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Rural School Student's Perception about Learning Mathematics in English

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Abstract: English proficiency is important when learning Mathematics in English thus the inability to comprehend instruction can create confusion on the content. This study aims to investigate the perception of learning Mathematics in English among form three students from rural schools. The study is an explanatory study where the instrument used in the study is a questionnaire based on the research questions of medium of instruction (English), the teacher's teaching practices in English, the level of English proficiency among students and environmental factors. The instrument reliability was $\alpha = 0.93$ and a total of 120 respondents were randomly selected as respondents from the target group of form three students from rural schools in Malacca state. Data analysis was conducted using the Statistical Package for Social Sciences (SPSS) involving frequency and percentage. The findings showed negative reactions of the medium of instruction (English) and the level of English proficiency with 60.42 and 57.22% of respondents accordingly while the teacher's teaching practices in English and the environment factors received positive reviews with 78.47 and 70.69% accordingly. Overall, this indicates that in the student's opinion, they faced difficulties in learning Mathematics in English due to the medium of instruction (English) and their English proficiency level.

Key words: Secondary language, English proficiency, Mathematics, rural schools, SPSS

INTRODUCTION

The usage of English has become an essential medium of instruction in this ICT era at the globalisation stage. Mastery of English is equally important that allows accessing information that supports education and the student's general knowledge. In Malaysia, Malay language is the dominant language that is important for knowledge, culture, civilization and thought enrichment, however English still assumes important roles in certain fields such as education, medicine, engineering, accounting, communication, telecommunication, defence and tourism. The implementation of teaching and learning of Science and Mathematics in English (PPSMI) programme can help Malaysians in improving English language proficiency so that they are able capable in becoming world class leaders. Failure to master English not only weakens the competitiveness of a nation's people, it will also affect the competitiveness of the nation as a whole (Chew, 2008). This is the reason why mastery of English is so closely related to not only the survival of the people but also the survival of a nation in the future.

As a strategy to overcome the low proficiency in English among students, the Minister Cabinet of Malaysia approved the implementation of the PPSMI programme on 19th July 2002 and the news was announced by the education minister on the 20th. The policy was implemented in stages, beginning in the early year 2003 that involved students of primary one, form three and form lower six. The policy reformation process continued until all education levels, both primary and secondary were involved in year 2008. The rationale in implementing the policy was:

- Providing student the opportunity in increasing their proficiency in English
- Science and Mathematics is the most fast-developing field of knowledge and are spread around through various medias in English
- Science and Mathematics are the main contributors to a nation's development
- Majority of the reading materials of both Science and Mathematics are written in English
- Early exposure towards Science and Mathematics in English allows students to access and better understanding of English information in the future. (MEM-KPM, 2016)

The implementation of the PPSMI programme continued for seven years before it was deemed irrelevant and unsuitable against the national constitution. The programme was abolished gradually in the year 2012. However, the abolishment was detrimental to the country as the government has spent billions to supply additional teaching aids used in teaching and learning both

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Mathematics and Science. One of the major issues encountered during the PPSMI period was that the teachers were incapable to teach and share knowledge using English, a Foreign language (Selamat *et al*., 2011). Researches such as the Teacher Competency Study in teaching and learning of science and Mathematics using English and Its implication towards the achievement of human capital development found that majority Malaysian teachers who teaches either Mathematics or Science was using a mixture of English and Malay language during lessons. This proves that Malaysian teachers are still not proficient enough to conduct classes using English.

Four years after the abolishment of the PPSMI programme, the education ministry introduced a new yet similar programme to the curriculum in hopes of increasing the fluency of English language of Malaysian students. The Dual Language Programme (DLP) is a program under the Policy to Uphold Bahasa Malaysia and to strengthen the English Language (MBMMBI). The pilot implementation of DLP was conducted in 300 primary and secondary schools where it provided an opportunity for qualified schools to conduct teaching and learning sessions in English for Mathematics, Science and ICT. This programme aims in strengthening the proficiency of English language among students by increasing their exposure to the language indirectly. With this, the DLP increases student's access and exploration of knowledge to compete globally and enhance their marketability in the career field (Education Ministry of Malacca, 2016).

