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Preface

Pioneering Educational Perspectives: Series 2025 is a collection of thought-provoking insights and research contributions exploring contemporary educational trends and practices. This eBook presents a diverse range of perspectives on innovative teaching methodologies, digital learning strategies, and transformative approaches in education. Designed to serve as a resource for educators, researchers, and practitioners, it aims to inspire meaningful discussions and advancements in the field. Through carefully curated chapters, this publication offers fresh ideas and practical solutions to enhance learning experiences in an ever-evolving educational landscape.

e-ISBN: 978-967-0033-31-0

EAT SABAH AUTHENTIC 160
Sairah Saien[1,*] & Sylvia Nabila Azwa Ambad[2] 160
PEMBANGUNAN APLIKASI MUDAH ALIH eREPORT V2.0 (MyPROJLOG) 164
Noorashikin Binti Mustafa[1]*, Haslina Binti Tawyer[2] & Irma Binti Maaman[3] 164
PEMBANGUNAN DAN PENILAIAN APLIKASI WEBWISENOTE SEBAGAI SUMBER RUJUKAN BERPUSAT 168
Irma Binti Maaman[1,*], Noorashikin Binti Mustafa[2] & Haslina Binti Tawyer[3] 168
INNOVATIVE APPROACHES TO RESTAURANT OPERATIONS: USING CLOUD-BASED POS IN EDUCATION 172
Nurshayzwani binti Abd Samad[1,*] 172
AR-GREENBUILDING 176
Haleefa Mahmood[1]*, Eddie Rosman Abdul Jalil[2], Mazni Kasbolah[3], Hasnul Hariz Marzuki[4] & Maihani Shariff Fudin[5] 176
PROMOTING SUSTAINABLE EDUCATIONAL INCLUSIVITY THROUGH OFFLINE DIGITAL LEARNING 180
Najmi Najiha Mohd Zaid[1]*, Nur 'Izzah Mohammad Shuhaimi[2], Ai'syah Abd Mutalib[3], Nurul Adawiyah Mohamad Johdi[4] & Marina Mohamad Amir[5] 180
ED-STAT: OPTIMIZING TEACHING AND LEARNING OF INTRODUCTION TO STATISTICS 184
Muhammad Zulkhairi Zakariah[1,*], Akmal Shafiq Badarul Azam[2], Muhammad Shahimi Ariffin[3], Muhammad Anas Abdul Razak[4] & Mohd Zuhaili Kamal Basir[5] 184
I-POTTY PRO: EMPOWERING PRESCHOOL CHILDREN'S TOILET INDEPENDENCE THROUGH ENGAGING DIGITAL SUPPORT 188
Noor Amiera Alias[1,*], Masne Kadar[2], Farahiyah Wan Yunus[3], Katie Cremin[4] & Nurul Ku Harmila[5] 188
AG LEX FACILI: LAW OF AGENCY MADE EASY 192
Zuramaznum Sainan[1], Nasreen Miza Hilmy Nasrijal[2,*] & Baharuddin Alias[3] 192
E-MODUL KURSUS ASAS BAHASA ISYARAT MALAYSIA (EM-KABIM) 196
Vestly Kong Liang Soon[1,*], Pollie Lim Poh Yue[2], Norazlin Binti Mohd Rusdin[3], Kway Eng Hock[4] & Grace Annammal A/P Gnana Piragasam[5] 196
EzLy-DReAM: A DUAL-OPTION DIGITAL RECORDING ASSESSMENT METHOD FOR THE SUSTAINABLE USE OF PRE-INSTALLED AUTO-TRACKING CAMERAS IN CLASSROOMS 200
Norliawati Mohd Sidek[1,*], Nur Aina Zaimul Khalil[2], Nur Hayani Zaimul Khalil[3], Nur Aqilah Ghazali[4] & Puteri Lailatul Aqashah Mohd Rosdi[5] 200
MIM SAKINAH 101 204
Murihah Abdullah[1,*], Izzat Rafiq Burhanudin[2], Muhammad Najibullah Mohamed Suhami[3], Affan Badrol Hisham[4] & Nor Farhah Saidin[5] 204
FLASH3R 208
Ra Flora anak Raban[1,*], Dora anak Aling[2], Radzi bin Tajudin[3], Pollie Lim Poh Yue[4] & Vestly Kong Liang Soon[5] 208

