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# Dual Language Programme in Malaysian Secondary Schools: Expounding Students' Acceptance

Ashairi Suliman<sup>1</sup>, Mohamed Yusoff Mohd Nor, Melor Md Yunus<sup>3</sup>

<sup>1</sup> Assessment and Examination Sector, Sarawak Education Department  
E-mail: [ash860629@gmail.com](mailto:ash860629@gmail.com)

<sup>2,3</sup> Faculty of Education, Universiti Kebangsaan Malaysia  
E-mail: [yusoff1963@ukm.edu.my](mailto:yusoff1963@ukm.edu.my), [melor@ukm.edu.my](mailto:melor@ukm.edu.my)

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## Abstract

Dual Language Programme is an initiative introduced by the Ministry of Education as a means to advocate the teaching and learning of science and mathematics in the English language. Resembling the previous educational policy named PPSMI, this programme has commenced since 2016 offering the flexibility in using English as the instructional medium for the two subjects. After five years of inception, it is therefore crucial to discover the acceptance of those involved directly with the programme. This study expounds students' acceptance towards the programme. Besides, the study also investigates the influence of age, gender, locality and type of school on their acceptance towards the programme. With 2162 students involved, the study discovered their acceptance level towards the programme. To accentuate, some factors studied revealed significant difference on the acceptance towards the programme. As an alternative to solidify the English mastery, DLP requires improvement in its execution to be well-accepted by the interest groups.

**Keywords :** *Dual Language Programme; education; programme acceptance;*

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## I. INTRODUCTION

The growth of English as the global language is inevitable. English is an indispensable tool to learn new knowledge and communicate, and it functions as a fundamental prerequisite for a country to be a developed one (Mohamad & Zakaria, 2018; Aziz & Nair, 2015). English has now become the second or preferred foreign language for studying in several education systems around the globe, including Malaysia's. English serves as a platform to connect people of different regions and nationalities. Thus, the need to be proficient and competent in English is deemed essential and fundamental, especially as globalisation has heightened the use of English in business, commerce, education, medicine, scientific research and other domains (Hugo, 2018).

Attention should be given to language development programmes to confront potential language-related challenges in classrooms that use English as a medium of instruction (EMI) and ensure the quality of instruction (Margic & Vodopija-Krstanović, 2018). Hence, numerous language-related programmes have been introduced, including teaching content subjects in English. Several countries have adopted the practice of teaching science and mathematics in English, such as South Africa (Mokiwa & Msila, 2013; Mthiyane, 2016). Similarly, studies as revealed in Fernandez-Sanjurjo, Fernandez-Costales & Blanco (2017); Karabay (2017); Mifsud & Farrugia (2016) portrayed the use of English as the instructional medium in science and mathematics subjects. In these studies, the competency of the teachers besides

the use of bilingual strategy are commonly discussed apart from the students' performance in the respective subjects. This reflects that the integration between language (English) and content subjects (science and mathematics) is riddled with some hindrances.

This issue is also debatable and prominent in the Asian context. Former European or American colonies may have already used English in their education system. According to Education First (2016), English proficiency tends to be high in countries with historical ties to the language. Several Asian countries have imposed the use of EMI in science and mathematics as reflected in Racca & Lasaten (2016); Lee, Watt & Frawley (2015); Lin & Wu (2015); Nguyen & Thi Kieu (2015); Din & Wing (2007). They have shown variety of views pertaining to the issue of English as the medium of instruction in teaching and learning the subjects. Such a situation may also be prevalent in Malaysia.

Tracing back to the history of Malaysian education system, much has been said when science and mathematics were taught in English. With the current form of implementation, it is therefore essential to explore what has been disclosed in the recent years of inception. To note, rural school students negatively perceived the learning of mathematics in English (Teo & Rasul, 2017). On another point of interest, students were found to be moderately confident and ready to learn using English despite the limitation in language mastery (Suliman, Nor & Yunus, 2017; Suliman, Nor & Yunus, 2018). This is also revealed by Unting and Yamat (2017) affirming that one of the major factors

impeding the success of DLP was due to students' limited language proficiency. Unlike in the DLP, certain schools have imposed the teaching of science and mathematics in which students and teachers fully utilise English in the lessons. With limitation and scarcity on the studies pertaining to this issue, it has motivated this study, aiming to unravel the students' acceptance towards the Dual Language Programme in Malaysian context. In addition, the investigation also encompasses the influence of four variables (age, gender, locality and type of school) on the acceptance towards the programme implementation.

