



**COLLEGE OF EDUCATION**

---

---

***SCHOOL OF EDUCATION - POSTGRADUATE STUDIES***

***STUDENTS AND LECTURERS' ATTITUDES TOWARDS  
ENGLISH MEDIUM OF INSTRUCTION IN  
ENGINEERING COURSES AT RWANDA POLYTECHNIC***

By

**Alphonse NDIZEYE**

**Reg. No: 220017067**

A dissertation submitted to the school of Education in partial  
fulfilment of the requirements for the degree of Master of Education  
(Med) in English-Education

**Supervisor:** Dr. Cyprien TABARO

**Co-Supervisor:** Dr. Anne Marie KAGWESAGE

MARCH, 2022

## **DECLARATION**

I declare that this dissertation contains my own work except where specifically acknowledged, and it has been passed through the anti-plagiarism system and found to be compliant and this is the approved final version of the Dissertation.

Alphonse NDIZEYE

220017067



Signed:

Date: 27<sup>th</sup> March 2022

## **APPROVAL**

This is to certify that this Dissertation has been passed through the anti-plagiarism system and found to be compliant and this is the approved final version of the Dissertation.

### **Supervisor:**

Dr Cyprien Tabaro

Signed:

A handwritten signature in blue ink, appearing to read 'C. Tabaro', with a horizontal line drawn through it.

Date: 16<sup>th</sup> June, 2022

## **ACKNOWLEDGEMENTS**

My sincere acknowledgements go to all the people whose invaluable support contributed to the completion of this dissertation. I would like to express my heartfelt gratitude to my supervisor, Dr Cyprien Tabaro and Co-supervisor, Dr Anne Marie Kagwesage who have devoted their time to provide all the needed support and guidance. I also wish to thank all the lecturers for the knowledge imparted to me which laid foundation for this work.

Acknowledgements also go to the senior management of IPRC Karongi, IPRC Kigali and IPRC Musanze who facilitated the data collection process as well as students and lecturers who participated in this research.

Special thanks go to my family especially my wife Claudine and our three daughters Teta, Keza and Kaze for their understanding, patience and support during my busy schedules.

I owe so much to the University of Rwanda for having organised research workshops which scaled up my capacity to conduct research.

I would like to extend gratitude to all my colleagues for their encouragement during this study. I also say “thank you” to all that contributed to the completion of this study in one way or another

Alphonse NDIZEYE

University of Rwanda-College of Education, 2022

## **ABSTRACT**

Many African countries use foreign languages as media of instruction. Even countries that have a common language have adopted a foreign language as a medium of instruction. It is the case for Rwanda which enjoys being a monolingual society and yet has made English a medium of instruction at all levels of education mainly because English has become a global lingua franca. However, prior research has reported difficulties in implementing English as a MoI in Rwanda due to limited proficiency in English. This study investigates the students' and lecturers' attitudes towards learning and teaching engineering courses through the medium of English at Rwanda Polytechnic. The mixed research design was used to collect and analyse data. A Likert scale questionnaire was used to collect quantitative data from three Polytechnic Campuses in order to explore students' attitudes regarding the use of English medium of instruction (EMI) in engineering courses. Besides the questionnaire, qualitative data was collected from students through Focus Group Discussions to deeply understand the students' perceptions, challenges and coping strategies as regards the use of EMI in engineering subject content. Semi-structured interviews were conducted with twenty content lecturers. Data analysis was done by merging quantitative data with qualitative data so as to get an integrated understanding of students and lecturers' views about EMI. The findings show that there are mixed perceptions about EMI in engineering subjects. On one hand, both students and lecturers view EMI as an opportunity for their career prospects. On the other hand, they disagreed with the use of English-only medium of instruction due to the fact that both students and lecturers experience difficulties to accomplish academic tasks due to poor proficiency in English. Findings therefore show that L1 is predominantly used to facilitate content teaching and learning. The preference of L1 and the mixture of English and L1 is meant to increase students' participation, explain domain-specific terminology thereby maximizing the comprehension of the subject content. Workable policy changes and best practices which may help in improving the English proficiency levels for students and lecturers/teachers at all levels of education in Rwanda are recommended. Areas for further research meant to address EMI-related issues are also suggested.

