

IEBMC 2019**9th International Economics and Business Management Conference****DUAL-LANGUAGE PROGRAM (DLP) OF SECONDARY SCHOOL
STUDENT: INCORPORATING A COMMUNITY-BASED
PROGRAM**

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Abstract

Dual-Language Program (DLP) has been introduced since 2016 under the 'Upholding the Malay Language and Strengthening the English Language' (MBMMBI) policy. The inquisitiveness to understand how far DLP has impacted learners has motivated this study to be conducted. This study attempts to explore DLP learners' perception on learning DLP. Furthermore, a learning program was planned for the learners using newly-developed modules based on DLP syllabus. This community-based program was designed to support the learning circumstances needed to bring about active participation and contextualized practice of language which emphasizes the process rather than merely the product of learning. Therefore, this study investigated the learners' responses on the program simultaneously. The study investigates the perception of 105 DLP learners of secondary schools across Pahang state on the DLP execution. Moreover, this study also describes how the program was planned to achieve the objectives of the study. The findings from this study were intended to inform practice in improving the quality of DLP teaching and learning.

2357-1330 © 2020 Published by European Publisher.

Keywords: English, dual-language, community-based.

1. Introduction

As articulated in the National Education Philosophy (NEP)¹, education in Malaysia is an on-going effort towards mounting the potential of individuals in a holistic and integrated manner; to produce individuals who are intellectually, spiritually, physically and emotionally balanced based on a firm belief in and devotion to God. The primary and secondary schools' curriculum standard is developed with the aim of producing such individuals.

Likewise, in moving headed for becoming a developed nation, Malaysia should foster a community that is progressive, inventive, scientific and visionary. This community must be able to contribute to the advancement of science and the sustainability of technological civilization. To achieve this, we need to develop critical and competent citizens who practice the culture of Science, Technology, Engineering and Mathematics (STEM). The teaching and learning Mathematics and Science has long been discussed in the Malaysian Education System. Some parties have reinforced that the teaching and learning of these subjects should be conducted using the national language (Bahasa Melayu) while some have commended that English language should be made the means of instruction for the subjects.

2. Problem Statement

After the abolishment of English for the Teaching of Mathematics and Science policy (PPSMI/ETeMS), the Ministry of Education has introduced the Dual-Language Program (DLP) in secondary schools. The DLP, which firstly implemented in 2017, is a positive move put forward by the government aimed at valorising the standard of English among the students via the learning of Mathematics and Science.

However, based on preliminary interview during need analysis with the DLP teachers from selected schools prior to the actual study, many students in DLP are not adequately proficient in English particularly in spoken form. Although the DLP students are filtered (based on their Ujian Penilaian Sekolah Rendah (UPSR) results for English, Science and Mathematics subjects) upon their enrolment, most students were still found to have lack of confidence level to speak in English and some were reluctant to speak. As such, this study was designed to cater for the needs of the learners. This study serves two purposes. Firstly, this research attempts to examine various aspects of challenges in the learning of DLP. Furthermore, the current study intends to offer useful strategies and planning in developing a module for DLP that could assist instructors in generating new and effective teaching materials. Finally, as a whole, this study offers an explicit goal in which to contribute to the community in terms of supporting the implementation of DLP in secondary schools

3. Literature Review

The teaching and learning of Science and Mathematics in English has gained wide interest among practitioners and researchers including in Malaysia. For instance, in a study conducted in one of the public university in Malaysia, Yunus and Sukri (2017) investigated fifty pre-service teachers' perceptions on the

¹ Education Act (1996).

use of English in the teaching of Mathematics and Science. The quantitative findings demonstrated that the participants had uncomplimentary perceptions of the policy. According to the study, the result could be due to the Malaysian conflict to change which is related to their preference to use Malay language than English language in their daily communication. On the other hand, Nasri et al. (2018) conducted a qualitative study among science teachers to explore their views on DLP and experience in teaching DLP. The study discussed three aspects that were highlighted during interview sessions with the teachers. Firstly, the role of educator not only as a teacher but also as a co-learner. Secondly, the implementation of DLP could have added extra workload to teachers to fulfil the demand of the new roles and responsibilities. Finally, the success of DLP relies on the support not only from school but also parents. The study has provided insights into how teachers perceived DLP and what are the experience they gained from the teaching of DLP.

