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Original Research Article

The Concept and Context of a Reading Program Nilam to Enhance Dual Language Students Reading Performance

P Kangathevi Ponnudorai^{1*}, Ainul Azmin MD Zamin¹

¹Department of English Language and Literature, KIRKHS, International Islamic University, Malaysia

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*Corresponding author: P Kangathevi Ponnudorai

Department of English Language and Literature, KIRKHS, International Islamic University, Malaysia

Abstract

This study outlines the concept and context of a Reading Program called NILAM to enhance Dual Language students reading performance. The study used a qualitative research approach to define the nature of phenomena and is especially appropriate for observation. The most common data collection method, a document study, was used to analyse the findings. For data analysis, document analysis was used and coded using qualitative data analysis software ATLAS.ti 9. In addition, criteria such as coding and co-coding into themes analyses increase the value of the research done. The study's results established that the concept and context of the NILAM Reading program were profiled in DLP and could enhance the students' reading performance.

Keywords: Language Policy, Dual Language Program, Reading Program NILAM, Reading Performance.

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1. INTRODUCTION

Language policies are legally binding documents passed in the parliament to fulfil the desire of a small segment of the society—the language policies implemented to cater to a specific national plan following local context. Before the implementation, the language policies often go through a rigorous series of deliberation, debates, and consideration among the politicians, academics, and many others. For example, the 'Teaching Maths and Science in English' (ETeMS) policy stopped. Instead, it was switched with a new language policy, 'To Uphold the Malay Language and Enhance the English Language', better known as MBMMBI, a Malay acronym.

Implementation of ETeMS had many reviews (Zaidi, 2011; Shaharir, 2009; KPM, 2010). Discoveries by Pillay (2003), Foong (2004), Ong and Tan (2008), and Yahaya et al. (2009) also established that there are problems in the implementation of PPSMI, mainly at primary and secondary schools. Nevertheless, the Ministry of Education Malaysia (MOE) persists in observing and evaluating the usefulness of the ETeMS (Kementerian Pendidikan Malaysia, 2010). The success in the Primary School Assessment Test (UPSR), Lower Secondary Assessment (PMR) and Malaysian

Certificate of Education (SPM), along with the Malay language as a medium of teaching, is much better than the English language. Therefore, students grasp the Malay language's education and learn adequately in English. Furthermore, UNESCO's study reveals that primary school learners can comprehend the teachings in their mother tongue (Kementerian Pendidikan Malaysia, 2010).

A language policy's achievement depends on many factors like the teachers and infrastructure. In transforming the knowledge, teachers play a vital role in guaranteeing the learners grasp the information delivered (Fox, 1983). Designs and presentation techniques, suitable tone, language, and lexicon are essential (Ramsden, 1993). Teachers preparation ensures the success of teaching and learning activities. However, the Ministry of Education Malaysia (2010) research shows that Science and Mathematics teachers with an outstanding command of English are only about 25%.

Additionally, several teachers ultimately used the English language throughout teaching Science and Mathematics. Therefore, the teaching and learning process becomes ineffective. MOE also conducted studies on the direct effect of the implementation of ETeMS among students. The result reveals that English competence among students is insignificant during the execution of PPSMI (Ministry of Education, 2010).

The abolishment of ETeMS and the implementation of the MBMMBI were treated after evaluating the effectiveness of both policies. The Malaysian Government studied scholars' views on the benefits and drawbacks of ETeMS since the execution of this policy in 2003 (Hazita, 2016). Attempts to develop the Malay language while strengthening the command of English in schools, as stated by the then Deputy Prime Minister Tan Sri Muhyiddin Yassin, are unfailing with the policy of MBMMBI to be implemented from 2012. Through MBMMBI policy, the medium of instruction returns to the Malay language in national schools. Though, the attempts to enhance the English language continued.

The MBMMBI policy was implemented to ensure equal priority to both languages. The underlying principle of MBMMBI is to uphold the Malay language as the national language and act as a tool of harmony. However, it is also necessary to strengthen the English language as it is a global communication channel. Students expertise in the English language will allow them to discover different fields and pursue higher education.

After three years into the MBMMBI policy, the Ministry of Education (MOE) implemented a new language program under the MBMMBI policy. The new language program is called the 'Dual Language Programme' (DLP). Agreeing to Ashairi, Mohamed Yusoff and Melor (2017), DLP gives the schools the autonomy to use either mother tongue languages that are Malay (national schools), Tamil or Mandarin (vernacular schools), or else English language to teach Maths and Science. The programmes' three main aims;

- Allow students to get into and discover knowledge to compete internationally and expand the students' marketability in the working industry.
- ii. Support to increase students' interest in STEM education at the higher education level.
- iii. Rising students' communication hours in the English language will implicitly set their command for the target language.

However, this program is open only to selected schools that have fulfilled specific criteria. English proficiency is a constant debate in the Malaysian education system. Thang, Ting and Nurjanah (2011) stated that Malaysian learners are effortless in learning English even though its importance is generally recognised. Further, Melor and Saiful Islam (2017) stated that the English language proficiency among Malaysians had not improved much since 1970. Therefore, studies on the possible influence of DLP implementation are needed to decide on the effective strategies to execute the English language teaching and

learning process to help the policymakers recommend DLP. Thus, this study investigates the concept and context of a reading program (NILAM) in enhancing the Dual Language Program primary level students reading performance.

2. LITERATURE REVIEW

Since the Malay Language is the teaching medium in Malaysian schools, pupils have more contact hours in the Malay Language through other disciplines. The determination of introducing English in Science and Mathematics teaching and learning allows learners to keep up with the developments in Science and technology. Furthermore, it is conceivable for learners to seek information about Science and technology primarily accessible in the English language (Mohd Fadhili et al., 2009). Consequently, the students will perform well in English through MBMMBI in Mathematics, Science, and English. If the student's first language is not Malay, the student will develop three languages proficiently in school. Lindholm-Leary and Howard (2008) showed that majority of Dual Language students rated proficient in their two languages. Learners excelled in both languages across the grade levels in both 90:10 and 50:50 programmes. In addition, English language learners were more capable of English if they joined in Dual Language Education programmes than in English mainstream programmes (Lindholm-Leary, 2012).