## II. LITERATURE REVIEW

DLP is encouraged due to the positive benefits it offers. DLP assists language proficiency development, promotes enjoyment, possesses positivity, elevates students' outcomes as well as academic achievement and nurtures bilingualism (Hamman, 2018; Lindholm-Leary, 2016; Li et al., 2016; Thomas & Collier, 2012). This programme creates additive bilingual learning environment and thus allows the equality of native and target language in terms of programme, curricular and instructional level (Jong & Bearse, 2014). In the global context, DLP involves the teaching of content subjects using the national language and the target language. DLP is highly related to bilingual education as it includes English learners and native English speakers; the programme is designated for the development of bilingualism and bi-literacy for all students, academic performance and multicultural competence (Christian, 2016; Hamman, 2018; Thomas & Collier, 2012).

Dual language can enhance students' affective, cognitive, linguistic and social perspectives, promotes benefits beyond the command languages, affects future employment, access to higher education and ethnic identity development (Jong & Bearse, 2014; Lindholm-Leary, 2016). With that, students may perceive things in different ways, develop his thinking and relate himself with peers of different backgrounds. Students with bilingual background would be able to connect himself to a wide context of life and engage in a diverse community. As a result, dual language policy is the alternative for modernisation and globalisation (Yamat, Umar & Mahmood, 2014). Therefore, Dual-Language Programme (DLP) has been introduced as an avenue to promote and inculcate language development.

Dual Language contributes to the development of language proficiency. As proposed by US Department of Education (2015), dual language programmes aim to help students develop high levels of language proficiency and literacy in both program languages, attain high levels of academic achievement, and develop an appreciation

and understanding of multiple cultures. Students who are engaged in dual language programme will nurture their linguistic repertoire better. They will be able to get attached to another language besides their own first language in the learning process. This is promising as it may develop a bilingual student or even a multilingual one. In the case of Malaysian education system, students learn other subjects in Bahasa Melayu as it becomes the official instructional medium in schools.

When student participates in DLP, he is on the advantage as he can learn English from three subjects namely science, English and mathematics. Besides, he can develop more languages on the assumption that his first language is not Malay. This is caused by the increase towards the additional language learnt. Most Dual Language students were rated as proficient in two languages and they progress excellently in both languages across the grade levels (Lindholm-Leary & Howard, 2008). In another point of view, English language learners are perceived to be proficient in English when they enrol in the Dual Language Education programmes than the English mainstream programmes (Lindholm-Leary, 2012). Due to that, dual language education programme proliferates.

In addition, English mastery is very fundamental in the teaching of any content subject and has to be acknowledged before the subject understanding (Domingo, 2016). Similarly, the mastery is becoming very important whenever science and mathematics are integrated with EMI. It calls for students to be equipped with the supposed language proficiency to understand the lessons taught. That would assist students better in the lesson. Consequently, it lessens the problems faced by the students which indirectly aids the peers in comprehending the lesson. Racca and Lasaten (2016) believed that when students would be performing better in the subjects taught in English when they are more proficient in the language. Accordingly, Mifsud and Farrugia (2016) contended that inability to acquire English and comprehend as well as translate the mathematical language has contributed to the weak academic performance in mathematics. Hence, English mastery is deemed crucial in the learning of content subjects using the target language.

In accordance to this, Malaysian students' proficiency and competency in the English language has not shown much improvement with less effort in learning is displayed, as compared to when English was the medium of instruction in the education system (Yunus & Sukri, 2017). This has then become a perpetual issue. Even after six years of formal education, one out of four students did not master minimum requirement in English. This leads to the Ministry of Education Malaysia to implement several innovative educational policies in helping learners to immerse themselves better in the English

language. As a matter of fact, Azman (2016) highlighted that 50% students who completed their primary education were literate in English as of 2013. Moreover, 15.3 per cent youths in 2015 were found to be unemployed due to incompetency in the English language (Badiozaman, Leong & Jikus, 2019). Therefore, students' English incompetency is becoming a concern even up to now.

Students are able to explore the knowledge globally when they learn science and mathematics in English. It also increases students' opportunities in the workforce (Suliman, Nor & Yunus, 2017). In addition, it exposes students to the English language, which aids in enriching their language repertoire (Unting & Yamat, 2017). To highlight, learning science and mathematics using the English language is in tandem to the Malaysian Education Blueprint (2013–2025) aspiration, to develop bilingual students in Malay and English (Ministry of Education, 2015). Indubitably, many students found it comfortable and better to learn science and mathematics in English (Besar & Jali, 2010; Probyn, 2015). This blueprint provides an avenue for students to learn the subjects through their preferred medium of instruction. The main aim is to enhance students' comprehension in their lessons irrespective of the language used.