Given the importance of English as a learning material, several document reviews have been conducted by the Education Ministry of Malaysia that emphasizes the importance of bilingual proficiency in the language and cognitive development of students. Regarding the usage of native and secondary language in education, a comprehensive study by the world bank found that the development of cognitive skills or academic language requires 4-7 years in formal education (Lillywhite, 2011). It is easier for students to translate their academic language or cognitive skills, especially the concept and the content of the subjects to another language in the future if the students master them early in their native language.

Mosha (2014) found that students who have gone through bilingual programmes show better improvement in performance while students under pure English-medium fare lower than them. Therefore, for the sake of national development, selection of language must be done especially for education. This means that the authorities should establish a medium of instruction in the field of education, rather than two or more. Hence, people should realize the importance of English language as an international language. Rather than replacing the position of Malay language in schools, English should be an additional language learned by everyone to expand their knowledge.

Literature review: Mathematics is a subject that is very important with its widespread usage in our everyday life. The subject of Mathematics is taught in schools in hopes to equip our students with mathematical knowledge to develop their problem solving skills, communication as well as critical and systematic thinking. According to Tan and Lan (2011), the reason of selecting these particular two subjects to be taught in English is to heighten the student's knowledge in the related fields and also the fluency of English language among students. This step was deemed necessary after the government realized the importance of mastering the knowledge of Science and Mathematics and also fluency in English language in this flourished era of globalization and information technology. Frequent usage of English in schools would certainly assist students especially the non-native speakers in familiarizing the usage of the secondary language. The proposal of using English language as the medium of instruction for both Science and Mathematics was made in hopes of increasing the student's fluency in the language besides strengthening the understanding of both these subjects. This turning point is essential in preparing the people of Malaysia to be proficient in English and thus prepared to compete in this globalization era with confidence.

According to Hardre (2011), Mathematics is considered as a complex subject by rural students among other subjects. The difficulties students faced in mastering Mathematics have raised concerns among students, teachers and parents alike. The level of concern increased when it was announced that these subjects would be taught and learned in English. The implementation of PPSMI has invited a variety of reactions. There are those who welcomed it with open arms, there are those who detest even the idea of it and of course there are those who do not side with either. After years of implementing PPSMI, the question often raised by the public and educators alike is the extent of the student's acceptance of this policy. The usage of English in teaching Science and Mathematics is a new situation to most Science and Mathematics teachers whom have gone through a Malay-based school experience. This not only involves the transition of medium of instruction but also the transition of certain terms.

There were numerous studies conducted by various parties regarding the effectiveness of teaching and learning Science and Mathematics in English

including studies on the usage of Science and Mathematics teaching courseware in English, student's achievement trend in Science and Mathematics before and after PPSMI and also the student's understanding level of teaching and learning Science and Mathematics in English. It was revealed that a number of issues arose following the implementation of the policy. The results of the studies showed that the student's performance in both Science and Mathematics has yet to reach a satisfactory level. In comparison of performance, students in urban area fare better than students in rural area and the performance gap between the two groups grows bigger, since the implementation of the programme in year 2003 (MEM-KPM, 2016). The studies also found both teachers and students experienced anxiety when they are forced to teach and learn both Science and Mathematics in English. In fact, most Malay-educated teachers and students, especially from rural schools are less-spirited and not enthusiastic to teach and learn subjects in English. The studies conducted also revealed setbacks not because of their inability to learn Science and Mathematics instead it was because they are not proficient in English and also the weak teaching methods. Most students fail to master the English especially students from rural areas (Hardre, 2011). There are also among parents who fear that their children might drop out of school if both Science and Mathematics are taught in English.

Factors influencing the learning of Mathematics in English: There are various factors that affect the disabilities of students in mastering Mathematics when it is taught in English. This study will be focusing on four factors, mainly the medium of instruction, teacher's teaching in English, student's fluency in English and the teaching and learning environment.