The English language is an essential second language in Malaysia, after the national language, Bahasa Malaysia. Therefore, reading in English is crucial for academic purposes. English is learned as a subject throughout primary and secondary schools, and it is particularly relevant for higher education in colleges and universities. Reading training is needed in educational settings includes teaching learners various reading skills and strategies. The education system involves teaching and learning equally in English and Bahasa Malaysia; reading strategies used in the L1 can be an advantage to learners learning English as an L2. Therefore, discovering the reading strategies used in reading L1 and L2 texts for the poor language learners can improve comprehension of L2 in academic and non-academic contexts. If reading strategies used in reading a Bahasa Malaysia text (L1) help the reader comprehend the message conveyed, then perhaps the method can be likewise utilised for English texts. Besides, various successful reading strategies will motivate students to read any material in their L1 or L2. Thus, learners' reading strategies can be studied to determine any reading strategy used in L1 and L2 to enhance their comprehension of L2 texts. Before that, the concept and context of the NILAM reading Program should be profiled to know the functions of NILAM to enhance the students reading performance.

Agreeing to Martin (1993, p.168), "one of the most significant sections that is often overlooked, is language." students must first master the language of Science to succeed in learning mathematics and Science, (Lemke, 1990). Nevertheless, Brown and Kelly (2007) studied that this is difficult for English language learners to learn texts in an unfamilier context. Further, for English language learners' linguistic difficulties, Mathematics and Science instructors may make specific adjustments such as simplifying language or focusing on vocabulary to facilitate comprehension. Therefore, investigating the concept and context of a reading program NILAM will guide the language instructors to proceed with the right way to guide the students for English language learning comprehension.

3. METHODOLOGY

Document analysis is a qualitative research method that uses an organised procedure to analyse documentary suggestions. Further, document analysis involves repeated review, examination, interpretation of the data to gain importance and empirical knowledge, as other qualitative research methods. More, document analysis can be a stand-alone study. Therefore, this study was conducted using document analysis from June 2019 - July 2019. The researcher studied documents related to the NILAM program to profile the concept and context of the NILAM Reading Program in students reading performance. Documents were analysed using content analysis to answer the research question.

First, to answer the research questions, the study gathered general information about the Malaysian Educational systems in available Malaysian Educational Blueprint 2018 report, online newspapers, and relevant publications to profile the context and the purpose of the NILAM reading program in students reading performance.

The study investigated the general information about the Dual Langauge Program, the improved Nilam program, and the School-Based Assessment systems in the available Malaysian Educational Blueprint 2018 report to answer the research questions. Furthermore, the improved NILAM program was studied using a PDF document regulation called Nilam 2020 Record and a standard to implement NILAM at school by MOE. Moreover, the English language management guide book was also referred to study the school-based assessment. Additionally, online newspaper articles and related publications will be detailed to profile the NILAM reading program's context and purpose in students' reading performance.

As an essential part of the data collection, the researcher has developed a systematic set of procedures for document study. However, the study employed a detailed planning process to ensure reliable findings

instead of actual document analysis. O'Leary plans an eight-step technique for document analysis and textual analysis (2014).

- 1. Collect related texts.
- 2. Create an organisation and administration structure.
- 3. Make copies of the patterns for the explanation.
- 4. Asses validity of documents.
- 5. Study the document's plan, preconceptions.
- 6. Discover background knowledge (e.g., tone, style, purpose).
- 7. Question about the document (e.g., Who produced it? Why? When? Type of data?).
- 8. Find content.

The researcher treats the document like a respondent or informant, providing relevant data (O'Leary, 2014). The researcher questions then highlight the answer within the text. For example, events of interest were things such as, "Did English language reading happen in DLP?"; "Did teachers use other ways to help students understand the NILAM program?"; "Did they use other materials to inform the students the purpose of NILAM?" and "Were students given time and opportunities to discuss and know the concept of NILAM?" Effectively, the researcher verifies the search and then records and organises the document's frequency and amount of occurrences. The data was collected into what is "connected to central questions of the study" (Bowen, 2009, p. 32).

The data analysis process started as soon as after the data collection. Data from these sources were analysed qualitatively. Qualitative data as document analysis were analysed ATLAS.ti 8. The researcher analysed the qualitative data entails reading many transcripts, looking for similarities or differences, and finding themes and developing categories.

The researcher used content analysis to answer the research question to identify meaningful and relevant passages. Bowen sums up the overall concept of document analysis as a process of valuing documents to reveal the knowledge to establish understanding" (2009, p. 33). It is not just a procedure of collection of excerpts that convey whatever the researcher desires. The researcher must offer a high level of objectivity and thoughtfulness for the document analysis findings to be reliable and acceptable (Bowen, 2009).

The study aimed to find the data to allow the researcher to examine the concept and context of a reading program NILAM to enhance the DLP students reading performance. Therefore this study will answer the research question:

What is the profile of the NILAM Reading Program?

- a) What is the concept of NILAM to enhance students reading performance?
- b) What is the context of NILAM to enhance students reading performance?

4. MAIN RESULTS

In this section, the study analysed the concept and context of the NILAM reading program in language education by content analysis referring to the Malaysian Educational Blueprint 2018 report, a document regulation 'Perekodan Nilam 2020', a guideline to implement NILAM at school by MOE and the English language management guide book. Additionally, online newspaper articles and relevant publications were detailed to profile the NILAM reading program's concept and the context in students' reading performance. Finally, the researcher conducted a content analysis based on the data obtained.

The study collected important texts as listed above. Then, the researcher creates an organisation and administration structure. Next, the researcher make copies of the patterns for the explanation. Following that, the researcher considers the validity of documents. Then, the researcher studies the document's plan, preconceptions. Afterwards, the researcher discovers background knowledge (e.g., tone, style, purpose). Then the researcher questions the document. Measures of concern were things such as, "What is the language education in Malaysian Schools?", "How education policies (DLP) emphasis on English language education?", "What is the DLP curriculum?", "How students performance in DLP is being evaluated?", "what is School-Based Assessment?", "Is SBA related to NILAM?", "What is the context of the NILAM program?" and "How the purpose of NILAM has informed students?". Essentially, the researcher determines the context and purpose of the NILAM Reading Program in language education and then organises the document's existence. The information is then collected into what is "related to central questions of the research" (Bowen, 2009, p. 32).

The content analysis results measured various factors: language education in Malaysia, the role of school-based assessment in language education, purpose and context of NILAM. The results supported by the gist of the information offer detailed content analysis and a summary of results gathered during the study.

