

The Implementation of Digital-powered Multiliteracies in Learning the English Language among Indigenous Students in Malaysia

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ABSTRACT

Contemporary literacy demands multiple competencies, yet indigenous students face persistent challenges including poor literacy outcomes and inadequate culturally responsive pedagogy. Grounded in Multiliteracies theory, this study explores the implementation of a Digital-powered Multiliteracies English Language Learning (DMELL) program among indigenous learners. Using participatory action research, data were collected from eight English teachers and 30 Form 2 students at SMK Bestari through interviews, observation, documents, and research diaries, and analyzed thematically via Atlas.ti. Successful DMELL implementation required understanding students' sociocultural contexts and community literacy practices. This study provides a framework integrating sociocultural, English language, and digital competencies effectively addresses indigenous students' educational needs and future readiness.

Keywords: Multiliteracies, indigenous education, digital education, English language learning.

INTRODUCTION

The basis of the current paper was a personal observation of the researchers in collecting data for a research project investigating schooling issues as well as sociocultural learning inclinations of indigenous students at a school. While walking down the corridors of the school, we noticed that some of the classrooms were empty.

We could see a few indigenous students walking down the corridors and some, after noticing that we were looking at them, waved and some just gave us a strange look. We were wondering, as that time was not a recess time; it was really a schooling time; in which all school children and teachers were supposed to be in class. At a distance we could hear students screaming and laughing—a larger group of students, teachers and parents were having fun at a sports activity featuring traditional games. Parents cheered their children as they carried ping pong balls in spoons; while teachers kept scores. It was a picture-perfect setting, all laughing, smiling and having fun.

Through the New London Group's multiliteracies lens, this scene revealed different ways in learning. The sports arena became a site where gestural, spatial, audio, and kinaesthetic literacies flourished—embodied practices honouring indigenous ways of knowing. Yet the empty classrooms symbolized a pedagogical paradox: while the school was attempting to redesign education by focusing communal, intergenerational learning over text-centric models, the vacant rooms questioned which literacy practices would ultimately be validated in broader educational systems. This was more than an empty classroom—it signified the ongoing negotiation between indigenous epistemologies and dominant educational discourses.

In recent years, the educational landscape indicates that in the 21st century, literacy extends beyond the ability to read, write, and perform mathematical tasks. Each learner is expected to possess multiple literacies, including digital, cultural, moral, and critical literacies, to actively contribute to the nation's future workforce. Indigenous students, primarily classified within the B40 demographic, encounter significant challenges such as inadequate literacy rates, limited digital literacy, elevated school dropout rates, and insufficient pedagogical approaches that fail to integrate their sociocultural knowledge. Thus, the objective (RO) of this paper is to explore the implementation of a Digital-powered Multiliteracies English Language Learning (DMELL) program that is founded by the Multiliteracies theory and utilizes digital tools to facilitate English language acquisition, while also highlighting the cultural learning preferences of indigenous communities. The research questions (RQ) are as follows:

Main RQ: How does the implementation of a Digital-powered Multiliteracies English Language Learning (DMELL) program support English language acquisition among indigenous learners?

Sub-questions:

1. What cultural learning preferences should inform the design of DMELL programs?
2. How can the DMELL module be designed and improved based on the students cultural learning preferences?
3. How do indigenous students respond to the DMELL approach?

BACKGROUND

Malaysia's indigenous community, known as Orang Asli (original people), represents a demographically minor yet culturally significant segment of the nation's multiracial population, constituting merely 0.7% of approximately 180,000 individuals. These communities are taxonomically divided into three principal groups: the Senoi (54.9%), Proto-Malay (42.3%), and Negrito (2.8%), each encompassing distinct tribal subdivisions that maintain indigenous linguistic and cultural traditions within Peninsular Malaysia's postcolonial societal framework (JAKOA,2016).