## **ABBREVIATIONS AND ACRONYMS**

**B2:** Independent English user (Upper Intermediate level)

**C1:** Proficient English user (Advanced English)

**EMI:** English Medium of Instruction

**IPRC:** Integrated Polytechnic Regional College

**L1:** First Language (Mother tongue)

**L2:** Second Language

**MoI:** Medium of Instruction

**P4:** Primary Four

**P6:** Primary Six

## TABLE OF CONTENTS

<b>DECLARATION.....</b>	<b>ii</b>
<b>APPROVAL .....</b>	<b>iii</b>
<b>ACKNOWLEDGEMENTS.....</b>	<b>iv</b>
<b>ABSTRACT.....</b>	<b>v</b>
<b>ABBREVIATIONS AND ACRONYMS.....</b>	<b>vi</b>
<b>TABLE OF CONTENTS.....</b>	<b>vii</b>
<b>LIST OF TABLES.....</b>	<b>xi</b>
<b>LIST OF FIGURES.....</b>	<b>xii</b>
<b>CHAPTER I: GENERAL INTRODUCTION.....</b>	<b>1</b>
1.1. Background to the study .....	1
1.2. Problem statement.....	8
1.3. Research objectives.....	8
1.4. Research questions.....	9
1.5. Significance of the study.....	9
1.6. Structure of the dissertation .....	9
1.7. Summary .....	10
<b>CHAPTER II: LITERATURE REVIEW.....</b>	<b>11</b>
2.1. Introduction.....	11
2.2. Meaning of attitude .....	11
2.3. Role of students' attitudes on learning.....	12
2.4. Use of L1 in EMI .....	13
2.4.1. Benefits of L1 in teaching and learning .....	13
2.5. Role of L1 in academic activities in Rwanda .....	13
2.6. What is English-Medium Instruction (EMI)? .....	14
2.7. Evolution of EMI across the world.....	15
2.7.1. EMI in Europe.....	15
2.7.2. EMI in Latin America .....	17
2.7.3. EMI in Asia.....	19

2.7.4. EMI in Africa.....	21
2.8. Use of English-Medium Instruction (EMI) in Rwanda .....	22
2.8.1. English proficiency in Rwanda.....	22
2.8.2. Factors affecting learning English in Rwanda .....	24
2.8.3. Effects of shift of medium of instruction in Rwanda.....	25
2.9. Perceived effects of EMI on teaching and learning .....	26
2.10. Coping strategies in EMI classes .....	27
2.10.1. Lecturers’ teaching strategies .....	27
2.11. Benefits of EMI.....	30
2.12. Required English proficiency for EMI .....	31
2.13. Relationship between language proficiency and teaching self- efficacy.....	33
2.14. L2 proficiency and students’ self-beliefs.....	34
2.15. Summary .....	35
<b>CHAPTER III: RESEARCH METHODOLOGY.....</b>	<b>36</b>
3.1. Introduction.....	36
3.2. Research design .....	36
3.2.1. Mixed methods design .....	36
3.3. Population .....	37
3.4. Sample/sampling technique .....	38
3.5. Data collection instruments.....	39
3.5.1. Questionnaires.....	40
3.5.2. Interviews.....	41
3.6. Data analysis .....	42
3.6.1. Quantitative data analysis .....	42
3.6.2. Qualitative data analysis .....	42
3.7. Limitations of the study .....	42
3.8. Ethical considerations .....	43
3.9. Summary .....	43
<b>CHAPTER IV: DATA ANALYSIS AND INTERPRETATION.....</b>	<b>44</b>



4.1. Introduction.....	44
4.2. Response rate from questionnaires and Focus Group Discussions....	44
4.3. Students' English language background .....	45
4.3.1. Students' exposure to English .....	46
4.3.2. Students' self-reported proficiency in English .....	49
4.4. Perceived benefits of EMI .....	51
4.5. Students' attitudes towards the use of EMI in engineering courses ..	52
4.6. Challenges associated with English medium of instruction .....	57
4.6.1. EMI versus academic work.....	57
4.6.2. Impact of EMI on cognition.....	58
4.6.3. EMI versus students' participation .....	61
4.7. Coping strategies.....	62
4.7.1. Peer support in L1 .....	62
4.7.2. Memorization.....	63
4.7.3. Use of internet.....	63
4.8. Lecturers' attitudes towards EMI.....	65
4.8.1. Lecturers' language experience .....	66
4.8.2. Lecturer's EMI background.....	67
4.8.3. Self-reported English proficiency .....	68
4.8.4. Lecturers' perceptions of EMI in general .....	69
4.9. Challenges faced by lecturers regarding EMI.....	71
4.10. Lecturers' coping strategies .....	73
4.10.1. Use of code mixing and /or code-switching .....	74
4.10.2. Use of internet.....	75
4.10.3. Support from colleagues .....	76
Summary .....	76
<b>CHAPTER V: GENERAL CONCLUSION AND RECOMMENDATIONS.....</b>	<b>77</b>
5.1. Summary of the findings.....	77
5.2. Recommendations.....	79