The medium of instruction plays a very important role to in delivering the content and achieving the objectives of the lessons. Khan (2011) once stated that if students do not understand the delivery and teachings during the learning process due to language barriers, it would surely lead to the student's disabilities to learn. Educators who have been educating and learning in Bahasa Melayu are expected to instruct and gain subject specific knowledge effectively in English. Based on the concerns voiced regarding teacher's fluency and capability and also the general declining standards of English that task is considered a difficult task. While students are required to learn mathematical contents and the medium of instruction on the same time (Selamat *et al*., 2001), teachers themselves are struggling with their own fluency issues with the new medium of instruction. In fact, the pressure on teachers are far more prominent due to the fact that they are required to teach and increase student's understanding of the subject matters while making sure they do not make any language mistakes that might increase the confusion of the students of the subject (McDonough, 2009).

The teachers are also a major factor contributing to the student's excellence in academics. A brilliant teacher would be able to transform a teaching process into something beneficial for the students (Yahaya *et al*., 2009). According to Yahaya *et al*. (2009) the efficiency and effectiveness of teachers assuming the roles of mentors or role models would also affect the student's positive thinking towards their academic achievements. According to Nordin (2004, 2005), a teacher's methods are very detrimental to the learning patterns of their students and how they involve themselves in Mathematics. In addition, the attractiveness of a lesson depends on the teacher's teaching skills and methods (Broad and Evans, 2006). A good and effective teaching requires teachers who are wise and capable of diversifying the methods, techniques and activities applied in their classes.

According to Tan (2009), a person's success in subjects taught in a secondary language is also influenced by the student's individual characteristics. At-risk students are students who are unable to communicate well and have poor command of basic English. Yassin *et al*. (2009) found that frequent exercise alone cannot assist an individual in mastering the language. Instead, it should be coupled with the understanding of grammar and syntax in order to be proficient in that particular language. Although, the PPSMI policy was implemented in order to emphasize the importance of English language after the Malay language, only <10% of Malaysians can truly use English to communicate in their daily lives (Tan and Lan, 2011). The effects of teaching and learning Science and Mathematics in English on the student's achievement is still at a moderate level (Rahman *et al*., 2009) where results shown students lack adequate preparations and faced issues during the process of teaching and learning (Goh and Matthews, 2011). Most students had difficulties in their pronunciation and understanding mathematical terms in English as well as sentence structuring problems. This in turn discouraged students to raise any queries as they are unable to communicate in English.

A study conducted by Kupari and Nissinen found that factors that led to student's weaknesses in learning Mathematics included family and environment factors. According to Klatte *et al*. (2013), a noisy environment disrupts the teaching process. In addition, students will also lose their attention during the teaching

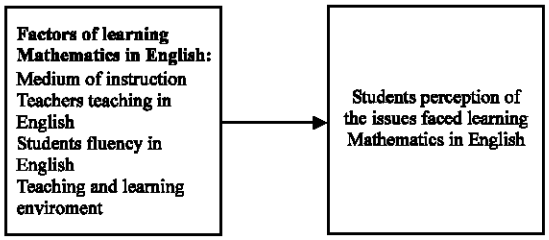

Fig. 1: Conceptual framework

and learning process where emotional stress heightens, their views distracted and their thinking weakens thus increasing the learning issues among students. An attractive and comfortable classroom is a most suitable environment to enhance learning skills (Vanhala, 2008). It is very important to restructure the education curriculum and emphasize on creative collaboration. Furthermore, the adequate physical environment allows students in heightening their performance. Shaw (2010) stated that a favorable environment is always crucial and effective for learning. Besides that, quality classroom lighting is adequate for better comfort for the students during their learning process.

Purpose of study: The purpose of this study is to explore the perception while learning Mathematics in English among form three students in a rural school. This study is set to identify the student's opinion of the issues they faced while learning Mathematics in a secondary language among the medium of instruction, teacher's teaching in English, student's fluency in English and teaching and learning environment. The conceptual framework of this study is shown in Fig. 1.