Literacy Issues Among Indigenous Children

The primary issue in indigenous education is the inadequate literacy proficiency demonstrated by indigenous children. Numerous studies indicate that indigenous children exhibit lower literacy levels. Puteh-Behak et al. (2018) conducted interviews with 12 teachers instructing indigenous children from the Temuan community in an indigenous national school to assess the children's literacy levels. Their findings indicated that the majority of the children struggled with fundamental literacy skills, including reading, writing, and numeracy. The educators asserted that over fifty percent of the students were required to attend remedial classes. Sani (2014) and Dali et al. (2013) supported this assertion, noting that the Orang Asli exhibit a limited comprehension of the national literacy module and performed inadequately on the LINUS (Literacy and Numeracy Screening) test. Moreover, Isa and Aini (2018) highlighted that although the enrolment of indigenous students has increased over time, their academic performance remains lower than that of their mainstream peers. This point was also highlighted in the Malaysia Education Blueprint Annual Report (2014) which indicates that approximately 50% of indigenous children completed primary education without developing essential literacy and numeracy skills.

Studies indicate that indigenous students exhibit low proficiency in English language literacy (Idrus et al., 2022; Puteh Behak et al., 2018, 2021), despite its status as a highly valued skill in the 21st century. Wan Mahzan et al. (2020) analyzed the English language grades of indigenous students in the 2017 public examination, revealing that the majority of students received lower grades and were classified as not meeting the minimum mastery standard. Their study indicates that only a small number of students achieved high grades in the English language test. This indicates that the issue of English language literacies is significant within indigenous communities. Puteh Behak et al. (2018, 2021) identified that indigenous students exhibit limited proficiency in the English language, attributing this to its status as a foreign language in the multilingual indigenous community.

A further issue relates to the inadequate digital literacy among indigenous students. Research indicates that most indigenous students utilize smartphones; however, they demonstrate a deficiency in fundamental computer skills. Salleh et al. (2014) investigated the digital literacies of indigenous students, revealing that the majority exhibit limited knowledge of technology, possess inadequate computer skills and

software understanding, and lack proficiency in internet-based skills, including information searching and social media interaction. This assertion is corroborated by a study conducted by Salleh et al. (2015), which indicates that students exhibit inadequate mastery of essential digital literacies, yet a majority express a desire to enhance their technological skills for learning purposes. The data indicate that indigenous students' digital literacy is at a minimal level, necessitating further intervention.

Another literacy that is often disregarded in the indigenous education is the sociocultural literacy of the indigenous children that is different from the mainstream societies. The national curriculum emphasizes the sociocultural knowledge and literacies of mainstream societies (Puteh-Behak et al., 2019a; SUHAKAM, 2010). According to SUHAKAM (2010), the majority of indigenous children struggle to keep up with the national curriculum because the national curriculum was unrelated to the sociocultural backgrounds and intellectualism of the indigenous communities (Idrus et al., 2023; Puteh Behak et al., 2019; Shaari, 2016; SUHAKAM, 2010).

All these issues indicate that importance of employing multiliteracies theories in a pedagogical approach. With the aim to address the issues mentioned above, a special module which is named the Digital-powered Multiliteracies English Language Learning (DMELL) was developed. DMELL module is grounded in the Multiliteracies theory that utilizes digital tools and artificial intelligence to facilitate English language acquisition, while also highlighting moral literacies and the sociocultural learning inclinations of indigenous communities.

Digital-powered Multiliteracies English Language Learning (DMELL) & Multiliteracies Theory

DMELL (Figure 1.1) was developed based on the multiliteracies theory and multiliteracies pedagogy. These steps are then infused with indigenous socio-literacies, English language literacies and digital literacies to develop multiliterate students.

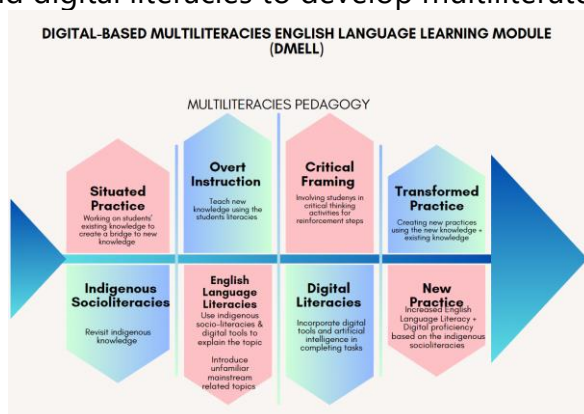


Figure 1.1: Digital-powered Multiliteracies English Language Learning (DMELL) Framework