In highlighting teachers readiness in implementing DLP, a survey was conducted by Shamsudin et al. (2018) in exploring Science teachers' perception on their readiness. The analysis conducted showed that teachers' readiness in terms of skills (i.e., knowledge of the language and the content) and interest on DLP implementation was average while teachers' readiness in terms of knowledge on DLP implementation was high. Furthermore, correlational analysis has found no significant relationship between teacher readiness and experience of teaching.

The implementation of DLP has not only been investigated among teachers, nonetheless, several studies were conducted to explore learners' views on DLP. In a recent study, Ramasamy and Puteh (2018) examined the effectiveness of using Bar Model Method in solving Mathematics question among year 6 DLP pupils. The findings from the pre and post tests indicated that the method used was effective in assisting participants to answer the questions. Furthermore, the participants were found to be more active and devoted more attention in solving the mathematical questions.

Similarly, a recent large-scale study was conducted by Suliman et al. (2019) to investigate the implementation issues of DLP among learners. There were 1530 students from Malaysian secondary schools participated in the study. The results demonstrated that students have positive perception in terms of their language abilities, attitudes, teacher support and reception of the program. In addition, the major challenges in DLP perceived by students were to understand the content and mastery of the language. This study has provided greater dimension in considering how DLP could be sustained in Malaysia education system.

Prior research has also determined learners' traits in learning DLP. For example, Suliman et al. (2017) examined learners' readiness and confidence level among 145 DLP secondary school students. The results showed that the DLP learners' readiness was moderate while only three items (related to teaching skills) for confidence level demonstrated high mean score. They recommended teachers to be more concern as they are a vital factor that could influence learners' confidence level. On the other hand, Suliman et al. (2018) elucidated that DLP learners have high enthusiasm towards their learning which is due to learners' awareness of the importance of learning the subjects in English language.

4. Purpose of the Study

This study serves two drives. Firstly, this research attempts to scrutinize various facets of challenges in the learning of DLP. Additionally, the current study intends to offer valuable strategies and planning in

developing a module for DLP that could support instructors in generating new and effective teaching materials. Finally, as a whole, this study offers an explicit goal in which to contribute to the community in terms of supporting the implementation of DLP in secondary schools.

5. Research Methods

5.1. The Research

The main aim of the study is to explore DLP learner's perception in learning DLP and to discover how the program could benefit them. The program was organized in one of the Government-Linked Universities (GLU) in Malaysia. The participants were one hundred and five secondary school students across Pahang state. This community-based program allows participants to learn Science in English using newly-developed modules. After the lessons ended, the participants were asked to answer a set of questionnaire to investigate their perception.

5.2. Teaching and Learning Principles

In education, there are various approaches to teaching and learning such as cooperative learning, problem-based learning, project-based learning, creative thinking, blended learning and so forth. In addition, there are also different approaches in the teaching of English language for example General English (GE), Grammar Translation Method (GTM), Total Physical Response (TPR), Communicative approach, English for Academic Purposes (EAP), English for Occupational Purposes (EOP), English for Communication (EC) and English for Specific Purposes (ESP). Among the listed approaches, it is needed to use an approach that is relevant in the context of DLP to suit this study. For this reason, the ESP approach was adapted as it is considered as specialized English.

ESP is focused-English learning and teaching situation in which teaching methods and learning environment are different from other approaches. ESP centres more on language in context than on teaching grammar and language structures (Rahman, 2015). The ESP fundamental point is that English is not taught as a subject detached from the learners' real world; as a substitute, it is incorporated into a subject matter area. According to Hutchinson and Waters (1987), the foundation of ESP involves the learners, the language required and the learning contexts which are based on the supremacy of need in ESP. A need analysis (NA) is the key essence in ESP. As such, the current study has identified the needs of the DLP teachers by conducting a need analysis before the program is conducted. A need analysis determines which language skills are most needed by the learners, and the syllabus is designed accordingly. Based on the input gained during the preliminary study, the program for the DLP students was designed following the teaching pedagogy in ESP by focusing on the speaking skills.