MATERIALS AND METHODS

A quantitative descriptive study using a survey-based research design was conducted to identify the problems encountered during learning Mathematics in English among rural students. The target group of the study was the form three students from rural schools in Malacca state. A total of 120 form three students were chosen randomly from the group. An adapted questionnaire was administered to the stsudents chosen to obtain their perspective on the issues encountered when learning Mathematics in English. Due to language barriers, the questionnaire was conducted in Malay language as suggested by the teachers of the students involved. The questionnaire tested four constructs for each factor and each constructs have six question items and used a 5 point Likert scale (1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree and 5 = strongly agree) for each item. Before the pilot test of the instrument was conducted, the instrument was first given to the teachers of the students involved so that they can evaluate the language and content of the questionnaire to be relevant and understandable. The teachers were also asked to contribute their suggestions and comments regarding the test items. Revisions were made accordingly before the actual pilot testing was conducted. Pilot testing of the instrument was conducted to 20 students who were among the target group of the study but not included in the sample group. The instrument was proven to be reliable as the results of the reliability test came out with a Cronbach's alpha value of $\alpha = 0.93$. The results were analyzed using descriptive statistics frequency and percentage using the Statistical Package for Social Sciences (SPSS) Software.

RESULTS AND DISCUSSION

Based on the all 120 questionnaire successfully collected from the respondents, the findings below shows the perception of form three students regarding the factors that hinder them from learning and understanding Mathematics in English effectively.

The study found that a total of 60.42% of respondents are on the negative side when it comes to learning Mathematics in English where only a small fraction of 3.47% of respondents were able to learn Mathematics well in English based on Table 1. This shows that majority of the respondents do not understand the lessons that were conducted in English nor do they prefer to learn Mathematics in English, hence the result of not being to cope with the curriculum.

However, the study revealed that the respondent's Mathematics teachers performed their responsibility well in teaching the subject in English where a total of 78.47% of the respondents agreed that their teachers tried to teach Mathematics in English in the most efficient way where only 5.14% disagreed according to Table 2. It shows that majority of respondents recognizes the effort of their teacher's mathematical lessons in English and agreed that their teaching methods and approaches used are acceptable and encouraging. Hence, the respondent's perception is that the teacher's teaching methods of Mathematics in English is not one of their issues in learning Mathematics in a secondary language.

Besides that, the study also found that the 57.22% of the students are not fluent in English where only 9.03% of the respondents are confident in their English ability as shown in Table 3. This shows that the respondents had

Table 1: Medium of instruction factor (English language)

Items	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I understand all the contacts that were delivered by the teacher in English	23	55	38	4	0
I am able to cope and keep up with all the teaching and learning sessions in english effectively	14	64	38	4	0
I am able to memorize all the mathematical formulas and terms in english effectively	31	55	30	4	0
I am able to answer questions and complete exercises given by the teacher, sbe it orally or written	7	30	79	4	0
I am able to answer Mathematics assessment and exam questions in english effectively	29	45	42	4	0
I prefer to learn Mathematics in English	39	43	33	5	0
Total	143 (19.86%)	292 (40.56%)	260 (36.11%)	25 (3.4%)	0 (0.00%)

Table 2: Teacher's teaching practices factor

Items	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
The teachers teachings practices in English can be understood easily	0	11	19	73	17
The teacher uses various teaching approaches in english	0	5	21	67	27
The teacher uses teaching aids in English during the teaching and learning process to attract the student's attention	0	10	18	56	36
The teacher is always prepared to teach Mathematics in english and their lessons is in order and systematic	0	4	17	68	31
The teacher provides guideance when students faced any difficulties in learning mathematics in English	0	1	23	54	42
The teacher will repeat the lessons content in English if the students cannot cope	0	6	20	57	37
Total	0 (0.00%)	37 (5.14%)	118 (16.39%)	375 (52.08%)	190 (26.39%)