The Language Education in Malaysia

The changes in the language education policy have initiated many criticisms on the language of instruction policy. The criticisms are disagreements among teachers, academicians, media and society. The Malaysian Government needs the nation to meet the international level and hold the national language for unity and nationalism. Nevertheless, the language education policy changes have not benefitted the students. Keong (2015) highlighted that the constant changes have resulted in lower students' grades in 2007 and 2011. In addition, it has led to assets being wasted as changes had to be done to the textbooks and the teaching materials. The training programmes provided

to support the change were pointless as the teachers' acquired skills were not used (Hashim, 2009). The researcher also noticed that the rationales given for the setback are valid. However, the explanations for the scenario were not addressed. MOE chooses to replace one policy with another without thoroughly investigating the implicated issues and problems and finding solutions that solve the problems relating to the implemented policy.

Nevertheless, the previous studies have found issues around the execution of language policies in education. The listed problems were the aim of the language policy, the disagreements about the status of English and Bahasa Malaysia in the language policy and the impacts of the changes in the language policy. Therefore, these studies are essential to understand the language education policy formations and to present the language policy's impact on the education field (Burns & Schuller, 2007; Lingard, 2013).

The developments of the English language as a lingua franca have noted that English has become the dominant language in trade and modernisation to gain knowledge, compete globally and communicate globally. Subsequently, learning the language is vital to be effective (Jenkins, Cogo, & Dewey, 2011; Kirkpatrick, 2010; Ku & Zussman, 2010; Kuiper, 2007). The Ministry of Education had acknowledged the importance of being proficient in the language to compete globally and gain new knowledge, especially in the information technology era and the Science and Mathematics field. However, the constant changes in the language of instruction in the education policy propose a different scenario.

The early language education in Malaysia is vital to understand the background as the Blueprint was developed after implementing the MBMMBI policy and the revocation of ETeMS. One of the shifts in the Blueprint affected the transformation of the language education of Malaysia's education system, involving the teaching and learning of the English language. Moreover, one of the proposals planned in the Blueprint concerns achieving MBMMBI to strengthen the approach to the English language lessons (refer to pages 4-13 of Malaysia Education Blueprint 2013 -2025 (Kementerian Pendidikan Malaysia, 2013)). Moreover, the historical aspect's shows that the English language became the language after Bahasa Malaysia and Malaysia's bond with the English language.

In this aspect, Malaysia was colonised by the British empire. Indifference, Bahasa Malaysia is the national language for the unity of a nation and keeping harmony in a country. English is kept as the other language to attain and master even after Malaysia achieved independence from the British empire. The language education in Malaysia was recorded in Table 4.1 to understand the changes in the language education

policy utilised to improve English language education. The following section will describe the Dual Language Program in language education implementation.

Table 4.1 The Language Education in Malaysia

Year	Policy	Language
Prior independence	Colonial Malaya	English - the language of government, education
(before 1957)		and business.
1961	1961 Education Act	Malay language as the medium of instruction across whole education system.
1963	National Language Act 1963	Malay language as the medium of instruction and administration.
1970	National Language Policy	Malay language was enforced by law in 1971 as the medium of instruction across all national schools and universities.
2003	Pengajaran dan Pembelajaran Sains dan Matematik dalam Bahasa Inggeris (PPSMI)	English language as medium of instruction for Science and Mathematics
2010	Memartabatkan Bahasa Malaysia Memperkukuh Bahasa Inggeris (MBMMBI)	Malay language as medium of instruction for Science and Mathematics
2013-2025	The National Education Blueprint	Malay language as medium of instruction for Science and Mathematics *Dual Language programs (DLP) in selected schools

Dual Language Program in Language Education Implementation

Dual Language Programme (DLP) is another programme under the 'To Uphold Bahasa Malaysia To Strengthen Bahasa Inggeris' MBMMBI policy. DLP is reborn of English for the Teaching of Mathematics and Science (ETeMS) policy. Nevertheless, it undeniably seems like ETeMS contrasts several aspects of its implementation.

The program presented three main objectives;

- i. Allow students to have the access and exploration of knowledge to participate worldwide and increase the students' marketability in the working field.
- Assist in capturing students' enthusiasm for STEM learning at the tertiary level.
- iii. Increase students' contact hours to the English language to enhance their language skills

According to Malaysian Education Blueprint, DLP works as a two face approach, as it combines Shift 1 and Shift 2 in Changing the System. Shift 1 specifies 'Provide Equal Access to Quality Education of an International Standard' while Shift 2 on 'Ensure every Child is Proficient in Bahasa Malaysia and English Language and Is Encouraged to Learn an Additional Language'. The concern is that Malaysian students should be bilingual and equipped with world-class education. Ministry of Education (2013) confirmed that every student would receive foundational reading ability and numeracy and Science, a key growth area for the Malaysian economy. The scheme incorporates language learning with the innovation of mathematics knowledge and scientific understanding balanced.

DLP is voluntary, so the school needs some preparation to participate in the Dual – Language Programme. The school needs to meet the four standards drawn by the Ministry of Education;

- i. Adequate resource
- ii. Principal/Headmaster/Teachers' readiness to practice DLP
- iii. Parental demands and aid
- iv. School's performance in Bahasa Melayu

The first standards imply that the school requires to confirm that the textbooks, reference books, teaching aids and other teaching and learning resources are adequate for the DLP teachers and students. Thus, the school head requires short and long-term plans to ensure the number of teachers accommodates the number of students involved in DLP. Apart from that, the parents must write agree to the school, stating that their children will participate in DLP. In addition, the Parents-Teacher Association (PTA) must approve and support the implementation of DLP in the corresponding school. The final standards mean the school's performance in the Bahasa Melayu subject must be on par or better than the average grade subject (GPMP) for Bahasa Melayu in the national examinations such as UPSR or SPM the previous year. Should these four criteria be fulfilled, then only the school can apply to be part of DLP.

The DLP began in 2016. In the experimental phase, 300 schools including primary and secondary take part in the pioneer programme. DLP involves teaching STEM subjects, especially Science and mathematics, Reka Bentuk & Teknologi (RBT), and Asas Sains Komputer (ASK). Furthermore, Astro Awani (2017) stated that Datuk Seri Mahdzir Khalid,

the Minister of Education, asserted that 139 197 students participate in DLP, equivalent to 2.9% of Malaysian students. This number consists of 1 216 schools, including 587 primary schools and 629 secondary schools. Unlike PPSMI, DLP works as a voluntary programme, so the school has to choose the participation. Moreover, it gives a choice to the schools, teachers, students, and parents in their preferred language of instruction.

It indeed reveals some similarities with ETeMS, but the development of this programme is different as it does not enforce the compulsory use of the English language in the teaching of both subjects. Instead, learners are given the option to participate in the programme with parents permission, and the school has achieved the pre-requisite requirements. Nevertheless, one common similarity between these two proposals is that they still promote the English language to disseminate information and knowledge on Science and Mathematics.