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DIGITAL TRANSFORMATION OF MALAYSIAN SIGN LANGUAGE EDUCATION

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ABSTRACT

Despite the growing interest in learning sign language, there is a lack of accessible and engaging tools for learning Malaysian Sign Language. Traditional learning methods can be inefficient and uninspiring, leading to low retention rates among students. Additionally, learners often face difficulties finding reliable resources that provide comprehensive and interactive content. There is a need for a mobile-assisted learning tool that offers 2D animated gestures, audio support, and an integrated search functionality to create a more effective and user-friendly learning experience. This application aims to address these challenges by providing an innovative and accessible alternative for learning Malaysian Sign Language anytime, anywhere.

KEYWORDS: Malaysian Sign Language, Education technology, Teaching and Learning, Mute and Deaf, Mobile Application

PROBLEM STATMENT

In Malaysia, some students face significant challenges in communication with teachers and other students due to their lack of proficiency in communication, especially nonverbal communication (Siong et al., 2021). This presents a major challenge for students as they need to master communication skills well to facilitate the learning process. According to Rabi et al., (2020) deaf and mute students need to deal with various disabilities such as deficiencies in speech, language, communication, and social relationships. Special education students also face problems in writing sentences (Yasin et al., 2020). As a result, this affects their performance in exams where they frequently make mistakes in writing. It also influences their motivation to learn, as conventional learning methods are more focused on verbal learning. However, digital methods will support conventional methods by making learning more effective with the integration of multimedia elements, making presentations more engaging and enhancing student motivation. According to Rani et al., (2023), in his study, multimedia presentations can create a more interactive learning environment where students can learn independently by repeating each lesson until they understand the concept.

OBJECTIVE

The objective of this study is to enhance learning engagement and accessibility while providing comprehensive and efficient learning tools. Firstly, the study aims to investigate the significant challenges faced by students in Malaysia in terms of communication, particularly nonverbal communication, with teachers and peers due to their lack of proficiency in these skills. By addressing these communication barriers, the study seeks to improve students' engagement and accessibility in the learning process. Additionally, it will explore the specific difficulties encountered by deaf and mute students, who must cope with various disabilities, including

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deficiencies in speech, language, communication, and social relationships, as well as the challenges special education students face in sentence writing, which impacts their exam performance due to frequent writing errors. Secondly, the study aims to design and develop an interactive and engaging mobile application that leverages multimedia elements, such as 2D animated gestures, audio support, and an integrated search functionality, to create a more effective and user-friendly learning experience for Malaysian Sign Language. This research represents a significant advancement in the digital transformation of Malaysian Sign Language education, providing a comprehensive and accessible learning platform that caters to the diverse needs of both students and teachers, ultimately enhancing their engagement, performance, and overall learning outcomes.

DESIGN DESCRIPTION

The application will provide a comprehensive library of 2D animated gestures, representing a wide range of vocabulary and expressions in Malaysian Sign Language. This will allow learners to visually observe and understand the correct hand and body movements associated with each sign. In addition to the visual gestures, the application will offer audio pronunciations for each sign, enabling learners to reinforce their understanding of the language through both visual and auditory cues. Besides that, the application includes a search feature that allows users to quickly find and access specific signs or words, enhancing the overall usability and efficiency of the learning process. The target users for this mobile application are deaf and mute learners aged 7 to 12 years. This study is focused on enhancing learning engagement and accessibility while providing comprehensive and efficient learning tools. It aims to address the significant challenges faced by students in Malaysia, particularly in communication skills, to improve their overall learning experience.