This study adopts Multiliteracies theory as its theoretical lens to inform the design and implementation of the DMELL program. Multiliteracies theory posits that literacy

extends beyond the traditional skills of reading, writing, and arithmetic. It encompasses various forms of literacy, including digital literacy, sociocultural literacy, and other practices necessary for effective engagement in both formal and social discourses (Puteh-Behak, 2013; Puteh-Behak et al. 2024). The concept of multiliteracies encompasses the knowledge and skills required for learners to comprehend, engage with, reflect upon, and utilize various representations of texts. This includes the use of contemporary technological resources to participate effectively in diverse formal contexts, such as economic and professional environments, as well as informal settings, including leisure and cultural activities. Multiliteracy refers to the knowledge and skills required to effectively navigate contemporary technologies, enabling individuals to contribute meaningfully in professional and social contexts.

Multiliteracies pedagogy emphasizes the essential knowledge and skills required in the 21st century, particularly through the concept of 'Design,' which positions teachers, students, and policymakers as active designers of learning (Borsheim et al. 2008; New London Group, 1996, 2000). New London Group posits that the activities of using language to produce or consume texts encompass three elements: Available Designs, Designing, and The Redesigned (New London Group, 1996, p. 12). Available Designs denotes multimodal resources, whereas Designing is defined as the process of shaping emergent meaning, encompassing representation and recontextualization (New London Group, 1996, p. 14). The process is not simply a replication of existing designs; rather, each moment of meaning-making entails the transformation of various available resources of meaning. The result of the Designing process is The Redesigned, which represents a new meaning that is both reproduced and transformed through the process of Designing Available Designs (New London Group, 1996, 2000). In this context, learners engage in the processes of designing and redesigning, allowing them to apply their knowledge and skills in understanding and analysing information from multimodal resources, subsequently transferring that information and knowledge to different social contexts.

In addition, DMELL also uses multiliteracies pedagogy in developing the module, emphasizing the four components based on the concept of Design which are; overt instruction, situated practice, critical framing and transformed practice (Figure 1.1). In Situated Practice, the teacher and students explore the students' existing knowledge and skills using multimodal resources. In DMELL, we identified relevant socio-cultural literacies of the indigenous students to be the basis of the module. In Overt Instruction, the teacher facilitates learning through a scaffolding process using deductive approach. In this component, the teacher bridges the students' existing knowledge and skills to new information and knowledge using multimodal and technological resources. In DMELL we infused the students' sociocultural literacies with new literacies such as English language literacies and digital literacies. In Critical Framing, the students would be involved in learning activities that encourage critical thinking and analysis among the learners. For DMELL, we conducted two sessions that were packed

with critical activities. Finally, in Transformed Practice, the students are facilitated to transform their existing knowledge and skills to new social contexts, thus creating new knowledge and skills. In DMELL we facilitated the students to create new practices that could enhance English language literacy and digital literacy.

METHODOLOGY

This study employed a Participatory Action Research (PAR) framework (Kemmis & McTaggart, 2005), which emphasizes collaborative engagement among stakeholders in exploring and addressing practical educational challenges within specific sociocultural contexts—an approach well-suited to the study's objectives. The PAR methodology was selected for its capacity to foster meaningful partnerships between university-based educational experts and schoolteachers, thereby generating diverse and nuanced perspectives essential for understanding and resolving the identified pedagogical issues. Moreover, the action-oriented nature of PAR proved particularly appropriate for this investigation, as it facilitated the implementation and iterative refinement of multiliteracies pedagogy as a practical intervention aimed at developing multiple literacy competencies among indigenous students within their authentic educational environments. For this study, two action research cycles were conducted.

Location and participants

This study was carried out at SMK Bestari, a special transformative school under the Ministry of Education. It is a national school situated in the East Coast of Malaysia, that is established specifically for indigenous pupils. This institution is designated as special transformative school, serving the educational needs of indigenous students from pre-school through to form five in secondary education. Given the collaborative nature of PAR, it is essential to recognize the two primary groups involved in the project: the research team and the program participants. The research team comprised seven experts from Universiti Sains Islam Malaysia, specializing in multiliteracies, English language teaching, digital education, and participatory action research and three English language educators from SMK Bestari. The program participants were five English language teachers from SK Bestari and SMK Bestari and 30 form two (aged 14) students from the institution.

