DUAL-LANGUAGE PROGRAMME (DLP) STUDENTS' LEVEL OF ENTHUSIASM AND CONFIDENCE: A PRELIMINARY STUDY

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INTRODUCTION

The Dual Language Programme (DLP) is one of the initiatives under the 'To Uphold Bahasa Malaysia To Strengthen Bahasa Inggeris' policy. The programme was approved on the 13th October 2015 during the National Economic Council Meeting 21/2015. Approximately ten days later, the proposal was announced by the Prime Minister in the 2016 Budget Presentation. The programme is launched with three main objectives;

i. Enabling students to have the access and exploration of knowledge in order to compete globally and to increase the marketability of the students in the working field
ii. Assisting and capturing students' enthusiasm of STEM education at tertiary level
iii. Increasing students' contact hours to the English language that will indirectly solidify their command of the target language

Glancing through the Malaysian Education Blueprint, DLP works as a two-pronged approach, whereby it is the combination of Shift 1 and Shift 2 in transforming the system. Shift 1 refers to 'Provide Equal Access to Quality Education of an International Standard' while Shift 2 centres around 'Ensuring Every Child is Proficient in Bahasa Malaysia and the English Language and is Encouraged to Learn an Additional Language'. In fact, the Ministry of Education (2013) asserted that every student will receive a strong grounding in foundational skills of literacy and numeracy as well as in Science, a key growth area for the Malaysian economy. The notion of having language aspect working together with the mathematics capabilities as well as scientific understanding will somehow mould a holistically balanced individual.

In order for the school to be part of the Dual - Language Programme, the school has to adhere to four criteria outlined by the Ministry of Education. The four criteria listed are as follows;

a. Sufficient resource
b. Principal/Headmaster/Teachers' readiness to practise the DLP
c. Parental demands and support
d. School's performance in Bahasa Melayu

The pioneer batch of the programme commenced in 2016, with 300 schools participating in the pilot project, involving both primary one students and form one students. The execution of the DLP involves the teaching of STEM subjects, particularly Science and Mathematics as well as Design & Technology and Foundation in Science Computer. To date, Datuk Seri Mahadzir Khalid the Minister of Education proclaimed that 139 197 students have been involved in the DLP, equivalent to 2.9% of Malaysian students. This

number encompasses the participation of 1 216 schools, comprising 587 primary schools and another 629 secondary schools (Astro Awani, 2017).

DLP is a voluntary programme, in which the school has the right to reject it should they are not interested or willing to implement it. It does not involve all schools and students as it provides flexibility for the schools, teachers, students and parents to choose their preferred language of instruction. Even though it has some similarities with the previous education policy, Teaching of Mathematics and Science in English, ETeMS (or better known as PPSMI), the emergence of this programme is very much different as it does not impose the mandatory use of the English language in the teaching of both subjects (Yunus & Sukri, 2017). Students are welcomed to be part of the programme, as long as their parents' have given the consent and the school has fulfilled the pre-requisite requirements stated. One thing that is very clear regarding these two proposals is that they still espouse the utilization of the English language as a means of disseminating information and knowledge of Science and Mathematics.

The issue of English competency and proficiency has long been discussed in the Malaysian education system. Yunus and Sukri (2017) claimed that the proficiency of the English language among Malaysian has not seen much improvement since 1970. In addition, Shah, Othman and Senom (2017) asserted that the declining standard of English has forced the Ministry of Education Malaysia to implement several innovative and creative education policies that could help learners immerse themselves in the English language. As a matter of fact, English for Teaching Mathematics and Science (ETeMS) is one of the most debatable policies meant to better the English language proficiency among the students through the teaching and learning of Mathematics and Science subjects apart from accelerating the mastery of both subjects. The policy was demolished in 2012 after on-going critics and arguments raised over the policy. This is then proceeded with To Uphold Bahasa Melayu To Strengthen Bahasa Inggeris (MBMMBI) policy as the substitute for PPSMI. Under the MBMMBI policy, Dual-Language Programme (DLP) is introduced. This is where the concern arises. As DLP in a way replicates ETeMS policy, would it be experiencing the dilemmas similar to ETeMS? Despite the fact that DLP might seem to share some similarities with ETeMS, it has some points of divergence in the administration of the programme. Undeniably, many have questioned the reasons for the resurgence of the English language as the medium of instruction despite its inefficiency in aiding students ace Science, Mathematics and English. Due to that, it is important to understand the students' level of confidence in embracing the learning of Science and Mathematics in English. Hence, these research questions are formulated;

i. What is the level of interest among the DLP students ?
ii. What is the level of confidence among the students participating in the DLP?