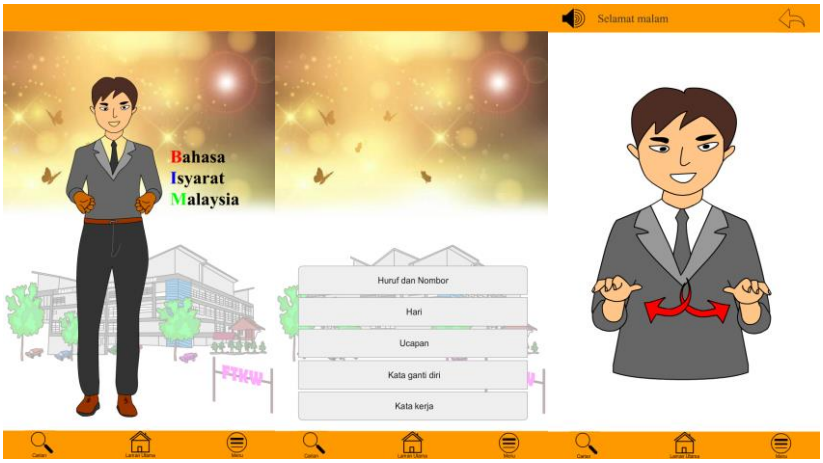


Figure 1. Mobile application interface design

NOVELTY AND UNIQUENESS

Alternative Learning method: By providing an innovative and alternative approach to learning sign language, the app creates a unique and effective learning experience that differs from traditional methods.

EXPERIMENT TEST

The table below shows the actual grades by the Malaysian Ministry of Education. Based on the grade values for the control group in the pre-test, 3 students (30%) achieved the minimum level with an average grade, while 7 students (70%) did not reach the minimum level with an average grade. The post-test results showed that 1 student (10%) achieved distinction, 2 students (20%)

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achieved satisfactory, 2 students (20%) reached the minimum level, and 5 students (50%) did not reach the minimum level with their respective average grades.

For the treatment group, in the pre-test, 1 student (11.11%) achieved satisfactory and the minimum level, and 7 students (77.77%) did not reach the minimum level with their average grade. In the post-test, 3 students (33.33%) achieved excellent grades, and 6 students (66.66%) achieved distinction with their average grades.

Table1: Average pre- and post-test grades between groups

Grade		Frequency			
		Control group		Treatment group	
		Pre-test	Post-test	Pre-test	Post-test
85-100	Excellent	0	0	0	3
70-84	Honors	0	1	0	6
60-69	Good	0	0	0	0
50-59	Satisfied	0	2	1	0
40-49	Reached the minimum level	3	2	1	0
0-39	Not reach the minimum level	7	5	7	0

Based on the table it shows that mobile applications provide excellent benefits to deaf and mute students. The benefit this innovation teaching and learning method is Improved Communication. By providing a comprehensive and interactive platform for learning sign language, the application helps bridge the communication gap between deaf-mute communities and hearing individuals, fostering greater inclusivity and understanding. Besides that, the application can enhance learning engagement, accessibility, and overall learning outcomes for students, addressing the communication challenges they face in the traditional classroom setting.

COMMERCIAL POTENTIAL

The app has the potential to be marketed to schools, special education centers, and organizations catering to the deaf and mute community, providing a valuable learning tool that can be integrated into their educational programs.

CONCLUSION

The digital transformation of Malaysian Sign Language education presents a significant opportunity to enhance the learning experience and accessibility for students in Malaysia. By leveraging multimedia elements and mobile technology, this research aims to design and develop an interactive and engaging application that addresses the communication challenges faced by students, particularly those with hearing and speech impairments. The application's comprehensive library of 2D animated gestures, audio pronunciations, and integrated search functionality will create a more effective and user-friendly learning environment, ultimately improving student engagement, performance, and overall learning outcomes (Leung et al., 2013).

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REFERENCES

Leung, W., Yuen, K., Wong, K H., & Meng, H. (2013, December 1). Development of text-to-audiovisual speech synthesis to support interactive language learning on a mobile device. https://doi.org/10.1109/coginfocom.2013.6719170

Rabi, N M., Teck, W K., Abdullah, N., Nasir, N A W M., & Nordin, N S. (2020, March 24). Social Communication Skills' Criteria for Placement of Student with Disabilities in Inclusive Program. , 10(3). https://doi.org/10.6007/ijarbss/v10-i3/7079

Rani, M., Bala, J., & Varjani, S. (2023, June 19). Scope and Challenges of Multimedia in Education Sector. , 5(3). https://doi.org/10.36948/ijfmr.2023.v05i03.3868

Siong, T J., Nasir, N R M., & Salleh, F H M. (2021, March 1). A mobile learning application for Malaysian sign language education. IOP Publishing, 1860(1), 012004-012004. https://doi.org/10.1088/1742-6596/1860/1/012004

Yasin, M H M., Hamzah, M I., Rahman, M J A., Harun, Z., Yusuf, D., Azirun, R., Rosli, S N W., & Ensimau, N K. (2020, January 1). Sign Language Skills of Teachers in the Subject of Islamic Education. https://doi.org/10.2991/assehr.k.200129.168