5.3. Designing the Program

In designing a community-based research, identifying a solid methodology is very important. Hence, this research follows the recommended working model for community based research proposed by Badiee et al. (2012). This model consists of five stages is described in Table 1.

Table 01. A Working Model for Community-based Research

<i>Stages</i>	<i>Description</i>	<i>*The current study</i>
Connecting	Getting to know the community	Stage 1: Preliminary study
Diagnosing	-Exploring the community's concerns to understand their key problems -Identifying opportunities for change	Stage 1: Need analysis
Prescribing and Implementing	-The research planning that is required before conducting the study and finalizing the study design -The research itself becomes the project	Stage 2 and Stage 3
Evaluating	Assessing the intervention's impact on the society	Stage 3 and Stage 4
Disseminating	Assessing the influence of the study on the community members	Stage 3 and Stage 4

Based on the working model presented in Table 01, this study has endured four stages.

5.3.1. Stage 1: Preliminary study (Need Analysis)

A semi-structured interview session was conducted 6 months before the actual study was conducted, by meeting the DLP teachers in selected schools in Pahang. Fifteen teachers (English, Mathematics and Science subjects) who are currently teaching the Form 1 and Form 2 DLP students were interviewed informally by three researchers. The sessions were held between two to three hours at the schools. The purpose of the meeting is: (i) to gain insights on the challenges faced by the teachers in teaching the DLP students and (ii) to recognize the target situations and learning environment so that strategies could be planned to cater the needs of the students and teachers. Furthermore, the preliminary study was also aimed to get initial information on the participants and the environment so that certain needs can be catered upon designing the program.

5.3.2. Stage 2: Program planning

A project could be seen as an attempt to solve issues or accomplish task. Hence, careful planning in designing the program is utmost important. The program was designed by three English language lecturers from three different institutions with expertise in the field of ESP, TESL and pedagogy in which is vital in planning program. Moreover, an external advisor had been informally approached to assist in planning the program and study. This program aims to: i) raise the proficiency level of the students, ii) increase the confidence of the students in English, and iii) motivate the students to continuously improve their language proficiency. This program planning stage requires 2 phases to be accomplished.

Phase 1: Development of module

As described earlier, the module was designed using ESP approach. The initial step in designing the module was to determine the skills that are to be emphasized during the program. Based on the input from DLP teachers, oral skill is the most lacking among the students, followed by writing. Considering the four language components that are taught in Malaysia English language syllabus, it is decided that all of the four

components² are covered in the module by focusing more on speaking and written skills. Another insight from the preliminary study was also regarding the subjects. In secondary schools, DLP students learn two subjects in English language: Mathematics and Science. This information has assisted us to make decision on the second issue which is the theme of the module. Since the participants were students in Form 1, Form 2 and Form 3, the themes chosen must be based on the Science syllabus as depicted in the Kurikulum Standard Sekolah Menengah (KSSM) DLP textbooks. Four topics were chosen after careful consideration regarding the appeal of the topics which are: i) Exploration of Earth, ii) Nutrition, iii) Exploration of Elements in Nature- Matter, and iv) Exploration of Earth and Space- Stars and Galaxies in the Universe. The topics were divided into two modules which consist of two topics each as shown in Table 02.

Table 02. Division of topics

Module	Topic	Syllabus
Module 1	Exploration of Earth Nutrition	Form 1 Form 2
Module 2	Exploration of Elements in Nature- Matter Exploration of Earth and Space- Stars and Galaxies in the Universe	Form 1 Form 2

The next step was to develop the modules according to the topics and students' level. The time allotted for each topic is 2 hours whereby each lessons started with set induction followed by content development and closure. Moreover, each lesson plan includes vocabulary practice, listening to a song or news items, watching short video, reading comprehension and other activities to practice oral and written skills. These modules took 3 months to be completed before they were implemented during the program.

Phase 2: Establishment of the committee

A committee was set-up for the program which is named "Let's Do, Learn and Practice! 2019" consisting 20 committee members and 30 facilitators. The committee members were the staff in the institutions while the facilitators were undergraduate students in the same institution. The facilitators were selected after they attended informal interview sessions to ensure that the facilitators are competent to participate in the program. Several criteria were observed during the interview sessions including ability to communicate in English, attitudes and behaviors. The facilitators were divided into 3 groups according to the tasks assigned to them so that they can specialize in performing duties. Group 1 was responsible for helping the committee members to set-up and ensure the program runs smoothly while Group 2 was assigned to facilitate the participants throughout the program. Meanwhile, Group 3 task was to assist the instructor in teaching the modules. The committee was established 6 weeks prior to the program to ensure the time is adequate.