Malay Mail (29 December 2016) stated that the DLP was announced with no consultation and response from education specialists and the public, while some parties have labelled the DLP as a new version of the ETeMS. This perception also expands the gap between urban and rural schools (Borneo Post, 3 April 2016). Thang, Ting and Jaafar (2011) claimed that Malaysian students are effortless in learning English even though its value is generally acknowledged. This agrees with Yunus and Shukri (2017), arguing that the English language ability among Malaysian has not significantly improved since 1970.

To note, ETeMS is one of the most debated policies intended to enhance the learners' English language ability through the teaching and learning of Mathematics and Science subjects, apart from accelerating the mastery of both subjects. The policy was a call to an end in 2012. Then the MBMMBI policy has replaced or became an alternative for ETeMS. MBMMBI policy, Dual-Language Under the Programme (DLP) was established. The teaching and its troublesome may somehow benefit the learners and the teachers. For example, Setati and Adler (2000) claimed that learning Science and Mathematics have elements similar to learning a language. Both fields involve a specific register, set of discourses, and abstracted forms. Furthermore, Hand et al. (2016) argued that Science could not exist without some form of language. One cannot describe old or new science knowledge without linguistic (mathematical, graphical, verbal, or iconic). This somehow augments the idea that students learning both subjects in English will find some similarities in the learning qualities.

Learning Science and Mathematics in the English language enables students to discover knowledge globally and, at the same time, increases the ability of the students in the workforce. Moreover, it also increases the pupils' contact hours to the English language, enhancing their language ability. Unquestionably, some students believe that they use English better than Bahasa Melayu. Further, Melor and Saiful Islam (2017) believe that studying Science and Mathematics in English facilitates their understanding better than Bahasa Melayu. As a result, students who can learn English will engage themselves better in the language, enabling them to perform better in the subjects.

Dual language (DL) education has also been centralised in other countries. Steele et al., (2017) stated that dual language immersion schools, which provide native English speakers and English learners with general academic instruction in two languages from kindergarten onward, have shown recent and rapid proliferation in the United States of America. To note, Tran et al., (2015) further emphasised that dual instruction programmes in primary schools have developed prevalent all over America. This indicates that DL is not new to the field of the education system. Japan has also began the dual language programme in 2013 to support expanding the International Baccalaureate diploma programme in Japanese secondary schools. According to Yamamoto (2016), the Dual Language IB DP policy was a strategic decision to enhance the dissemination of the Diploma curriculum, pedagogy, and learning outcomes, even at the cost of compromising on the initial vision of improving global higher education mobility in and out of Japan and on the creation of global human resources with high-level English-language communication skills. This reinforces that DL is commonly used in the education system. According to Tran et al., (2015), DL offers promising language proficiency, reading and writing, academic achievement in reading and Mathematics and attitudes towards schools.

Indeed, DL uses a high level of proficiency in both languages. However, the students will have better access to the English language through this programme, through the three subjects, Mathematics, Science and English. To help illustrate, assuming the student's first language is not Malay, he or she will develop three languages competently as experience the other two languages in school. English language learners were more likely to be grouped by state assessments as competent in English if they joined the Dual Language Education programmes than enrolled in English mainstream programmes (Lindholm-Leary, 2012).

DLP is being implemented with KSSR and KSSM curriculum system and accessed by school-based assessment. Specifically, Standard Curriculum for Primary Schools (SCPS) KSSR aims to produce a balanced, creative, critical and innovative through – communication, science and technology, physical and aesthetic development, personal skills, humanity and

spirituality, attitudes and values. KSSR can ensure that after six (6) years of schooling, pupils will achieve high standards of knowledge, skills, and values set for each level. In the next section, school-based assessment in the KSSR curriculum instigated with DLP will be explored.

Role of School-Based Assessment in Language Education Implementation

School-Based Assessment (SBA) is a comparative innovation in the Malaysian education system, which is also a directive from the Ministry of Education. Assessment is essential in our education system as it is part of our national strategy to improve the quality of education (Noraini *et al.*, 2008). In order to produce students who can compete at the international level, the Malaysian education system has come up against a transformation of education in curriculum and assessment.

Standard Curriculum for Primary School (KSSR), a new curriculum for primary school, was launched in 2011. At the same time, Lembaga Peperiksaan Malaysia (LPM) established a new format of assessment which was School-Based Assessment (SBA) or Pentaksiran Berasaskan Sekolah (PBS) (Ministry of Education, 2012). This assessment is planned, administered, scored, recorded and reported systematically according to the procedures fixed by Lembaga Peperiksaan Malaysia (LPM).

SBA is considered an innovation conducted in the Malaysian education system derived by the Ministry of Education (Faizah, 2011). This new assessment system was introduced to replace the present centralised examination and promote a combination of SBA and centralised examination. According to Malaysia Education Blueprint 2013-2025, the PMR examination will be replaced by a school-based assessment in year 2014. In 2016, students' UPSR results will be derived from the national examination and SBA. For SPM, the format will remain as most subjects are assessed through national examination, and some are assessed through centralised assessments and national examination.

As mentioned in our National Philosophy of Education, "Education in Malaysia is an ongoing ef ort towards further emerging the potential of individuals in a holistic and integrated manner, to produce individuals who are intellectually, spiritually, emotionally, and physically balanced and harmonious..." (Ministry of Education, 2012, p. E-4). Therefore, school-based assessment (SBA), in line with the National Philosophy of Education and Standard Curriculum, is launched to assess students holistically through their intellectual, emotional, spiritual and physical aspects (Ahmad & Warti, 2014). Therefore, SBA can be considered making a considerable effort to realise and achieve our country's aspirations.

As stated in Malaysia Education Blueprint 2013-2025, there are four components in school-based assessment. They are school assessment, central assessment, psychometric assessment, and physical, sports, and co-curricular activities assessment (Ministry of Education, 2012). School assessment and central assessment are under the academic category The nonacademic category consists of psychometric assessment and physical, sports, and co-curricular activities assessment (LPM, 2014). The score for program NILAM is counted as extra co-curricular activities. These four components included different types of tests: written tests, project work, aptitude tests, physical and health education assessments. This new assessment tests students based on their memory skills in examinations. Therefore, it does assess students in different kinds of skills. With these four components in the school-based assessment, we can assess our students more comprehensively and balanced.