REVISITING ETEMS

Due to the aim and vision of becoming a developed nation, the Ministry of Education Malaysia has proposed the teaching and learning of Mathematics and Science in English (PPSMI) as part of the government policy. This is the outcome from the special meeting of the Cabinet on the 19th July 2002. The implementation of this policy began in 2003 with Year 1 pupils in primary school and form 1 and lower 6 students in secondary school as the pioneer cohorts. The programme is fully implemented in 2007 for the secondary school and 2008 for the primary school. However, after a lot of debate and argument regarding the implementation of the policy, the former Malaysian Minister of Education, Tan Sri Muhyiddin Yassin on the 8th of July 2009 has announced that the policy will be put to an end in 2012 (Suliman, 2009). This means that both Mathematics and Science subjects will be reverted back to the National Language (Bahasa Melayu) as the medium of instruction. In addition, he has announced that students who have started learning both subjects in English may

continue their learning until they have finished their secondary education. Indirectly, the policy will only be fully abolished in 2014.

The PPSMI policy is derived from the need to develop human capital in line with the objective of achieving developed nation status by 2020. Adding to that, Shuib (2008) mentioned that research in second language acquisition suggests that a second language is most successfully acquired when there is sufficient opportunity to engage in meaningful use of that language. This implies that having to learn Science and Mathematics in second language would actually help the students to improve their language as well. Therefore, it has obviously implied PPSMI as a policy intended to benefit the nation in the long term.

Apart from Science, Mathematics and English tests, Haron et al. (2008) has conducted a survey on a sample of 3 903 primary 5 students. The result revealed that more than 85% students said their Science and Mathematics teachers code-switched in teaching the subjects. An average of more than 80% students expressed that they did not understand or did not really understand Science taught in English, though they had been learning the two subjects since 2003.

Professor Juriah found that about half of the students in both urban and rural schools were worried because they found it difficult to follow Science and Mathematics in English. This was documented in her study of over 7 000 Form 2 students nationwide and she found the concern was greater among Malay students studied, economically disadvantaged as well as those in rural schools (John & Damis, 2008).

Finally, Ong (2009) concluded that the achievement in Science and Mathematics will not increase due to the medium of instruction used. Students' performance in Science and Mathematics will only increase if they have a strong foundation in English and gaining access to information communication technology (ICT). Moreover, she believed that teachers' way of teaching also plays an important role in increasing students' learning outcome and achievement in Science and Mathematics.

BENEFITS OF THE DUAL-LANGUAGE PROGRAMME

The Dual-Language Programme is a two-pronged approach, driven to enable students to have the access and exploration of knowledge in order to compete globally and increase the marketability of the students in the working field. In addition, it also means to increase the students' contact hours to the English language, that will indirectly enrich their language. The DLP is aligned with one of the goals in the National Education Blueprint (2013-2025), which aspires to produce students who are at least bilingual in the Malay language and English language. It is believed that the DLP could enable Malaysians to easily get access to a wealth of knowledge and thus, being recognised as a driving force for the development of a country (Yunus & Sukri, 2017). One of the prominent causes giving impetus to the DLP is the increasing demands from the parents, urging their children to learn the subject in English, as a way of continuing their learning process from ETeMS. Undeniably, some students believe that they learn better in the English language than Bahasa Melayu. Yunus and Sukri (2017) opined that studying Mathematics and Science in English does facilitate their understanding better than in Malay. As a result, students who are given the opportunity to learn in the English language will be able to engage themselves better in the language, which might indirectly enable them to perform better in the said subjects.

Dual Language develops high level of proficiency in both languages. Students who are engaged in dual language programme will benefit themselves in terms of their language repertoire. In the case of Malaysian education system, students learn and have more contact hours in Bahasa Melayu for other subjects as it is the medium of instruction at school. If the student participates in DLP, the student will have better access to English language in three subjects, Mathematics, Science and English. In greater details, assuming the student's first language is not Malay, he or she will develop three languages

competently as the exposure to the other two languages in school increases. The research conducted by Lindholm-Leary and Howard (2008) demonstrated that most Dual Language students were rated as proficient in their two languages, particularly by the upper elementary grade levels and students made excellent progress in both languages across the grade levels in both 90:10 and 50:50 programmes. In fact, English language learners were as or more likely to be classified by state assessments as proficient in English if they participated in Dual Language Education programmes than English mainstream programmes (Lindholm-Leary, 2012).