² Listening, speaking, reading and writing

5.3.3. Stage 3: Program implementation

The program involved Form 1, Form 2 and Form 3 students who are currently enrolling in DLP at secondary cluster schools in Pahang. The project employed a purposive sampling strategy in that it entailed the selection of participants at the right place at the right time (Acharya, Prakash, Saxena & Nigam, 2013). The program was conducted for two days during weekend. This program is a community-based program because it was fully-funded by Yayasan Canselor UNITEN (YCU).

5.3.4. Stage 4: Dissemination

A post-mortem meeting was held to identify strengths and issues arise from the program based on the feedback given during the program for future improvement.

The summary of the stages in designing the program is shown in Figure 01.

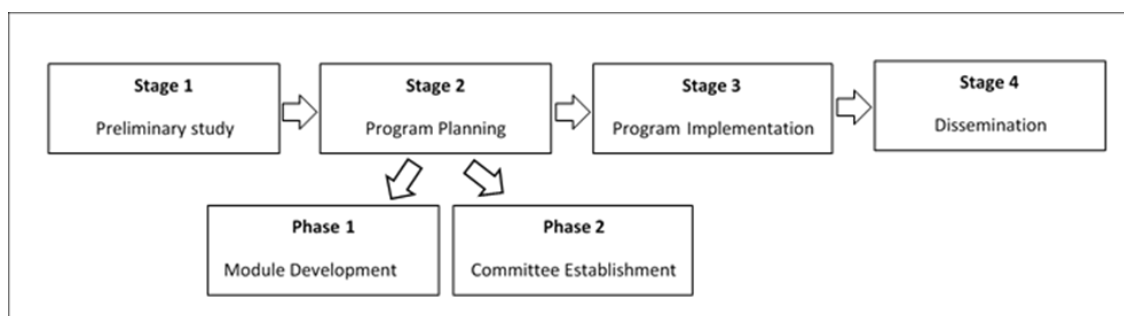


Figure 01. Designing Program Stages

5.4. Participants Background

A hundred and five (105) students made up of forty-six (46) male and fifty-nine (59) female students whose ages ranged between thirteen to fifteen years took part in the program as shown in Table 03. All students are studying in secondary schools under Cluster Schools Category in the state of Pahang. Majority of the students are in Form 3 (50.5%) followed by Form 2 (25.7%) and Form 1 (23.8%). Meanwhile, Table 04 shows the results of Ujian Penilaian Sekolah Rendah (UPSR) for all participants. The results showed that majority of the students gained A in Bahasa Melayu (Comprehension) (75.2%), Bahasa Melayu (Writing) (65.7) and Mathematics (53.3%). On the other hand, for English (Comprehension), English (Writing) and Science subjects, the majority of students scored B with 49.5%, 42.9% and 64.8% respectively. Furthermore, the D grade was observed in two subjects namely English (Writing) (3.8%) and Mathematics (2.9%).

Table 03. Demographic Information

Variable	Category	Number of Students	Percentage (%)
Gender	Male	46	43.8
	Female	59	56.2
Form	1	25	23.8
	2	27	25.7
	3	53	50.5

Table 04. Ujian Penilaian Sekolah Rendah (UPSR) Results

Number of Students				
Paper	A	B	C	D
Bahasa Melayu (Comprehension)	79 (75.2)	24 (22.9)	2 (1.9)	0
Bahasa Melayu (Writing)	69 (65.7)	29 (27.6)	7 (6.7)	0
English (Comprehension)	43 (41)	52 (49.5)	10 (9.5)	0
English (Writing)	29 (27.6)	45 (42.9)	27 (25.7)	4 (3.8)
Mathematics	56 (53.3)	36 (34.3)	10 (9.5)	3 (2.9)
Science	28 (26.7)	68 (64.8)	9 (8.6)	0

6. Findings

Analysis of the data from the survey demonstrated that there were some issues mentioned by the participants (P) in relation to DLP.