Numerous studies were found to be related to this issue. From a study encompassing 100 schools in Hong Kong, Din and Wing (2007) claimed that students had struggled with learning science in English because they found understanding their teachers' instruction in the second language difficult, which suggests that using EMI may exert negative effects on learning science. In addition, students from the Cambodian bilingual schools displayed better performance in the mathematics subject in comparison to those in the monolingual schools as argued by Lee, Watt and Frawley (2015). Nguyen and Thi Kieu (2015), with reference to 100 Vietnamese students ascertained that more than 60% students were in favour to learn subjects in English although having limited listening and writing skills. Other studies include Racca and Lasaten (2016) in the Philippines and Otwinowska and Forsys (2015) in Poland.

In the Malaysian context, Sulaiman and Konting (2014) compared the readiness of first year students in the urban and rural areas to learn science in English. Students in the urban area were better than their counterparts in three major domains: communication, classification and observation. In another study, Norsyazwani et al. (2013) revealed that 60% of 1311 students wanted to continue learning mathematics in English and that 50% preferred learning science in English. With great peer support from parents, teachers and friends, students learning these content subjects may display positive attitudes and yield high perceptions in their science and mathematics abilities (Rice et al., 2013).

All these studies revealed different findings, calling for a study involving students from different types of programmes dealing with learning science and mathematics in English.

### III. RESEARCH METHODOLOGY

This study employed a mixed-method approach in which questionnaires and focus group discussions were executed to gather the data. Besides, the study employed survey research design. The instrument was adapted from Besar (2007) and amended to suit the context of this study. It contains six items inquiring their acceptance towards the programme. Besides, demographic profile of the respondents was also inquired such as age, gender, locality and type of school. The questionnaire employed four-point Likert-scale. There were six items in total and it was later validated by the experts to ensure its validity which later led to the pilot study. Four experts involved in validating the instrument. Once amendment has been made, the pilot test was administered to a sample of sixty-one students in one of the states in Malaysia. They were the students involved with the DLP. From the pilot study conducted, the reliability analysis was executed and the instrument was considered to be valid and reliable. The Cronbach's Alpha value garnered was 0.943 indicating that the instrument is of good reliability.

Pertaining to the sample, the context of the study focused on the DLP students in the Malaysian secondary schools. The questionnaire was distributed to a sample of 2162 students nationwide. These respondents were selected using multi-stage cluster sampling. Two clusters served as the fundamental aspect of this study, locality and type of school. Locality refers to the setting of the school either urban or rural area. Meanwhile, type of school reflects on the difference of schooling system in Malaysia. That encompasses national secondary school (SMK), national religious secondary school (SMKA) and fully residential school (SBP). In greater details, the following table illustrates the samples of the study.

**Table 1** Respondents' Profile

<b>Age</b>	14	1007 (46.7%)
	15	1148 (53.1%)
<b>Gender</b>	Male	870 (40.5%)
	Female	1280 (59.5%)
<b>Locality</b>	Urban	1170 (54.1%)
	Rural	992 (45.9%)
<b>Type of School</b>	National	841 (38.9%)
	National Religious	574 (26.5%)
	Secondary School	

Fully Residential School	747 (34.6%)
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Regarding the data collection, the process took about five months to be completed. The researchers distributed the questionnaire to eighty secondary schools which participated in the DLP. The schools were selected based on the state education office personnel liaised with DLP besides from the list provided by the Ministry of Education Malaysia. Consents were obtained from the Ministry of Education Malaysia besides the State Education Office to conduct this study. The researcher mainly administered the questionnaire to every school by himself. Only a small percentage of schools received their questionnaire via mail due to logistic issue. In the meantime, the researcher conducted the focus group discussion. The focus group discussion was conducted with six groups of respondents. They were selected based on different types of school (national secondary schools, national religious secondary schools, fully residential schools). Furthermore, each type of school would be represented by one school in the urban area and another school in rural areas. This is meant to explore different views from different type of school and locality. Each group had about four students. Each session was arranged by the school administrator and lasted for approximately 40 min. The recordings from the interview were later transcribed to extract the main data that would support the findings.