METHODS

This is a pure quantitive study. This research paradigm is chosen in order to gather the respondents' data on the topic as asserted by Denscombe (2003), quantitative study uses number and can present findings in the form of graphs and tables, so it conveys a sense of solid, objective research. It employs cross-sectional survey research design. This would help the researcher to gather data and analyse them without taking a long time. The instrument was adapted from Ishak and Mohamed (2010). It is a five-point Likert scale questionnaire. The instrument consists of three sections, namely the demographic profile of the respondents, Enthusiasm Construct (Section B) and Confidence Construct (Section C). At the end of the questionnaire, the respondents will have to answer an open-ended question, which is 'Why do you think that you are ready/unready to learn Science and Mathematics in English'. With regard to the sample involved, 145 students from two different schools were roped in as the respondents. They were made up of 80 Form 1 students and the remaining were the Form 2 students. They were chosen based on purposive sampling whereby only students enrolled in the DLP were selected to take part in the study. The questionnaires were analysed using SPSS Version 19 and descriptive statistics involving percentage and mean was employed.

FINDINGS

RQ1: Level of Enthusiasm Among Respondents

For this construct, there were eleven items needed to be answered by the respondents.

Table 1. Data of RQ1

No	Item	Mean Score	Level
1	I will answer exam questions in English if I am given the choice	3.062	Moderate
2	I try to answer the oral questions given by the teacher in English	3.828	High
3	I can remember the information and Science/Mathematics terminologies in English well	3.248	Moderate
4	I can follow the teaching and learning process in English language	3.600	Moderate
5	The knowledge of Science/Mathematics in English is needed for my career in future	4.428	High
6	I hope the teacher can teach Science/Mathematics in English and Bahasa Malaysia	4.421	High
7	The teaching and learning process in English language works in a comfortable and fun manner	3.952	High
8	Parents and families always support me in learning Science/Mathematics in English language	4.166	High

9	I always check my English pronunciation to increase my mastery	3.669	Moderate
10	I like to communicate in English with my teachers and friends	3.255	Moderate
11	I like to read books or novels in English	3.310	Moderate

By referring to the items in the first construct, the highest scoring mean was found to be from 'The knowledge of Science/Mathematics in English is needed for my career and future' (4.428). This shows that the respondents in this study are aware of the importance of learning the two subjects in the English language. They also believe that the learning of the two subjects in the English language will assist their future workforce. To further support this, the responses in the open-ended question revealed *'English is important for my future', 'I am ready to learn Science and Mathematics in English language for my future', 'I want to be a successful doctor and English will help me to achieve success', 'I want to be a successful lawyer. That is why I want to learn English well'* and *'English is used as the international language. It is also the most useful language when we are at the university'.* These responses imply that the students are very much positive in their learning as they know the benefits that they will gain from the learning of Mathematics and Science in English.

However, an interesting point to ponder here is that when the second highest mean score came from the item 'I hope the teacher can teach Science/Mathematics in English and Bahasa Malaysia', with 4.421. About 86% of the respondents agreed to this item indicating that they put hope on the teachers to use both languages as the medium of instruction, rather than to teach using English alone. It is a turning point from the previous item in which the respondents wish for the teaching and learning process to be implemented in both languages, similar to how ETeMS was conducted. Perhaps, the name itself Dual-Language Programme demonstrate to the respondents that the teaching and learning process should be executed using both languages, rather than separating those under English medium in one class and their counterparts using the National Language in another class.

The third highest scoring mean score was for the item 'Parents and families always support me in learning Science/Mathematics in English language'. As noted earlier, the consent from the parents becomes one of the indicators for this programme to be implemented. The parents and family play a fundamental role in developing the students' interest to learn the subjects in the English language. They should be supportive so as to provide motivational support, reference books and guidance in the learning process of their children. Reponses generated from the open ended questions revealed that parents and family become the backbone of the students' readiness in the programme. This can be seen via *'I am ready because this programme is my choice and I have my family support', 'I know my friends and family always support and guide me and I know my abilities', 'I am ready because it is quite easy and I am supported by my parents', 'I am ready because my parents support me a lot and guide me'* and *'My parents always give me support'*. It is an undeniable fact that for the programme to succeed, it requires support from the parents and family assisting the learning process of the students.