With this new format of assessment, more information students' about performance development on a broader range will be gathered continuously and over some time (Ministry of Education, 2012). Through school-based assessment, students can be assessed based on their skills, abilities, talents, and potentials in curricular activities and cocurricular activities without comparing them to others (Ahmad & Warti, 2014). By implementing schoolbased assessment, students are not judged just based on their results in examinations. They are assessed through all kinds of activities in schools. Next, the context of Nadi Ilmu Amalan Membaca (Improved NILAM), a reading program that counts as an extra co-curricular activity, will be well-read.

Concept of Nadi Ilmu Amalan Membaca (Improved NILAM) Program

The improved NILAM Program aims to preserve a lifelong reading culture among students in line with the Malaysian Education Development Plan objectives 2013-2025 (PPPM 2013-2025). Therefore, implementation of quality reading programs is aimed: maintain a lifelong reading culture among students: develop students' cognitive, affective and psychomotor skills to continue to generate creative and innovative ideas through high-quality reading habits: meet the philosophy of national education that encompasses the physical, emotional, spiritual, intellectual and social elements (JERIS); encouraging the participation of all schoolchildren in the implementation of reading programs and activities; increase the involvement of community, local communities, governmental and nongovernmental organisations in building quality reading habits among students.

Implementation of this improved NILAM program focuses more on the quality of the material being read while maintaining the quantity of the reading. In terms of quality, students have a wide

selection of reading materials, such as books or non-books such as brochures, posters, brochures, articles, comics, magazines, reports, journals, digital learning materials that can be obtained from various sources and formats. The number of student readings contained in the previous NILAM objective remains (quantitative) but has been improved qualitatively through the quality of the reading. Book quality measurement is measured by the number of pages read. The minimum number of pages has been set for each age group of students. Therefore, the thicker or more pages the students read, the more points will be rewarded.

Furthermore, the school has established a mechanism for managing reading programs and enrichment activities after reading at school. Time for implementing these activities can be done in the current classroom within the curriculum and outside activities. All these readings are recorded and systematically maintained. Reading tracking is done through studentreadable reading records. The reading record may be provided based on the examples attached in the program NILAM guidance; it can be changed for the effect of use. The school management must ensure that all student reading records are verified and the number of readings and outputs made after each year is read and updated. The responsibility for reading validation and reading skills development is not limited to grade/level teachers and language teachers. However, it extends to all subject teachers and parents at home.

Moreover, the improved NILAM program is an approach that provides opportunities and encouragement for students to use their ability to form and cultivate reading habits. The variety of reading materials supported by the development of knowledge and skills after reading is expected to preserve the reading culture among the students. Systematic program implementation supported by valid documents and records can serve as a reference source for those interested in studying or as an example for implementation.

Context of Nadi Ilmu Amalan Membaca (Improved NILAM) Program

Context is the conditions that form the setting for an event, statement, or idea, and it can be fully agreed upon. Therefore, the context of Improved NILAM will be detailed in this section. Improved NILAM is a continuation of the previous NILAM program. The improved NILAM focuses more on the reading quality than the quantity of material read in the previous NILAM. Improved NILAM combines reading activities (quantity and quality of materials) and enrichment activities after reading (increased knowledge and skills after reading) to focus on quality aspects after reading. The materials are legible and are not confined to physical books only.

To ensure the practical implementation of this program, all parties need to work together in understanding and to perform their tasks accordingly. Each of the divisions in the organisation has a specific role to perform. For instance, people at Education Technology Division will define policies and guidelines, plan and manage programs and activities, manage smart partnerships. Government and private agencies implement the selection of National NLAM implementation, Leaders, monitoring preparing implementation reports, program evaluation, preparing NILAM Program Guidelines and working as the secretariat of the Mental Reading Habit Master Committee.

Every educator and school community plays a vital role in implementing the NILAM program at the school level. Everyone has a specific role. The principal or headmaster as the school administrator is responsible for ensuring the successful implementation and effectiveness of the program.

Next, the NILAM Reading Program Chairman is the Senior Assistant I. The Chairman will be chairing each meeting of the NILAM Program Committee, understanding program policies and objectives, giving briefings to teachers and parents, ensuring that the implementation of the NILAM Program works smoothly through: supervising, meetings with teachers, and informally interviewing students determining the effectiveness of the NILAM Program implementation schedule, take follow-up actions to address program weaknesses, identify teachers to attend courses and seminars related to reading and review and validate student reading records, approve financial and related provisions and verify reports related to NILAM Program.

The Deputy Chairman of NILAM Reading Program - Curriculum PK / PK HEM / Evening Supervisor performs the tasks of the Chairman in his absence. Deputy Chairman assist the Chairman in planning, implementing, coordinating, monitoring and evaluating the NILAM Program and assist the Chairman in the success of the NILAM Program. Further can help the Chairman identify the weaknesses of the NILAM Program and take action, supervise activities that support the NILAM Programme. Also, ensure the NILAM Program is implemented following the plan, provide financial management for the NILAM Program, review and validate student reading records.

Subsequently, the Program Coordinators of the NILAM Reading Program - Library and Media Teachers provides briefings on the implementation of the NILAM Program at the beginning of each year. The libraray teacher define the program and prepare the activity sheet to be implemented, plan budget estimates for the NILAM Program, organise school-level NILAM Program activities, keep the program running smoothly,

become a trustee for the NILAM award at the school level, identify and guide candidates for state-level NILAM awards, obtain validation of reports and LICENSE data from Principal or Headmaster, send reports and data to the PKG, review and validate student reading records.

Next, the Secretary – NILAM teacher keep records, minutes of meetings and correspondence, coordinate the meetings and related matters, helps Program Coordinators carry out NILAM activities, display data and information in the NILAM corner, gather information (papers, reports, materials, data) and submit it to program coordinators, provides periodic reports and written annual reports to be submitted to the Program Coordinator and copies to the Chairman, review and validate student reading records.

Following, Assistant Secretary of the NILAM Reading Program or NILAM Data Teacher collects student reading and activity record data from class teachers each month, insert data into the database, analyse student reading and activity records and submit them to NILAM Teachers, review and validate student reading records.

Next, Area Chair of the NILAM Reading Program or Chairperson assists the school in selecting reading materials for students, plan and coordinate teaching and learning activities that can lead to quality reading, planning, budgeting the NILAM Program together with the Program Coordinator, monitor the implementation of the NILAM Program, review and validate student reading and activity records.

