different colours for vowels and consonants, enhancing visual discrimination and aiding the dyslexic children in distinguishing between the components of the basic Malay syllables. By providing a visual distinction, dyslexic children can more easily identify and differentiate the letters, contributing to their accuracy and fluency in constructing syllables. The use of floating letters, visually presented in a suspended manner,

further enhances visual focus and attention, drawing the dyslexic children's eyes to the letters and supporting their engagement with the syllables.

The tactile dimension of the multi-sensory approach involves the use of 3D letters or embossed surfaces. By physically feeling and exploring the shape and texture of the letters, the dyslexic children receive additional sensory input, reinforcing their letter recognition skills and deepening their understanding of the basic Malay syllables. This tactile experience provides a tangible connection to the syllables, promoting a more sensory-rich and immersive learning environment.

In conclusion, the comprehensive findings from the table highlight the tremendous value and efficacy of employing a multi-sensory approach to facilitate the beginner-level dyslexic children in building basic Malay syllables. By incorporating kinesthetic, auditory, visual, and tactile experiences, this comprehensive approach addresses the diverse learning needs of dyslexic children and fosters their understanding, retention, and application of basic Malay syllables. Implementing this multi-sensory approach in educational settings can significantly enhance the dyslexic children's overall proficiency and confidence in working with the basic Malay syllables, leading to improved literacy skills and academic success.

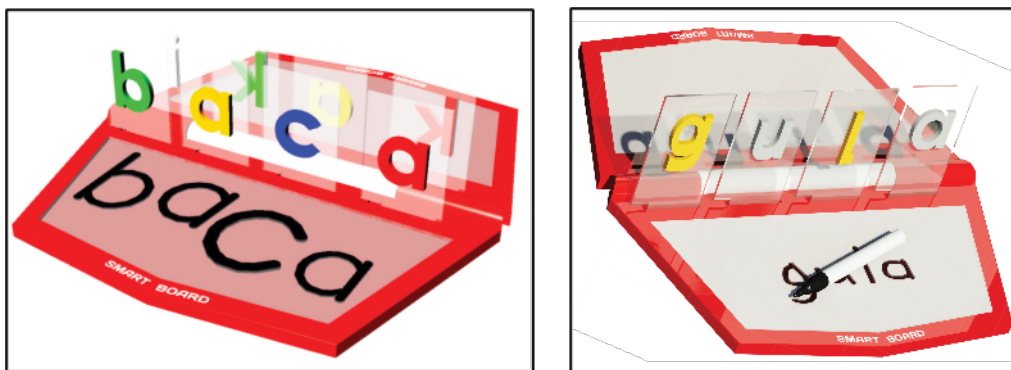


Figure 2 Smart Board teaching tool for Dyslexic Children

8. Conclusion

The lack of teaching aids that are specifically designed for dyslexic children who need to construct Malay syllables has stimulated researchers to produce a multi-sensory approach using the Smart Board. Notably, teachers have reported difficulty in finding effective teaching aids for dyslexic children, and most of the available products are too complicated and aimed at normal children. The researchers have found limited literature that focuses on teaching aids for intermediate-level dyslexic children, and there is a need for further research to develop literacy skills among dyslexic children at the intermediate and advanced levels. In particular, the Smart Board has been shown to be an effective teaching aid for dyslexic children, and it is hoped that it will be fully utilised in schools, therapy centres, and dyslexia centers. It is important to provide dyslexic children with appropriate and relevant teaching aids that are tailored to their needs. In order to develop cognitive domains, the study underlines the necessity for larger sample numbers, control training schemes, broad character reading assessments, and the involvement of more subject-matter specialists. Ultimately, this research contributes to the body of knowledge surrounding dyslexia intervention strategies, highlighting the importance of employing a multi-sensory approach in teaching basic Malay syllables to dyslexic children. By embracing the findings and implementing these evidence-based practices, we can enhance the educational

outcomes and overall well-being of dyslexic children, empowering them to reach their full potential in their language acquisition and literacy development

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Conflict of Interest

No conflict of interest associated with this publication.

DOI

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