On the other hand, the two least scoring items were 'I will answer exam questions in English if I am given the choice' and 'I can remember the information and Science/Mathematics terminologies in English well, with 3.062 and 3.248 respectively. As for the least scoring item, it implies that respondents in this study were more inclined towards answering the exam questions in the national language or they were unsure whether to answer in Bahasa Melayu or English. This is prominent when only about 32% agreed to this statement. In greater details, almost 47% of the respondents were unsure if they have to answer in the English language or the national language. This somehow imposes the idea that the students favoured the way how ETeMS was conducted, in which

students were given the chance to answer the exam questions in either the English language or the national language.

RQ2: Level of Confidence among Respondents

For this construct, twelve items needed to be answered by the respondents. The findings are below.

Table 2. Data of RQ2

No	Item	Mean Score	Level
1	The teachers' teaching style in English language is easy to understand	3.510	Moderate
2	Teachers teach me when I have problems in learning Science/Mathematics in English language	4.221	High
3	Teachers teach Science/Mathematics in English systematically	3.993	High
4	I can asnwer the questions from my friends in English language	3.455	Moderate
5	I am brave to give opinions in English language to my friends	3.083	Moderate
6	Teachers like to use many ways in teaching Science/Mathematics in English	3.931	High
7	Learning Science/Mathematics in English is easy	3.083	Moderate
8	My English skills is enough for me to understand Science/Mathematics in English	3.124	Moderate
9	The questions given by the Science/Mathematics teachers are easy	3.159	Moderate
10	I answer the questions in English orally	3.235	Moderate
11	I present the work in class using English language	3.407	Moderate
12	I can follow the lesson if the teacher uses English fully in the class	2.972	Moderate

For the second construct, it seems that the three item scored high level came from the items related to the teachers. The highest scoring mean 'Teachers teach me when I have problems in learning Science/Mathematics in English language' demonstrated the fact that students need the teachers to assist them in their learning. This is crucial in this case as a number of the respondents did not learn the subjects in the English language when they were at primary school. As teachers have been equipped with the DLP training, this will be a great opportunity for them to make use of the knowledge they possess. The same goes for the next two items related to teachers. The teachers vary their teaching methods in order to attract the students' attention as well as to ease the students' understanding. It is essential for the teachers to use different ways of teaching so as not to hamper the students' learning process. One student might be learning in different way from the others. The same goes for how teachers teach in a proper manner. They ought to follow the syllabus and try to gauge the students' ability in order to ensure the students could follow the lesson well. Among the responses related to the teachers factor include *'I am ready because the teacher use words that I can understand', 'The teachers teach us very well',*

'The teachers explain the questions well', and *'When I have problems, I will ask the teacher to get the explanation'*.

The three least scoring items in this construct portrayed the level of confidence possessed by the respondents. Item 'I can follow the lesson if the teacher uses English fully in the class' had the lowest mean score somehow resembled the finding of the item from previous construct 'I hope the teacher can teach Science/Mathematics in English and Bahasa Malaysia'. Respondents were unsure if they can learn well if the teachers uses fully English instruction in the class as denoted by 47% of the respondents. This is challenging due to the fact that the teaching process should be conducted fully in the English language. If the teacher applies code-switching, it will defeat the purpose of this programme.

DISCUSSIONS

In discussing the level of enthusiasm among the respondents in this study, it is important to note how the respondents perceived the implementation of the programme that they currently enrol in. Overall, the level of enthusiasm among the respondents in this study seemed to be high. The respondents agreed that it is important to master Science/Mathematics in the English language especially for the in future prospects. This is parallel to Ishak and Mohamed (2010) in which the programme is important for English mastery and career workforce in the future. In fact, this supports the aim outlined by the Ministry of Education (2013) whereby every child will be, at minimum, operationally proficient in Bahasa Malaysia as the national language and language of unity, and English as the international language of communication. In fact, this is concurrent to Yunus and Sukri (2017) who asserted that the lack of the English language skills would be a great loss to the country and at present, the escalating pressure is felt as social media every now and then report on Malaysians' unfathomable, baffling poor grasp of English. It reflects that the respondents are aware that the importance of learning both subjects is necessary for their survival in the workforce.