Then, class teacher provide reading corners in their respective classes. This is to make sure every student has a book to read and to encourage students to actively participate in the NILAM Program activities. The class teacher also review and validate student reading and activity records, record the number of books read in the NILAM data form. Further, assist in the implementation of the NILAM Program as planned, submit the NILAM data to the NILAM Data Teacher at the end of each month, identify and list students who deserve recognition.

Next, the Library Teachers grade books, provide sufficient reading material to carry out the NILAM Program, distribute loan booklets in groups (Bulk Projects), assist the secretary in organising activities to support the NILAM Program, review and validate student reading and activity records.

The Subject teachers encourage students to participate in the NILAM program and implement reading activities across the curriculum, support and encourage students to implement learning activities based on student reading materials, review and validate student reading and activity records.

the PIBG representatives become Next, intermediaries to communicate NILAM program information to parents. Finally, PIBG is an agent for other institutions' involvement in the program's success in advisory services, book donations and finance. The role of parents is not only to provide basic needs for their children but also to play an essential role in the program's success. The goals of the program are easier to achieve if they: encourage children to read at home with guidance from parents, provide reading materials at home (where possible), loan reading materials from other sources (Public Library, Rural Library, Mobile Library and more), ensure children have the resources to read, use knowledge of the material and make notes, verify and sign children's reading records (If specified by the school).

Consequently, the School library prefect is making this NILAM program a success. They can help the library teachers and be the driving force behind this program. Their tasks are as follows: helps students borrow books in PSS, create an exhibition of books for sale, assist PSS teachers in providing bulk loans, helps PSS teachers analyse student reading data and display student reading graphs. Next, this program requires the active involvement of students directly. They are the target group that will determine the success of the NILAM program or vice versa.

The role of the students is as follows: read as much reading material as possible, make sure they read the materials at a predetermined level, apply the knowledge and skills gained from such readings in post-reading enrichment activities, record reading material and activities performed after reading.

There are several post-reading activities to be implemented after reading. Implementation and evaluation of these activities require all teachers and parents outside of school. Examples of post-reading enrichment activities are storytelling, reading together, reviewing books, book talks or book discussions, delivering speeches, participating in forums, sketches, book reviews, poetry declarations, creating song lyrics, organise school radio, demonstrations, drawings or prepare posters, write or produce books and more.

To elaborate further, one of the post-reading activities is storytelling, telling a friend/listener about the contents of a book. It can be formally or informally implemented in schools, homes, parks, campsites, etc. Listeners can anyone, including students, teachers, families, neighbours and others. Record this activities details in the NILAM Reading Record Book and get confirmation from the teacher, parent or community.

Next, post-reading activity is reading together. This can be done formally or informally in class, cafeteria, home, park and more. Time is unspecified or unlimited for this post-reading activity. Members can

be anyone and the activity should be recorded in NILAM Reading Record Book. Teachers, classroom teachers and parents can certify what is happening.

Following that, book reviews or delivering reviews of books read publicly can be done as post-reading activities. This can be done in classes, gatherings, or groups. Among the content of the book reviews are titles, authors, publishers, synopsis, themes and the application of pure values. At the end of the session, reviewers will encourage students to read the book. Activities are conducted formally or informally. Verification is given to students who perform the activity. Post-reading activities are recorded in NILAM's Reading Record Book. Any teacher can confirm the activity in progress.

Then, book talk or book discussion is to discuss books students have read based on at least one of the following aspects: general criticism of the book, talking about the author, giving views and suggestions, advantages and privileges of the book and disadvantages of physical quality of books, use of language. Finally, the teacher or teacher's guide can validate activities carried out.

Next, deliver speeches post-reading activity on a topic based on readings and references from several books can be done by students. It can be formally held in classes at gatherings, contests, etc. Listeners can be of anyone. Confirmation can be given to the student performing the activity. Activities recorded in the NILAM's Reading Record Book. Get approval and evaluation from the mentor teacher.

After that, a forum is an open discussion at the school level or higher can be also a post-reading activity. It is conducted formally. The panel comprises a group of students or a panel appointed—at least two panels. Verification can be given to the student involved. Listeners can be anyone. Activities recorded in NILAM's Reading Record Book. Students to get teacher approval and evaluation.

Next, post-reading activities can be sketches done by a group of students. This can be done by recreating the characters based on: the same validation will be given to each member involved for group activities. Activities can be carried out in classrooms, assembly halls and more.

After that, Poem Declaration occurs in a classroom, assembly hall, or higher level for post-reading activities. This can be done formally or informally. Pupils present the declaration of the poem in front of the audience. Listeners can be anyone, including students, teachers, and schoolchildren. Activities recorded in NILAM's Reading Record Book. Obtain approval from a teacher or mentor teacher.

Next, pupils present poetry before the audience. Listeners can be anyone, including students, teachers, and schoolchildren. Activities recorded in NILAM's Reading Record Book. Obtain approval from a teacher or mentor teacher.

Thereafter, Creating Lyrics and Songs Lyrics is also post-reading activity. Create song lyrics based on books read and can be performed in class, assembly hall, or higher. The lyrics and songs created are short and accessible songs. It can be done formally or informally. Pupils present the songs in front of listeners. Listeners can be anyone, including students, teachers, and schoolchildren. Activities recorded in NILAM's Reading Record Book. Obtain approval from a teacher or mentor teacher.

The School Radio is conducted in a particular room, audio room, school studio, or place provided. School Radio is a program that honours students' talents as radio presenters. Presentation materials can consist of the promotion of materials in resource centres or school programs. This can be done formally / informally. Pupils deliver School Radio in front of On-Air Radio School listeners. Listeners can be anyone, including students, teachers, and schoolchildren. Activities recorded in NILAM's Reading Record Book. Get approval and evaluation from teachers or mentor teachers.

After-reading enrichment activities carried out by students within the school environment or under school-based activities but conducted outside of the school may be evaluated and verified by all subject teachers in the school. While off-school activities, assessment and verification can be done by confirming Certificate of Participation / Certificate of Approval / Letter of Participation or related documents. Organiser, Program council chairman, Club / Association President, Village head, Chairman of PIBG, Mother / Father / Guardian can verify all activities as listed.

In order to solve the research question, the Malaysian Educational Blueprint 2018 report, a document regulation 'Perekodan Nilam 2020', a guideline to implement NILAM at school by MOE, the English language management guide book, online newspapers articles and relevant publications were detailed. Results were measured using content analysis with several questions considered various factors: language education in Malaysia, Dual Language Program in language education implementation, and role of school-based assessment in language education implementation, and concept and context of improved NILAM was analysed.