Table 3: English proficiency level factor among students

Items	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I am able to grasp the basics of English well	28	39	43	10	0
I am able to read articles, reports, books and other English sources well	9	30	59	22	0
I am able to write and compose in English well	25	48	43	4	0
I am able to communicte in english well with friendss and family	33	45	29	13	0
I am able to understand Mathematics text books, notes and reference books written in english well	24	39	45	12	0
My performance in English language is good	45	47	24	4	0
Total	164 (22.78%)	248 (34.44%)	243 (33.75%)	65 (9.03%)	0 (0.00%)

Table 4: Learning environment factor

Items	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
The teaching and learning activities in English is conducted in a comfortable and fun environment	0	4	18	68	30
The school organizes activities to increase the fluency of English among students	0	14	40	44	22
The school provides various facilities for teaching and learning of mathematics in English for the usage of teachers and students	0	7	28	60	25
Parents and family often supports me in learning Mathematics in English	0	7	19	54	40
Parents often follow up with the progress and performance of my studies in Mathematics taught in English	0	9	32	50	29
Parents often provide me with reference books, study materials, exercise books and more in English for my learning of Mathematics	0	10	23	47	40
Total	0 (0.00%)	51 (7.08%)	160 (22.22%)	323 (44.86%)	186 (25.83%)

troubles in mastering English language. Students facing difficulties in proficiency of English would then be unable to achieve and perform well in subjects that are taught in English.

Nonetheless, the study found positive reactions from the students regarding the environment in learning Mathematics in English. A total of 70.69% of respondents show positive reviews of the support of schools and parents in their learning of Mathematics in English where only a mere 7.08% disagreed as shown in Table 4. This shows that the learning environment where students learn Mathematics in English and conducive for learning and promotes creative process. The main purpose of this study is to investigate the student's perception of the

factors that influence them on their learning of Mathematics in English. A few factors were identified through review of literature. The findings of the study show the perspective of form three students from rural schools regarding the contributing factors.

Medium of instruction (English language): In the study, regarding the medium of instruction factor, respondents were unable to respond and cope well to the teaching and learning sessions of Mathematics in English. This coincides with a study conducted by Aziz that most respondents were unable to understand and catch up with the teaching and learning of Mathematics in English due to unfamiliar medium of instruction and difficulties in understanding English itself. Most respondents expressed having issues in following the Mathematics lessons in English.

The results also revealed that most respondents could not answer questions or exercises given by teachers and are experiencing difficulty memorizing formulas and mathematical terms in English due to their inability to understand the English language itself. Aziz's findings also show that the respondents did not participate in learning activities such as question and answer (Q&A) session and also shy away from communicating in English during classes because of this particular reason in 2005. This in turn will affect the progress of students in mastering English and thus faces learning disabilities in Mathematics.

The implementation of the new education policy, PPSMI requires students to relearn and understand Mathematical terms that they may already know in English. Before students can be proficient in a particular mathematical concept, they are to first understand the terms frequently used (Zuhuri, 2007). This is the main reason students often experienced difficulties in learning Mathematics due to their lack of proficiency in the medium of instruction. In addition to that, students are unable to understand each English terms or words used in the context item; another reason why there are issues in learning Mathematics using a secondary language (Rahman *et al*., 2009). In reference to that, the study found that respondents were unable to answer assessment or examination questions in English well because they do not understand the requirements of the questions since it was written in English.

Most respondents also do not prefer learning Mathematics in English. This coincides with a study conducted by Aziz where majority of the respondents did not agree in learning Mathematics in English, preferring the lessons to be conducted rather in Malay instead. Sharaeai (2012) found students to be more inclined towards conducting the teaching and learning process bilingually namely their native language and English. Some respondents were even more interested if their teachers used their native language to conduct the whole class because they could not understand the teacher's lessons in English.