Data Collection and Data Analysis

Data collection encompassed multiple sources to ensure methodological triangulation, including documents, classroom artifacts, semi-structured interviews, researcher journals, and professional discussion among research team members. The analytical process employed thematic analysis as the primary interpretive framework, whereby audio-recorded data were systematically transcribed verbatim, subjected to iterative coding procedures, and subsequently organized into thematic categories using Atlas.ti, a qualitative data analysis software platform designed to facilitate systematic identification of emergent patterns and conceptual themes within qualitative datasets.

Research Procedures

This project was conducted in two action research cycles over the period of nine months. Figure 1.2 shows the research procedure of the study. In the first cycle, we began with pre-reflection phase where we identified the research problems and explored the issues surrounding English language learning among indigenous students and the sociocultural literacies of the indigenous students.

Secondly, we began with the Planning Stage where we developed the DMELL module that incorporates English language literacies, sociocultural literacies, digital literacies and moral literacies. The lessons focussed on listening, speaking, reading and writing skills on two topics: forest conservation and travel adventure. The topics were chosen based on the national English language syllabus. Table 1.3 summarizes the lessons for the first topic based on the multiliteracies pedagogical steps:

Table 1.3: The lessons on Forest Conservation

Multiliteracies pedagogical steps	Activity	Literacies
Situated Practice	Crafting the Guardian of the Green using clay	Sociocultural literacies
Overt Instructions & Critical Framing	<ol style="list-style-type: none"> 1. Vocabulary enrichment 2. Listening to song and complete listening comprehension questions 3. Reading passage on the importance of forest conservation and complete comprehension questions 	English language literacies & Moral literacies
Transformed Practice	<ol style="list-style-type: none"> 4. Writing short sentences for forest conservation campaign 5. Creating a poster on forest conservation using Canva 	Digital literacies & moral literacies

Table 1.3 presents the lesson plan for Topic 1: Forest Conservation, structured around the multiliteracies pedagogical steps. During Situated Practice, students crafted a clay sculpture titled "Guardian of the Green" to develop their sociocultural literacies. This was followed by Overt Instructions and Critical Framing, where students engaged in vocabulary enrichment, a listening activity, and a reading comprehension exercise, targeting their English language and moral literacies. Finally, in the Transformed Practice stage, students applied their learning by writing sentences for a conservation campaign and designing a poster using Canva, developing their digital and moral literacies.

Table 1.4: The lessons on Travel Adventure

Multiliteracies pedagogical steps	Activity	Literacies
Situated Practice	Looking at places of interest in Malaysia and indigenous cultural activities	Sociocultural literacies
Overt Instructions & Critical Framing	<ol style="list-style-type: none"> 1. Exploring local and global interesting locations 2. Using adjectives to describe interesting places 3. Reading about travelling and answering comprehension questions 	English language literacies & Moral literacies
Transformed Practice	<ol style="list-style-type: none"> 4. Writing short email to friends describing personal trips 	Digital literacies & moral literacies

Table 1.4 presents the lesson plan for Topic 2: Travel Adventure, similarly, structured around the multiliteracies pedagogical steps. During Situated Practice, students explored places of interest in Malaysia and indigenous cultural activities, developing their sociocultural literacies. In the Overt Instructions and Critical Framing stage, students engaged in three activities: exploring local and global interesting locations, using adjectives to describe places, and reading about travelling followed by comprehension questions, all of which targeted their English language and moral literacies. Finally, in the Transformed Practice stage, students applied their learning by writing a short email to friends describing personal trips, developing their digital and moral literacies.

Next, we moved to the Action Stage where we implemented the DMELL module at SMK Bestari. The first cycle of the action research was conducted in May 2025, involving 30 indigenous students. The lessons were conducted for four hours.