5. CONCLUSION

In the above analysis the study investigated the concept and context of a Reading program (NILAM program) to enhance the DLP primary school students

reading performance. For the study, a document analysis was administered to profile the context and purpose of the NILAM reading program to enhance the students reading performance.

In conclusion the concept of NILAM can be achieved by implementing the context of Improved NILAM Reading Program with the listed post-reading activities. Further, the context of NILAM showed that the Dual Language Program is presented in MBMMBI. Thus, Dual Language Program used KSSR Syllabus and School Based Assessment to evaluate students. NILAM is assessed in SBA for and given scores for extra-curriculum activities. Therefore, the concept and context of the NILAM Reading program are presented well in the DLP to enhance the students reading performance. The stakeholders should be guided with the context of the Improved NILAM to enhance the reading performance of the DLP student.

REFERENCES

- Isa, Z., Zakaria, A. M., Azlan, M. I., Noorani, M. S. M., Majid, N., Ismail, H., ... & Ahmad, A. G. (2011). Students' perceptions of the implementation of teaching and learning of Science and Mathematics in English. *Procedia-Social and Behavioral Sciences*, 18, 361-366.
- Ahmad, Z. K. (2016). Assessing Urban and Rural Teachers Competencies in STEM Integrated Education in Malaysia. MATEC Web of Conferences ENCON. Vol. 87(04004), 15.
- Ashairi, S. (2014). The Interference of Mother Tongue/Native Language in One's English Language Speech Production. *International Journal of English and Education*, 3(3), 356-366.
- Astro, A. (2017). 30 March. More than 100 000 students Involved in Dual-Language Programme. http://english
- Bahagian, P. K. (2016). Panduan Pelaksanaan STEM dalam Pengajaran & Pembelajaran.Putrajaya.
- Borneo Post. (2016). 3 April. Why The Hostility to Dual Language Programme? https://www.pressreader.com/malaysia/the-borneopostsabah/20160403/281822872941894
- Bowen, G. A. (2009). Document analysis as a qualitative research method. *Qualitative Research Journal*, 9(2), 27-40. doi:10.3316/QRJ0902027
- Brown, B. A. (2006). "It isn't slang that can be said about this stuff": Language, identity, and appropriating science discourse. *Journal of Research in Science Teaching*, 43, 96–126.
- Brown, B. A., & Ryoo, K. (2008). Teaching science as a language: A "content-first" approach to science teaching. *Journal of Research in Science Teaching*, 45, 529–553
- Burns, T., & Schuller, T. (2007). The evidence agenda. In evidence in education: Linking research and policy (pp. 15–32). Paris: OECD Publishing.

- https://doi.org/https://doi.org/10.1787/9789264033672-2-en.
- English language management guide book https://www.moe.gov.my/menumedia/mediacetak/penerbitan/buku-panduan/3888-bukupanduan-bahasa-inggeris/file
- Nor, F. M., Aziz, M. A., & Jusoff, K. (2011). Should English for teaching mathematics and science (ETeMS) in Malaysia be abolished. *World applied sciences journal*, *12*(Special Issue on Creating a Knowledge Based society), 36-40.
- Foong, C. K. (2004). English for the teaching of Science and Mathematics (ETeMS): From concept to implementation. http://www.eltcm.org/eltc/download/paperbank PDFs/English for the Teaching of Science and Mathematics paper.pdf [20 November 2010].
- Fox, D. (1983). Personal Theories of Teaching. *Studies in Higher Education*, 8(2), 151-164.
- Hashim, A. (2009). Not plain sailing: Malaysia's language choice in policy and education. Multilingual, Globalizing Asia: Implications for Policy and Education, 22(November), 36–51. https://doi.org/10.1075/aila.22.04has
- Hazita, A. (2016). Implementation and challenges of English Language Education Reform in Malaysian Primary Schools. 3L: *The Southeast Asian Journal of English Language Studies*. 22(3), 65-78.
- Jenkins, J., Cogo, A., & Dewey, M. (2011). Review of developments in research into English as a lingua franca. *Language Teaching*, 44(3), 281–315. https://doi.org/10.1017/S0261444811000115
- Kelly, G. (2007). Discourse in science classrooms.
 In S. K. Abell & N. G. Lederman (Eds.), Handbook of research on science education (pp. 443–469).
 Mahwah, NJ: Lawrence Erlbaum
- Kementerian Pelajaran Malaysia. (2010). http://www.moe.gov.my/?id=169&lang=my
- Kementerian Pelajaran Malaysia. (2012). To uphold Bahasa Malaysia & to strengthen the English language (MBMMBI). Putrajaya, Malaysia: Kementerian Pelajaran Malaysia. Retrieved from: http://www.moe.gov.my/jpnpahang/v4/index.php/en/corporate-info/dasarpendidikan/mbmmbi.html
- Kementerian Pendidikan Malaysia. Pelaksanaan pengajaran dan pembelajaran Sains dan Matematik dalam Bahasa Inggeris di Sekolah Kebangsaan (SK), Sekolah Jenis Kebangsaan Tamil (SJKT), Sekolah Menengah (SM) dan Tingkatan Enam mulai tahun 2003 (2002). Putrajaya. Retrieved from
 - http://www.moe.gov.my/upload/galeri_awam/pekeliling/2008_BTMK_123_7573_9713.pdf
- Kementerian Pendidikan Malaysia. (2009, July 8).
 Memartabatkan Bahasa Melayu, Memantapkan Bahasa Inggeris. Kementerian Pendidikan Malaysia.
 Retrieved from