On the other hand, upon receiving the questionnaires, the researcher conducted a preliminary analysis and unusable questionnaires were eliminated. The researcher managed to collect about 91% questionnaires from the respondents. For the purpose of analysing the data, a statistical software was used. The data analysis involved the descriptive analysis and inferential statistics encompassing T-test and one-way ANOVA. Descriptive analysis was meant to unravel the students' acceptance level toward the DLP implementation based on the classification (low, moderately low, moderately high and high). In addition, T-test and one-way ANOVA was utilised as the data was found to be normally distributed. They serve to unravel the influence of the demographic profiles tested.

#### IV. RESULTS AND DISCUSSION

The following table illustrates the respondents' acceptance towards the programme based on the six items in the questionnaire.

**Table 2** *Acceptance towards the Programme*

Item	Mean
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DLP is a good programme to increase English mastery	3.58
DLP is a good programme to develop science knowledge	3.28
DLP is a good programme to improve mathematics skill	3.23
DLP implementation is well-received by students	3.01
DLP implementation should be continued	3.27
DLP implementation should be improved	3.43

Based on the above table, it is evident that almost 96% respondents believed that this programme is good in enhancing the English mastery. Following this, about 93% respondents wanted for the programme to be improved. 88% respondents claimed that the programme is good in developing their science knowledge whereas almost 87% affirmed that DLP should be continued in terms of its execution. Prior to that, the same percentage also opined that DLP is good in improving the mathematical skill. Last but not least, 79% respondents illustrated their agreement that the programme is well-received by the students which contributed to the mean score of 3.01. From these items, it is demonstrated that the respondents' acceptance towards the programme is on the positive level with the total mean score of 3.30. Thus, the respondents are positive with the implementation of the programme. Furthermore, responses from the focused group discussion consolidated the findings as illustrated below.

DLP is using English to teach the subjects. It is a quite good programme because it makes us study more. In fact, English is more suitable since most of the terms used in science and mathematics are found in English. The programme is a good exposure for us to learn and speak more English in daily life and for future.

(Student, fgd\_1)

It is hard when we began but after almost five months, it is easier. If we were to choose, we choose English because when we go to university, we will use English and this DLP really helps us. So, it is easier if we just study in English.

(Student, fgd\_4)

At first, it was difficult. But after some time, it is easy. Moreover, my performance is getting better because my marks are increasing. After all, we want to improve English.

(Student, fgd\_6)

Students have raised concern on how DLP benefits their English proficiency. They claimed it to be a good medium to enhance their linguistic repertoire even though it can be demanding in the beginning. However, acknowledging the benefits gained in the long run, students were displaying their moderately high level of acceptance towards DLP. That has affirmed the positive acceptance is very much reflected by the cognisance the students had for the DLP.

This finding has revealed that the students were positive towards the programme as it assists them in nurturing and enriching their English mastery. This replicates that the need to be proficient and competent in English is essential and fundamental (Suliman, Nor & Yunus, 2018), especially with the proliferation and advancement brought by globalisation in escalating the use of English (Hugo as cited in Hugo, 2018). In another view, learning English as a foreign language benefits the learning process (Diaz et al., 2020). Furthermore, this also supports when students are more proficient in English, there is a higher chance for them to perform better in the content subjects (Racca & Lasaten, 2016). The respondents also perceived that the programme needs improvement to better its implementation. This may be due to some loopholes encountered by the respondents in the programme implementation. Improvement is inevitable as many issues were raised in the past studies pertaining to the use of English as the instructional medium in teaching science and mathematics. Furthermore, attention is vital to confront potential language-related challenges in classrooms that use English as a medium of instruction (EMI) and ensure the quality of instruction (Margic & Vodopija-Krstanović, 2018). That somehow leads to low mean score for item 'DLP is well-received by the student'. If certain aspects or elements of implementation are rectified well, students might have better acceptance towards the programme. Hence, serious consideration is needed in ameliorating the current state of DLP implementation.

To further examine the influence of the independent variable on the respondents' acceptance towards the programme, inferential tests were deployed. This is to examine to what extent does locality and type of school influence the respondents' acceptance towards the programme. The result is depicted in the following table.