5.2.1. Policy makers.....	79
5.2.2. Ministry of education and/or Higher Education Council (HEC) ...	80
5.2.3. Schools and academic establishments .....	81
5.3. Recommended future research.....	82
<b>REFERENCES.....</b>	<b>83</b>
<b>APPENDICES.....</b>	<b>95</b>
APPENDIX I. DATA COLLECTION TOOLS .....	96
APPENDIX II. ETHICAL CLEARANCES.....	107
APPENDIX III. EXTRA TABLES .....	110

## LIST OF TABLES

Table 1. Distribution of Engineering programs per College.....	38
Table 2. Response rate from questionnaire & FGDs.....	44
Table 3. Linguistic experience of students in EMI.....	45
Table 4. Students' exposure to EMI.....	47
Table 5. Self-reported English proficiency level of students.....	49
Table 6. Perceived benefits of EMI.....	51
Table 7. Students' attitudes towards the use of EMI in engineering courses.....	52
Table 8. Preferred MoI in engineering courses.....	54
Table 9. Students' reasons for their preferred MoI.....	55
Table 10. Students' perceived challenges linked to EMI.....	57
Table 11. Students' coping techniques to EMI.....	62

## LIST OF FIGURES

Figure 1. A notice requesting the teaching staff to use English only in academic activities .....	3
Figure 2. An edited notice.....	4
Figure 3. Reaction against the use of EMI.....	5
Figure 4. In favour of the mother tongue in teaching the subject content ..	5
Figure 5. Supports EMI as only way to access content in English.....	6
Figure 6. Against the use of EMI to learn subject content.....	6
Figure 7. Against English-only medium of instruction .....	7
Figure 8. Definition of a word from Google Understanding the meaning of .....	64
Figure 9. Understanding the meaning of a word by using Google video .	65

## **CHAPTER I: GENERAL INTRODUCTION**

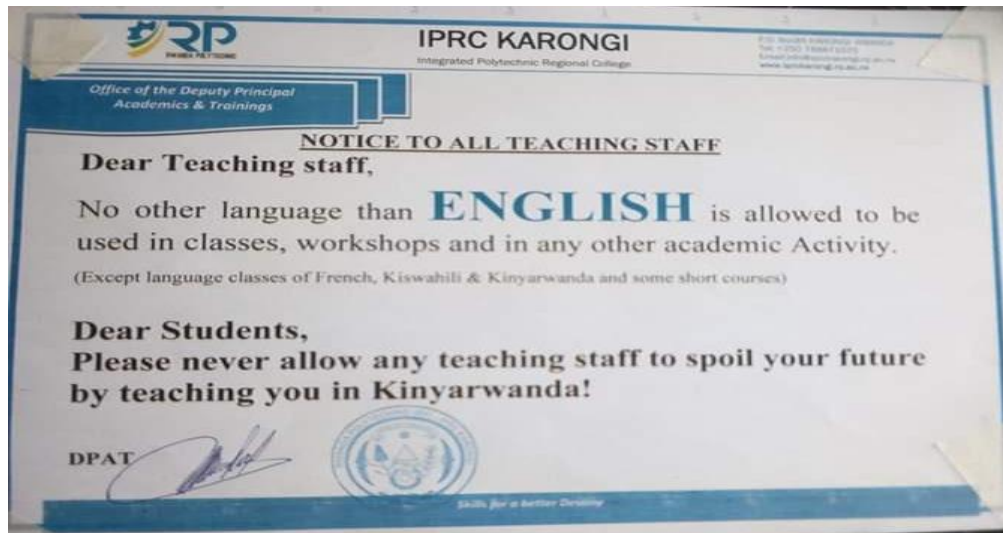
### **1.1. Background to the study**

Rwanda is among a few countries that remain linguistically monolingual i.e., people share one language, Kinyarwanda, as their mother tongue (Tabaro, 2019). Apart from being a unifying factor, Kinyarwanda dominates in all interactions ranging from recreational, social, and cultural to religious sermons. According to NISR (2014, cited in Sibomana, 2014), more than 99% of Rwandans speak Kinyarwanda. It is therefore evident that for a foreigner to effectively communicate with most Rwandans, s/he must use some Kinyarwanda. Even Rwandans who are proficient in other languages like English and French feel more comfortable when they are speaking their mother tongue.