After that we proceeded to the Observation and Reflection stage where we collected data from multiple sources and analysed them using thematic analysis. At the Reflection stage, we identified several improvements to the DMELL module. Finally, we moved to the second cycle, where we revised the DMELL module based on our reflections and implemented DMELL module the second time. After the Action phase, we moved back to Observation and Reflection phases where we collected and analysed data and subsequently looked at the feasibility of DMELL module to be used in indigenous educational setting.

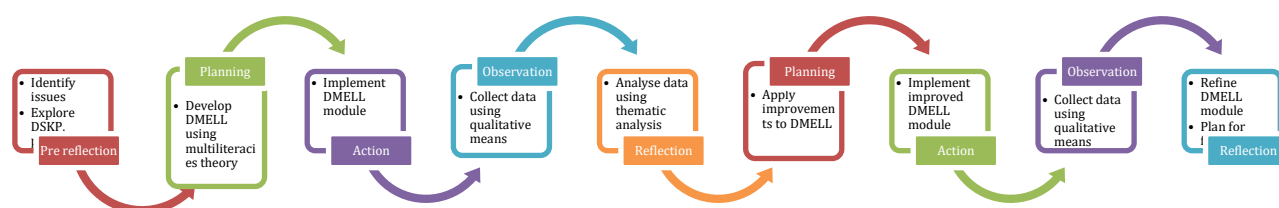


Figure 1.2 : The research procedure of the study

DMELL Implementation in Cycle 1

DISCUSSION AND FINDING

The principal finding of this study demonstrates that multiliteracies approaches and pedagogical frameworks exhibit enhanced efficacy within indigenous educational contexts. This approach necessitates systematic exploration of students' existing literacy competencies, utilizing these foundational skills as scaffolding mechanisms to develop emergent literacies essential for effective participation within mainstream societal contexts.

Theme 1: Sociocultural literacies as basis for the DMELL Module

English language literacy

Data show that most students demonstrated limited proficiency in English language acquisition. This point was highlighted by all teachers as illustrated in the excerpts below:

"I am teaching the student with the low proficiency" (Int 1 :Khalid)

"Very very low. If you compare it to the mainstream students... um they (Form 2 indigenous students) were like at primary level" (Int. 1: Khalid)

" I teach the weak classes.. their English language literacy .. not that I want to look down on my students, but their English language proficiency level is low, very low" (Int 1: Hana).

The research team identified similar issue as they conducted the first cycle, many noted that the indigenous students displayed minimal mastery of the English language. It seems that most of the students communicated with their native language with their peers and used basic English language with the teachers. The research team stated that, in comparison to the mainstream students, the English language used by the indigenous students does not reflect the ability of a form two students (Professional discussion) . These points are illustrated by the following excerpts:

"Teacher asks what is harimau in English – a few students answered lion, but then a student pointed out it is a 'tiger' "(Research journal)

"Students communicate mostly in their language among themselves. Sometimes in Malay" (Research journal)

"Some students attempt to use the English language with the teacher; however, a bit basic" (Research journal)

The low English literacy can be attributed to the multilingual complexity inherent in students' linguistic environments. First, students primarily communicate in their indigenous languages within domestic settings, with some utilizing multiple native languages due to intermarriage between several indigenous tribes, in this case some students were from the intermarriage between Jakun and Semai communities within the indigenous population. Additionally, students must acquire proficiency in Bahasa Melayu as the medium of instruction in national schools and the lingua franca of mainstream Malaysian society. Consequently, English represents a third or fourth language acquisition challenge for these students. This multilingual hierarchy positions English as a foreign language for indigenous learners, contrasting with its status as a second language for students in mainstream educational contexts. This point was highlighted in the following excerpt:

"Their proficiency level is low because this is their third language. BM is their second language. English is third and sometimes fourth language. Some speaks two indigenous languages depending on homes" (Int 1: Khalid)

Digital literacy

Regarding students' digital literacy competencies, data indicated that students demonstrated proficiency primarily within social media environments and gaming applications. The majority of participants possessed smartphones and exhibited familiarity with social networking platforms including Instagram, WhatsApp, Facebook, TikTok, and YouTube. Most students reported utilizing YouTube and TikTok predominantly for entertainment purposes, specifically viewing viral content. Only one participant indicated occasional use of YouTube for academic information retrieval related to classroom instruction. This point is evidenced by the following excerpts:

" I have Tik Tok" (Int 1: Student A)

" I like to use You Tube to watch videos . Sometimes I use to find videos about my study too" (Int 1: Student B)

" They are quite well verse with Tik Tok . They know all the viral videos..sometimes they were quite noisy in class. This shows that they are quite familiar with gadgets" (Int 1: Amirah)

However, classroom observations and semi-structured interviews with both educators and indigenous students revealed significant deficiencies in academic digital tool utilization. Students experienced considerable difficulties with fundamental computing skills, including keyboard proficiency, internet connectivity protocols, email management, and operation of productivity software such as Microsoft Word and PowerPoint applications, as well as email composition and communication (Professional Discussion 1). One researcher observed that participants had trouble with keyboard navigation, requiring extended periods to locate and depress the correct keys. This point is also highlighted in the research journal :

"The students were able to follow instructions; however, they displayed limited digital literacy in the beginning of the lesson. All students require a lot of help from teachers"

and facilitators in clicking the correct buttons in performing the task. Students were struggling with the interface of Canva and choosing the correct button. It seems that all teachers and facilitators were busy helping students navigating the applications". (Research Journal).

Socio-cultural literacies

Analysis of existing literacies among indigenous students revealed heightened motivation during kinesthetic activities and music-integrated learning experiences. Educators reported that students demonstrated considerable engagement in school-sponsored athletic programs, particularly sepak takraw and hockey. According to teaching staff, students regularly participated in sepak takraw during after-school hours, with many exhibiting advanced proficiency in the sport.

Classroom observations corroborated students' preference for kinaesthetic learning modalities. During one activity requiring students to construct guardian figures using plasticine, researchers documented elevated student engagement levels and positive affect compared to preceding reading-based tasks. Students appeared notably absorbed in the hands-on creative process, suggesting that tactile learning approaches may enhance academic participation and sustained attention among indigenous students.

Theme 2: Active ways to improve DMELL

Based on the existing literacies and learning inclinations of the students, these are the steps taken by the researchers to improve the DMELL program. First, to address the low English language literacy, researchers determined that linguistic modifications to the module were necessary, including reduced English language complexity and enhanced guided vocabulary instruction to facilitate English language acquisition among indigenous learners. Through collaborative consultation between researchers and educational practitioners, it was established that temporary linguistic simplification would enable students to grasp conceptual foundations before progressing to syllabus-mandated proficiency levels. The pedagogical decision prioritized foundational vocabulary development as a prerequisite for subsequent English language skill acquisition across multiple competency domains.

Secondly, to address digital skills deficiencies, researchers implemented step-by-step instructional modules designed to develop students' competencies in email composition and digital poster creation using Canva software. Rather than prioritizing content production, the pedagogical approach emphasized systematic introduction of essential interface elements and functional commands to ensure student familiarity with software navigation protocols. This foundational approach recognized that mastering digital literacy navigation skills constitutes a prerequisite for effective content creation in both email communication and poster design applications. Finally, to address the students' sociocultural preference the researchers included more tactile activities in the DMELL program.

Theme 3: DMELL as a gateway to new literacies

Following two implementation cycles of the Digital Multimodal Enhanced Language Learning (DMELL) program at SMK Betau, empirical data indicates that the intervention yielded substantial positive effects on the literacy development of indigenous students, specifically in relation to English language proficiency and digital literacy competencies. The findings suggest that pedagogical activities incorporating and building upon the sociocultural literacies inherent to the indigenous student population facilitated enhanced learning outcomes and increased levels of student engagement and participation in the instructional activities.

Enhanced English language literacy

Reducing the linguistic complexity and adding enhanced guided vocabulary instruction helped the students to participate more in the learning process. Students were said to understand simple classroom instructions and were able to respond to the questions quite well. This point is illustrated in the following excerpts from the research journal.