- http://www.moe.gov.my/v/mbmmbiview?id=566& Kementerian Pendidikan Malaysia. (2013). Malaysia education blueprint 2013 2025. Putrajaya: Kementerian Pendidikan Malaysia. Retrieved from http://www.moe.gov.my/cms/upload_files/articlefil e/2013/articlefile_file_003108.pdf
- Kementerian Pendidikan Malaysia. Circular 18 year 2015 Ministry of Education Malaysia (2015). Malaysia: Ministry of Education Malaysia. Retrieved from http://www.moe.gov.my/cms/upload_files/circularfile/2015/circularfile file 001343.pdf
- Noori, M. A., Shamary, I. A., & Yuen, C. K. (2015). A review on the inconsistent English language policy in teaching and learning at secondary school level in the Malaysian education system. *International Journal of Education and Research*, 3(12), 245-260.
- Kirkpatrick, A. (2010). Pedagogical implications: The multilingual model and the lingua franca approach. *In English as a lingua franca in ASEAN (pp. 169–189)*. Hong Kong: Hong Kong University Press. Retrieved from http://www.jstor.org/stable/j.ctt1xcs49.14
- Ku, H., & Zussman, A. (2010). Lingua franca: *The role of English in international trade. Journal of Economic Behavior and Organization*, 75(2), 250–260. https://doi.org/10.1016/j.jebo.2010.03.013
- Kuiper, A. (2007). English as the language of international business communication. *Business Communication Quarterly*, 70(2000), 59–63. https://doi.org/10.1177/108056990707000110
- Lemke, J. L. (1990). Talking science: Language, learning and values. Norwood, NJ: Ablex. Lindholm-Leary, K. (2012). Success and Challenges in Dual Language Education. Theory Into Practice, 51(4), 256-262.
- Lindholm-Leary, K., & Howard, E. (2008). Language and academic achievement in two-way-immersion programs. In T. Fortune & D. Tedick (Eds.). Path-ways to bilingualism: Evolving Perspectives on Immersion Education. England: Multilingual Matters.
- Lingard, B. (2013). The impact of research on education policy in an era of evidencebased policy. *Critical Studies in Education*, *54*(2), *113–131*. https://doi.org/10.1080/17508487.2013.781515
- Blueprint, M. (2013). Malaysia Education Blueprint 2013 - 2025. Education, 27(1), 1–268. https://doi.org/10.1016/j.tate.2010.08.007
- Malaysia Educational Planning and Research Division. (2008). Education in Malaysia. A journey to excellence. Ministry of Education Malaysia. Putrajaya: Ministry of Education. Retrieved from Lib scanned
- Malaysia Educational Planning and Research Division. (2014). Education in Malaysia: A journey

- to excellence. Putrajaya: Kementerian Pendidikan Malaysia.
- Martin, J. R. (2004). Positive discourse analysis: Solidarity and change. *Revista Canaria De Estudios Ingleses*, 49, 179–200.
- Ministry of Education. (2013). Malaysia Education Blueprint 2013 2025. Putrajaya Ministry of Education Malaysia. (2015). English language education reform in Malaysia: The Roadmap 2015-2025. Putrajaya: Ministry of Education Malaysia Malay Mail. (2016). 29 December. Ramasamy tells Education Ministry to abolish Dual Language Programme. http://www.themalaymailonline.com/malaysia/artic le/ramasamy-tells-education-ministry-to-abolish-dual-language-programme#tIbVYFo0G0VwFAOY.97
- Yunus, M. M., & Sukri, S. I. A. (2017). The Use of English in Teaching Mathematics and Science: The PPSMI Policy vis-à-vis the DLP. *Advances in Language and Literary Studies*, 8(1), 133-142.
- Nor, M. Y. M. (2014). Potentials of Contextual Value-Added Measures in Assisting Schools Become More Effective. *International Education* Studies, 7(13), 75-91.
- Yahaya, M. F. B., Noor, M. A. B. M., Mokhtar, A. A. B., Rawian, R. B. M., Othman, M. B., & Jusoff, K. (2009). Teaching of Mathematics and Science in English: The Teachers' Voices. *English Language Teaching*, 2(2), 141-147.
- National Education Blueprint 2013 2025: Preschool to Post-Secondary Education. (2013). Putrajaya: Ministry of Education Malaysia.
- O'Leary, Z. (2014). *The essential guide to doing* your research project (2nd ed.). Thousand Oaks, CA: SAGE Publications, Inc.
- Ong, S. L., & Tan, M. (2008). Science and Mathematics in English: Teachers experience inside the classroom. *Jurnal Pendidik dan Pendidikan*, 23, 141-150.
- Pillay, H. (2003). Winds of change: Teaching Science and Mathematics in English – A perspective from the school. IPBA e-Journal, 1-5.
- Ramsden, P. (1993). Effective Teaching in Higher Education. In Bain. J. et al. (Eds.) *Promoting Teaching in Higher Education*. Brisbane, Australia: Griffith University.
- Setati, M., & Adler, J. (2000). Between Languages and Discourses: Language Practices in Primary Multilingual Mathematics Classrooms in South Africa. *Educational Studies in Mathematics*, 43(3), 243-269.
- Shaharir, M. Z. (2009). Penilaian PPSMI yang biasa-biasa dan yang sebaliknya. (Makalah Undangan) di Pertemuan Tahunan ISM "Pengukuhan Aplikasi Statistik di Masa Depan", Hotel Singgahsana, P.J., 1- 15. http://www.instatmy.com/ [3 Mac 2010].

- Steele, J. L., Slater, R. O., Zamarro, G., Miller, T., Li, J., Burkhauser, S., & Bacon, M. (2017). Effects of Dual-Language Immersion Programs on Student Achievement: Evidence from Lottery Data. *American Educational Research Journal*, 54(1), 282-306.
- Ming, T. S., Ling, T. S., & Jaafar, N. M. (2011).
 Attitudes and motivation of Malaysian secondary students towards learning English as a second language: A case study. 3L: Language, Linguistics, Literature®, 17(1), 40-54.
- Tran, N. A., Behseta, S., Ellis, M., Martinez-Cruz, A., & Contreras, J. (2015). The Effects of Spanish English Dual Language Immersion on Student Achievement in Science and Mathematics. E-Journal of Education Policy. 2015 Special Issue.
- Yahaya, M. F., Mohd Noor, M. A., Mohdtar, A. A., Mohd Rawian, R., Othman, M., & Jusoff, K. (2009). Teaching of Science and Mathematics in English: The teachers' voices. *English Language Teaching*, 2(2), 141-147.

- Yamamoto, B. A., Saito, T., Shibuya, M., Ishikura, Y., Gyenes, A., Kim, V., Mawer, K., & Kitano, C. (2016, June 16). Final Report on Implementation and Impact of the Dual Language IB DP Programme in Japanese Secondary Schools.
- Yunus, M. M., & Shukri, S. I. A. (2017). The Use of English in Teaching Mathematics and Science: The PPSMI Policy vis-a-vis The DLP. Advances in Language and Literary Studies, 8(1). https://journals.aiac.org.au/index.php/alls/article/view/3081
- Isa, Z., Zakaria, A. M., Azlan, M. I., Noorani, M. S. M., Majid, N., Ismail, H., ... & Ahmad, A. G. (2011). Students' perceptions of the implementation of teaching and learning of Science and Mathematics in English. *Procedia-Social and Behavioral Sciences*, 18, 361-366.
- Zuraini, R. (2014). Teaching and Learning Mathematics and Science in a Second or Third Language. *Doctorate Dissertation*. Deakin University.