English as a foreign language gained influence in Rwanda from July 1994 by the time the triumphant Rwandan Patriotic Front took power. This triumph marked the influx of Rwandan refugees who were returning to their country from the neighbouring Anglophone countries (Uganda mainly, as well as Kenya and Tanzania). The choice to set up English as an official language was made in 1996. Several Rwandans liked the idea of making English an official language as a way improving connections with other countries across the world, easing access to overseas education, and contributing to Rwanda's economic growth (Samuelson & Freedman, 2010). Research in 2001 has shown that Rwandans welcomed English because people (including teachers, parents and students) in other parts of the world are also accepting the use English (Samuelson & Freedman, 2010). Rwandans realized that the future of globalization is in English, and they wished to take part in that new world. The process of making Rwanda an English-speaking country has continued

until Rwanda became a member of the East African Community and joined the Commonwealth in 2009. French and English were obligatory subjects from 1996 (Obura, 2003), however, the students had to change to either French or English as medium instruction starting from the upper primary levels (i.e. P.4 to P.6). After completing primary school and passing national exams, children had to proceed to a secondary school which uses English or French-medium of instruction. National examinations were set in both French and English. At tertiary level, it was expected that students were able to complete academic tasks in both languages. The Rwanda's major higher learning institutions such as the former National University of Rwanda (NUR), Kigali Institute of Education (KIE), and Kigali Institute of Science and Technology (KIST), etc. were officially using English and French whereby lecturers could lecture in either language or students expected to follow along in both languages. Before beginning university studies, a bridge year of intensive language learning programme had to be completed by students with low levels of proficiency in either English or French (Obura, 2003). In 2008, the Government of Rwanda made English language a primary medium of instruction in all state schools from primary schools to institutions of higher learning. However, studies reveal that learning academic courses through a medium of English (a foreign language in this case) poses problems for students whose mother tongue is not English (Cassels and Johnstone, 1983). This is expressed in the views of the general public against a notice which was issued by one of the Rwanda Polytechnic colleges instructing the teaching staff to teach using English only medium. The reactions against learning and teaching engineering courses appear in the sample views extracted from tweeter as shown below.

Figure 1 below shows a notice that was meant for teaching staff in one of the colleges of Rwanda Polytechnic.



**Figure 1. A notice requesting the teaching staff to use English only in academic activities**

*Source: <https://twitter.com/iprckarongi/status/1131301388963713024>*

After this notice was posted everywhere in the campus for students and teaching staff to be aware of the use of English as the only acceptable medium of instruction, it went viral on social media especially on twitter where people viewed the notice as an attempt to belittle Kinyarwanda language. The criticism prompted the College to edit the notice by stressing the need to use English in order to boost proficiency levels.

As a result of the criticism from the public, the notice was slightly edited as is shown in Figure 2 below.



**Figure 2. An edited notice**

**Source: <https://twitter.com/iprckarongi/status/1131301388963713024>**

Despite the change of the notice, some people argued that English should not be overemphasized in learning and teaching vocational courses (Engineering included) as shown in the following sample tweets.





**Figure 3. Reaction against the use of EMI**

Figure 3 above is translated as *"No, this is a very big mistake! This is the reason why students learn things and when they graduate they fail to properly apply the acquired knowledge and skills. Hands-on-skills is about what a person can do, it has nothing to do with speaking. In addition, both the student and the lecturer feel comfortable when they are using a language they know better"*.

**Figure 4. In favour of the mother tongue in teaching the subject content**



Figure 4 above is translated as “Chinese, Arabs and others use their mother tongue as medium of instruction. Yet, they are not the ones who initiated what they study. It is the job of experts to translate the content into mother tongue. No one is resisting foreign languages as Medium of instruction but the best way to know foreign languages is to learn them properly rather than learning the subject content through foreign languages.”



**Figure 5. Supports EMI as only way to access content in English**

Figure 5 translates as "It is the colonizers who discovered what we want to study in Kinyarwanda, how then will we be able to translate them if we do not know the languages in which they were originally written? Will you stop learning the content waiting for translation into mother tongue?"

**Figure 6. Against the use of EMI to learn subject content**

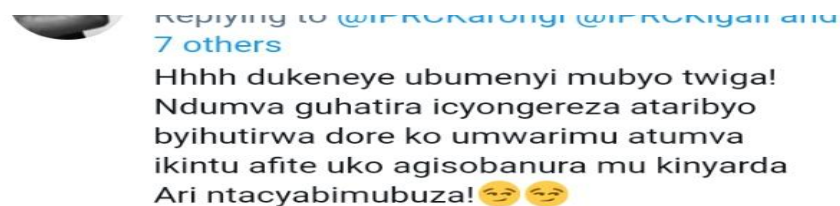


Figure 6 above translates as “hhhhh! All we need is knowledge and skills! In my opinion, it would not be a good idea to force [the teacher] to teach in

*English. In case a teacher finds it difficult to explain the content in English, it's no offence to do it in Kinyarwanda”.*



**Figure 7. Against English-only medium of instruction**

From the sample tweets in figures 3, 4, 6&7 above, reactions are against English only as medium of instruction. They advocate for code-switching in teaching and learning as this would facilitate content delivery and comprehension. Yevudey (2013:3) shows that code-switching plays important pedagogical roles ranging from “explaining and elaborating on concepts ,increasing classroom participation, establishing good classroom relationships, ensuring smooth running of the lesson to making the connections with the local culture of learners.”