Teacher's teaching practices: The next factor to be discussed is the teacher factor where the study considers the teacher's teaching method and practices to not be one of the issues causing difficulties of learning Mathematics in English among students. This coincides with a study conducted by people in PN where they stated that a good and effective lesson requires teachers who are wise and capable of diversifying their teaching methods, techniques, approaches and activities carried out during the learning process. Yahaya *et al*. (2009) found that the usage of various approaches in the teaching and learning process would be able to attract the student's attention and students would have better confidence in their teachers. This is also in line with Killen (2006)'s studies which states that teachers who often use the same methods and approaches in their teaching would lead to a dull and boring classroom.

In addition, using teaching aids in English can also be an interesting tool for students during lessons and it helps to encourage them to participate in a meaningful and effective learning sessions. This is supported by Broad and Evans (2006) who states that the attractiveness of a lesson depends on the teacher's teaching skills and methods. This also coincides with Mok (2011) who stated the usage of teaching aids would be able to assist both teachers and students during the teaching and learning activities. Teaching aids allows students to understand and remember mathematical concepts when they show interest towards the lessons.

Effective teachers are always prepared and prepped up early before lessons to ensure their lessons to be systematic and appropriate. It helps teachers to deliver the content better and more effectively. This is consistent with a study conducted by Leithwood *et al*. (2004) which states the teacher's preparation before classes has a strong influence in the teaching and learning process. Peduk and Baran states that teachers who are always ready to teach have a higher confidence level to master knowledge than those who are not. Teaching lessons should be systematic and in order because Mathematics is a hierarchical subject that has interrelated titles (Klein, 2003). Students can understand the lessons better and connect back to previous related studies this way.

Most respondents agreed, stating that teachers would provide tutoring when they are facing issues learning Mathematics in English. This ensures the issues are not delayed and enables both teachers and students to attend and resolve the issues as soon as possible. People in PN states that the teacher's tutoring is very important in guiding students and assisting them overcome their difficulties. The findings also showed that majority of the respondents agreed that their teachers would repeat the lesson's content in English if they do not understand the lessons conducted by their teachers. Coinciding with the opinion of Leithwood *et al.* (2004) repetition of the teacher's explanation would allow students to remember better and are more likely to reinforce the student's understanding.

English proficiency level among students: The respondents of the study are facing difficulties in mastering English thus performing under-par for subjects conducted in English. This result was supported by Stefanson (2012) which states that the most influential factor of English proficiency among students is their basic knowledge of English during school. In addition, respondents who are already weak in their basic knowledge of English during school would be difficult to master English in the future (Nadia, 2011). Thus, unsatisfactory level of English proficiency would affect students not being able to follow with the teaching and learning sessions of Mathematics in English.

This also coincides with the study conducted by Tan (2009) which states that a person's achievement in a second language is influenced by the individual's characteristics. At-risk students are students who do not possess strong basis in English and are unable to communicate well in English. Poor mastery of English would hinder the students from progressing in their Mathematics lessons which are now conducted in English. Most students rarely or never communicate in English, be it at home or in public places since in rural areas, respondents prefer to interact using their native language in comparison to English. This is backed by Stefanson (2012) which states that the students do not communicate in English due to their environmental conditions that uses mostly their native language. Nadia (2011) found that to students should be given a wider exposure to a secondary language in order to master it, especially in terms of speech.

The findings also showed that respondents are able to read books, articles, reference materials in English better than writing and composing in English. This may be due to the lack of vocabulary, grammar understanding, phrase and sentence structuring among respondents and an overall lack of understanding of English terms. This finding is supported by Yassin *et al.* (2009) who found that to master a language, it must be coupled with an adequate understanding of grammar and syntax of the language. The lack of understanding and mastery of a language may cause learning issues conducted in that unfamiliar language.

Respondents also showed that they do not understand Mathematics textbooks, reference books and other reading materials in English due to their poor command of English. This coincides with a study by Aziz which found that the majority of students did not understand book contents as it was written in English. Coinciding with the findings of Stefanson (2012), students who do not possess good basic English will face difficulties in understanding books, reading materials or notes written in English. This may cause students to make mistakes often and have misunderstandings in understanding a passage or sentence structure.