Despite the fact that the respondents in this study were aware of the importance of Science & Mathematics in English, the result also revealed an unexpected finding. Nearly half of the respondents were unsure if they will answer the exam questions in English language, could remember the information and terminologies in English language and love communicating in English with teachers and friends. An interesting point to ponder here is that the respondents were aware of the the importance of English language, yet their readiness is still moderate. Perhaps, this has to do with the attitudes of the respondents in which Ghazali et al. (2009) argued that attitude is one of the main factors that determines the success in language learning. If the respondents are not pro-active towards the learning of Science and Mathematics in the English language, it might hamper the students' performance. It should be noted that possessing positive attitudes embedded with enthusiam will assist the students better in their learning. This is even proposed by Yunus and Suliman (2014), when the students are positive in their learning this will lead to an encouraging outcome of their learning. Having enthusiasm alone will not entitle the students to succeed in their learning. It should be integrated with positive attitudes, which will then contribute to the successful learning process.

It is also interesting to note that almost 86% of the respondents revealed that they wish their teachers would teach Science/Mathematics in both languages, English and national language. This indicates that the respondents are inclined to having both languages used together in the teaching of Science and Mathematics, the same way how ETeMS was executed. This findings resembled Ishak and Mohamed (2010) whereby more than half of the respondents yearned for the subjects to be taught in both languages. This shows that the implementation of the programme might need to be adjusted to suit the concept of dual language programme.

In regards to the level of confidence among the respondents, only three items recorded high mean score. Interestingly, all the three items are related to the teachers'

ways of teaching and assistance. This posits the idea that teachers play an important role in instilling the confidence level among the students, especially in the teaching and learning of Science and Mathematics in the English language. This is supported by Mustakim, Mustapha and Lebar (2014) asserting that teachers are encouraged to create an enjoyable learning environment by developing activities suitable for students. Teachers play dominant role to ensure the students feel comfortable and confident in learning the subjects as argued by Khairani (2016), teacher is an important factor in determining the quality of the STEM integration programme. If teachers are unable to assist the learning process, it is afraid that students' motivation and confidence level will decline. In this case, teachers' role is highly demanded in order for the teaching and learning process to take place well. This is even reinforced by Ong (2009), teachers' way of teaching also plays an important role in increasing students' learning outcome and achievement in Science and Mathematics.

Conversely, the respondents' level of confidence is still considered to be moderate. An important item to note here is that almost half of the respondents were unsure if they could follow the lesson well if it is to be conducted fully in the English language. This posits the idea that the respondents are still uncertain of their beliefs in learning the subjects in English language. This serves as an important indicator for the teachers to ensure that the students are comfortable with learning both subjects in the English language. This finding reiterated finding from Ishak and Mohamed (2010) whereby 45% of the respondents in their study denoted that they will face difficulties if English language is to be fully used in their teaching and learning process. Students should be given platform for them to boost the confidence in the learning of both subjects using English language. This will only prolong the uncertainty among Malaysian students about their confidence level, if nothing is done to boost their confidence level. It should be noted that Ong & Tan (2008) argued the purpose of teaching Science and Mathematics in English is to enable students to acquire proficiency in English while learning Science. Although Lay and Osman (2017) proposed that Malaysian students' achievements in science and 21st century skills are not satisfactory, it is a big hope that with the implementation of DLP, the perception can be changed.

CONCLUSION

From the findings, we are aware that the DLP students' level of enthusiasm is high but the level of confidence is moderate. In fact, they raised a lot of uncertainties in their responses as portrayed in the findings section. They are aware of the importance of learning both subjects in the English language, but their actions describe the opposite idea. One major issue in this study is the respondents find difficulties in engaging with the lesson due to the incompetent mastery of language. When they lack in their language repertoire, they find it difficult to engage in the lesson, thereby causing them to feel inferior or lose their confidence level. It is proposed here that further research should be done in a bigger scale of respondents. It is also suggested that future research to discover the students from different types of school. Furthermore, it would be interesting to seek the DLP teachers' view towards the implementation of this programme to further fathom the scenario that is happening in the classroom. To conclude, the Malaysian education system needs to undergo a comprehensive transformation if it is to meet the ambitious vision and aspirations of a Malaysian who is ready and willing to tackle the challenges of the 21st century. For that transformation to happen, it is vital for an on-going evaluation to be conducted as it enlightens the stakeholders on the state of the programme mandated from time to time.

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