**Table 3 Inferential Tests Result**

Variable	Category	Mean	S.d	Sig.
Age	14	3.17	0.46	0.967
	15	3.17	0.50	
Gender	Male	3.11	0.51	0.000
	Female	3.21	0.45	
Locality	Urban	3.16	0.50	0.246

Type of School	Rural	3.18	0.46	0.000
	National Secondary School	3.20	0.48	
	National Religious Secondary School	3.09	0.49	
	Fully Residential School	3.20	0.47	

As demonstrated in the above table, it is evident that age and locality has no effect on respondents' acceptance towards the programme. The mean score of respondents despite having age difference is similar. Meanwhile, the mean score of those in the rural area was slightly higher than those in the urban area. Alternatively, a significant difference was found in terms of the gender factor on the acceptance towards the programme. Female students were on the upper hand as opposed to the male students with a difference of 0.10 mean score. On the other hand, there was a significant effect on type of school on respondents' acceptance towards the programme. The Scheffe post-hoc test was further conducted to identify the difference between groups. It was revealed that the acceptance towards the programme among the national religious secondary school students (M=3.09, S.d=.49) were significantly lower than national secondary school (M=3.20, S.d=.48) and fully residential school (M=3.20, S.d=.47). Furthermore, the acceptance towards the programme among the national secondary school students and fully residential school students was not significantly different.

The inferential tests elucidated that age and locality have no effect in the context of this study. This refuted the study by Suliman, Nor and Yunus (2018) revealing that younger students were found to be more positive in the attitudes towards learning science and mathematics in English. Furthermore, it is interesting to note that rural area respondents demonstrated a better acceptance in comparison to their counterparts. Perhaps, the cognisance on this programme has brought up more positive acceptance among the rural area students. This is interesting to note that students coming from the rural area are more positive towards the programme although it was not statistically proven in the context of this study. This supports Ministry of Education Malaysia (2015) affirming that learning situation differs for students coming from national and national-type schools as well as those in the urban and rural area schools.

In a similar vein, female students were more positive as compared to the male students. This may be due to females perceived learning English due to functional reasons or because they are more motivated instrumentally than the males (Gardner &

Lambert, 1959). In addition, females are prone to areas that may be useful for them such as learning English besides other academic subjects for future career (Yaman as cited in Abdullah, Ong & Ariffin, 2013). On top of that, it is worthy to understand that the acceptance differs between students from different type of schools. Students from the fully residential school are more of homogenous group of students unlike the national secondary schools. They might have set certain standard or target for them to accomplish which indirectly affects their acceptance towards the programme as reinforced by Besar and Jali (2010) whereby students from the fully residential schools are the selected and excellent ones in the primary level. Students from the national secondary schools were the least interested in learning the two subjects in English as acclaimed by Besar (2007). It may be more interesting to scrutinise the difference in terms of the learning environment in the three types of school that may contribute to the acceptance level among the students.

## V. CONCLUSION

In encapsulation, the study has disclosed that the respondents in this study portrayed a positive and high level of acceptance towards the Dual Language Programme implementation. Furthermore, there

exists a significant difference in terms of gender and type of school but the opposite was found on age and locality factors. It is promising to unravel that the students are displaying positivity towards the programme as they need to experience a positive learning environment for the betterment of their learning process. Similarly, the difference in terms of locality and type of school should not be a halting factor affecting their learning process. As noted earlier, improvements are highly advocated to provide students with a more conducive learning environment.

It is also proposed for the future research to undertake a different research paradigm instead of focusing solely on the positivism approach. Interviews, classroom observations and even quasi-experiment may also be conducted in the future taking into consideration the two variables studied. To recapitulate, the implementation of Dual Language Programme may work well and succeed if certain aspects of implementation are rectified and solidified to cater to the needs of the students involved with the programme. Most importantly, the voices of those involved in the grassroots such as students and teachers are vital to be taken into consideration as they have the direct experience and engagement with the programme implemented. Valorising the standard of English is irrefutably one of the main agenda of this programme, but it takes more efforts to ensure its success.

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**AUTHOR'S INFORMATION**

<p><b>First Author: Ashairi Suliman</b></p> 	<p>Assessment and Examination Sector, Sarawak Education Office, 93250, Kuching, Sarawak</p> <p>E-mail: <a href="mailto:ash860629@gmail.com">ash860629@gmail.com</a></p>
<p><b>Second Author: Mohamed Yusoff Mohd Nor</b></p> 	<p>Faculty of Education, Universiti Kebangsaan Malaysia, Bangi, 4300, Selangor, Malaysia</p> <p>E-mail: <a href="mailto:yusoff1963@ukm.edu.my">yusoff1963@ukm.edu.my</a></p>
<p><b>Third Author: Melor Md Yunus</b></p> 	<p>Faculty of Education, Universiti Kebangsaan Malaysia, Bangi, 4300, Selangor, Malaysia</p> <p>E-mail: <a href="mailto:melor@ukm.edu.my">melor@ukm.edu.my</a></p>