"The students were able to respond to simple questions and lessons regarding travel. E.g: Have you been to KL?.. Everyone understands the question and able to say that it is a city centre, it is related to KLCC, Taman Tasik, Menara Berkembar"

" in terms of rearrange sentence activity- most students were able to rearrange according to a logical sequence. Half of the class can read the sentences aloud with good pronunciation"

"Some students were able to give definitions of certain words such as spicy, hot"

Enhanced Digital Literacy

In addressing digital literacy development, the researchers implemented a foundational skills-based pedagogical approach, which yielded notable improvements in students' technical navigation proficiency relative to the first DMELL program cycle. Empirical evidence indicates that notwithstanding the implementation of simplified step-by-step procedural guides, students remained dependent on extensive one-to-one instructional scaffolding from educators and program facilitators. This point is evidenced by the notes in the research journal as follows:

"Students were able to connect their tabs to wifi with minimal help"

"In connecting to gmails or email – the students required a lot of help in signing in to google accounts"

"As the lesson progresses, the students were able to navigate email interface, buttons and functions well"

CONCLUSION

Upon revisiting our initial pre-reflection contrasting the empty classroom with the animated sports activity, our understanding has evolved considerably. The DMELL module, which serves to bridge indigenous sociocultural literacies with emergent

literacies including English language and digital competencies, has emerged as an essential approach to addressing the English language learning needs of indigenous students. The earlier conceptualization, which treated classroom learning and sports activities as separate domains, now appears limiting. Through this action research journey, we have come to appreciate that merging these spaces generates a more holistic and culturally responsive pedagogy—one that validates students' cultural identities while expanding their linguistic repertoires.

This study investigated multiliteracies methodologies within indigenous educational settings, evaluating students' current literacy competencies to formulate the DMELL module. We discovered that students exhibited limited English proficiency due to their intricate multilingual environment, where they predominantly communicate in indigenous languages at home and are required to learn Bahasa Melayu for educational purposes, thereby positioning English as their third or fourth language. This finding highlights what the New London Group (1996) emphasized in their multiliteracies framework—that linguistic diversity should be seen as a valuable resource. Additionally, students showed considerable proficiency in social media and gaming for leisure yet displayed notable deficiencies in academic digital competencies, encountering difficulties with fundamental computer functions, email administration, and productivity applications. This gap reflects the core idea in multiliteracies theory: that literacy today involves multiple modes of communication and meaning-making (Cope & Kalantzis, 2000), and the challenge was helping students transfer their existing gaming and social media associated literacies into academic contexts. Furthermore, students demonstrated significant tendency in kinaesthetic activities and music-based learning, displaying passion for sports activities, and exhibiting heightened attentiveness during hands-on tasks. These preferences align with the philosophies of multiliteracies, that states people learn and communicate through their lived experiences, and that effective teaching needs to work with these natural inclinations (Cope & Kalantzis, 2009; New London Group, 1996).

In light of these findings, we revised the DMELL module to incorporate simplified English instruction, sequential digital skills training emphasizing email and Canva poster creation, and the integration of kinaesthetic learning strategies to better align with students' inherent strengths and learning preferences. This redesign drew on the multiliteracies framework's four key pedagogical components: Situated Practice (starting with what students already know), Overt Instruction (giving clear guidance on new skills), Critical Framing (helping them understand why different literacy practices matter), and Transformed Practice (enabling creative application in new contexts) (Cope & Kalantzis, 2009). As Kalantzis and Cope (2012) suggest, good teaching involves carefully designing pathways that meet learners where they are while gradually expanding their capabilities. Subsequently, these improvements successfully enhanced the students' English language and digital competencies, demonstrating that when multiliteracies pedagogy is thoughtfully adapted to indigenous students' linguistic backgrounds and multimodal learning strengths, it can create meaningful

bridges between the literacies students bring with them and the academic skills they need to succeed (Mills, 2016).

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 Nor Khairul Hafizi Rosli, Siti Wahida Abd Hamid, Nurul Huda Mazlan (Writing, Resources)

CONFLICT OF INTEREST

The authors declare no conflicts of interest

ETHICS STATEMENT

This project has obtained the ethical approval from the Research Ethics Committee of Universiti Sains Islam with the code USIM/JKEP/2024-355. Artificial intelligence (AI) tools were utilised in the preparation of this manuscript solely for the purpose of language checking and grammatical refinement. The intellectual content, ideas, and findings presented in this article remain entirely the work of the authors.

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