Learning environment: The findings showed that respondents learnt Mathematics in English in an enjoyable environment. This may be due to clean and comfortable classroom surroundings. In line with opinions of Vanhala (2008) he states that a suitable and motivating learning environment instigates students to dedicate themselves to learning. Classroom environment is essential for an optimal and efficient learning. A soothing environmental can bring to effective learning. Klatte *et al.* (2013) found that the study location is very important to start learning activities. Providing a systematic study place is important as it affects student's learning because a comfortable environment stimulates the learning process.

In addition, the study shows that schools are organizing activities and provides a wide array of facilities for teaching and learning of Mathematics in English for the usage of teachers and students. This allows the learning process to be conducted smoothly and efficiently. It coincides with a study by Hannah (2013) where learning facilities plays an essential role in one's learning process. Learning facilities such as teaching aids and reference materials help in motivating student's learning. Facilities and equipments are necessary as important elements in learning and teaching. By feeling comfortable and happy, students are more motivated in their studies hence face less difficulties in learning. Learning facilities includes teaching aids, equipments used and also reference sources that can stimulate students in their learning process (Klatte *et al.*, 2013).

In accordance, the study also found that the respondent's parents often provide them encouragement and guidance in learning Mathematics in English, making them feeling confident and motivated in learning. Support, encouragement and confidence given by parents and families will be the strength and motivation for students in their self-development. The study by Spiller (2009) found that encouragement and guidance towards students would stimulate them in heightening their academic performance. Majority of the respondent's parents also provides learning facilities for them. This allows the students to refer and study more conveniently. Close (2001) found that parental involvement does not only mean providing encouragement and support to their children in fact they also provide their children with reference materials such as reference books, exercise books and other reading materials.

CONCLUSION

In conclusion, the study found that respondents had problems learning Mathematics in English due to the English language itself. The language issue is one of the main causes of the problem because language plays an important role in teaching and learning. If the students do not understand the language used in teaching, how are they able to understand the subject content presented? The study also found that the teacher's teaching practices in English is not an issue faced by the respondents. Majority of the respondents said that their teachers used a variety of methods and approaches to teach Mathematics in English. Their teaching methods are also orderly and systematic with the teachers constantly providing guidance and counselling to the students during the process of teaching and learning. Hence, teachers play an important role as they are purveyor of knowledge to the students (PN, 2010).

The study revealed that the low level of English proficiency is a major learning issue among respondents. The poor command of English among students may cause learning disabilities in subjects conducted in English. The failure of students mastering English language will not only affect their performance in this secondary language but also the performance in subjects conducted in English, particularly Science and Mathematics (Mosha, 2014). Finally, the study shows that environmental factors including the school and parents are not the main issue of learning Mathematics in English among respondents. Nevertheless, the school and parents play an important role in student's studies. The student's performance is greatly influenced by environmental factors (Hannah, 2013). The school and parents should jointly cooperate in monitoring the development of the student's learning in hopes of achieving a better performance in their academics, especially Mathematics.

IMPLICATIONS

The study overall found that the medium of instruction factor and low proficiency level in English among students are the significant issues that the form three respondents of rural schools faced while learning Mathematics in English. This shows that even if teachers use effective teaching strategies and are equipped with good infrastructure and suitable environment, yet it is still insufficient to prevent students from having difficulties in learning Mathematics taught in English. Therefore, a more comprehensive effort should be undertaken to address the language barrier itself while ensuring the quality of the teachers and learning infrastructure. Students should be frequently motivated to communicate and master English effectively. Indeed, the English teachers possess the duty and responsibility to help their students master English but the support of the entire community is also necessary to ensure that students do not shy away from mastering Science and Mathematics due to the language barrier. Hopefully, the findings of this study may provide some insights into the problems of students in learning Science and Mathematics in English as well as expanding a deeper research towards helping students achieve excellence in their academics.

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