Below are the participants' responses³:

6.1. The participants revealed that they like doing experiment and outdoor activities in learning DLP:

The best part in learning DLP is when my teacher asks us to do experiment. (P5)

I like doing experiment in my Science subject because it is fun. (P18)

Doing experiment makes me feel happy and like to learn (P25)

6.2. The participants mentioned that learning DLP helps them to improve their mastery of English language:

I can improve my English when I learn DLP because it is in English. (P11)

Learning Science and Mathematics in English helps me to be more confident to speak in English. (P78)

After learning in DLP, I feel not afraid anymore when I have to speak English. (P65)

6.3. The participants claimed that learning Science in English is more challenging compared to Mathematics:

Learning Science is not easy because there are so many new words that I have to remember. (P78)

There are so many words I must memorize in Science and it is difficult for me. (P43)

Learning Science is more challenging because I have to remember scientific words, facts and understand them. (P32)

³ Some of the responses were translated into English language

6.4. The participants elucidated that remembering terminologies was difficult for them:

During examination, it is difficult to answer questions because I have to remember the terms which are a lot. (P97)

Sometimes I get confused because the terms are difficult to memorize. (P2)

Memorizing the Science terminologies was not easy but forgetting them was very easy. (P47)

In terms of the feedback of the program conducted, some participants conveyed their suggestions for improvement of the program.

The following are the participants' responses:

1. The participants agreed that the program was beneficial to them:

Everything in the module is perfect and I learn in a fun way. (P15)

The module is good... I can understand the topics easily. I want to learn more. (P24)

Suddenly I feel I like to learn Science subject. It makes me feel that learning Science is not so hard. (P83)

2. The participants admitted that they would join the similar program conducted by the institution in the future:

Conduct more programs like this because I want to join. (P60)

Please invite our schools if you are organizing program like this again in the future. (P21)

I want to join the program again because I enjoy learning in this program. (P81)

3. The participants made several suggestions to the module:

Use more pictures in the module. (P29)

Add more colors so that it is more interesting to learn. (P61)

Put the glossary of the meaning so it is easier for me to check the meaning. (P46)

Please add notes in the module so we can read the notes when we forgot. (P64)

Referring to the data obtained from the questionnaire, it can be summarized that the program conducted among the DLP learners has motivated the learners to learn the topics and made learners to feel happy in learning. Moreover, majority of the participants claimed that they faced difficulties in learning Science subject compared to Mathematics.

Although participants found that the program beneficial to them, they also proposed several ways to improve the quality of the module. In relation to the content, there were suggestions to add more notes and definition of the words in the module. Furthermore, there were also participants who recommended more pictures and colors to be added in the module. This is needed because there are different learning styles among the participants. Some might be auditory, kinesthetic or even visual learners.

7. Implications

This study attempts to provide insights in understanding students' views in learning DLP and gain feedback from them regarding the modules used in the program. The modules used in the program is

specifically designed to promote greater use of English language in spoken and written forms. These modules could also provide numerous benefits which not limited to resource options and broader opportunities for learning. In the same vein, conducting this program and research simultaneously could bring future returns such as providing input and idea for future innovative teaching approach and pedagogy within the context of teaching and learning DLP. Moreover, the input from this study could be the expedient for institutions in relation to DLP execution as it is still at scarce. Consequently, accessing information from this study can help DLP learners to lessen divergence between performance and learning outcome and in the long run, is likely to enhance the learning process and improve its outcome.

8. Conclusion

The execution of DLP in Malaysia is still at infant stage. The community-based program conducted somehow has able to capture learners' opinions in learning DLP. Learners also voiced out their feedback on the modules and this offers greater room for improvement in the future. To ensure the sustainability of DLP in the future, more research should be done to explore the consistency of the findings. Accordingly, it might also be significant to identify and compare opinions from different perspectives not only among learners but also including teachers and parents.

Acknowledgments

Authors express gratitude to the sponsor, committee members, facilitators, teachers and students who were involved in this program. This program and research received full fund from Yayasan Canselor UNITEN (YCU) (award No.: 201801001YCU/24).

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