Despite the fact that there are many research conducted on the implementation of the English medium of instruction in Rwanda; to the best of my knowledge, there is no published research on Rwanda Polytechnic regarding the use of EMI.

## **1.2. Problem statement**

From 2009, a new policy started with immediate effect and required students and teachers to start learning and teaching academic subjects in English as the only medium of instruction. The shift was mainly motivated by political, economic and social arguments to keep pace with the globalization trend (Kagwesage, 2013). In spite of the effort made to improve English proficiency among teachers and students, many still struggle to teach and learn academic courses in English-only medium of instruction. It is for this reason that this study aims to explore the students' and teachers' attitudes towards using English medium of instruction in teaching and learning engineering courses. The interest in this topic was also triggered by the negative reactions of some students and instructors against a notice from one of the Colleges of Rwanda Polytechnic that requested all teaching staff to use English only in academic activities. This research is therefore aimed at finding out how students and lecturers view the use of English medium of instruction in learning and teaching engineering courses.

## **1.3. Research objectives**

This study aims:

1. To explore the students' and lecturers' views regarding the use of English - medium of instruction in learning and teaching engineering courses.
2. To show how using English-medium of instruction (EMI) in engineering courses is beneficial though challenging to lecturers and students
3. To find out the students' and lecturers' strategies in coping with learning and teaching engineering courses through English medium instruction.

#### **1.4. Research questions**

1. What are the students' and lecturers' views as regards the use of English - medium instruction in learning and teaching engineering courses at Rwanda Polytechnic?
2. How is the use of English-medium of instruction (EMI) in engineering courses beneficial despite its' related challenges to lecturers and students?
3. What are the students and lecturers' strategies in coping with learning and teaching engineering courses through English medium instruction at Rwanda Polytechnic?

#### **1.5. Significance of the study**

English is the sole medium of instruction in the institutions of higher education in Rwanda. Since the English medium of instruction was implemented abruptly without considering the students' and lecturers' views, this research will help in providing important suggestions for reconsidering the needs of students and lecturers while at the same time revisiting the instructional language policy in higher education in general and more particularly rethinking about the effective use of EMI in hands-on skills courses like Engineering. The study will also be of importance to other researchers who would wish to supplement the already available literature on the same area of study as it will provide a reference for further studies.

#### **1.6. Structure of the dissertation**

This study is divided into five chapters. Chapter one is the general introduction. It presents the linguistic context of Rwanda by showing how English evolved into a medium of instruction. It highlights the specific research problem and shows the rationale while at the same time identifying research objectives and questions. Chapter two presents a review of the

literature related to the topic. It mainly focuses on attitudes, English-Medium of Instruction (EMI), as well as proficiency in English language in Rwanda. Chapter three deals with the methodology used to investigate the students' and lecturers' attitudes towards the use of English medium instruction in learning and teaching engineering courses, lecturers' and students' perceived benefits and challenges while using English-medium of instruction (EMI) and the students' and lecturers' views regarding the use of English medium of instruction in learning and teaching engineering courses. This chapter also discusses the Quantitative and qualitative approaches selected for this study, and also gives details about the sampling techniques, data collection and analysis methods used in this study. Chapter four presents the analysis and interpretation of the collected data in line with the objectives of the study. Lastly, Chapter five gives the general conclusion and recommendations.

### **1.7. Summary**

The introductory chapter was aimed at orienting the reader to the research presented in the body of the dissertation. The introduction provides information about Rwanda's language policy in education. This chapter introduced the reader to the contextual background of English as Medium of instruction in Rwanda. It highlighted the problem of the study, formulated guiding objectives and the research questions to be answered. The significance and the structure of the study were presented. The following chapter of this study is concerned with the review of the related literature i.e. English as a medium of instruction, role of attitudes in learning and English proficiency levels in Rwanda particularly.

## **CHAPTER II: LITERATURE REVIEW**

### **2.1. Introduction**

This chapter gives an overview of literature meant to make it possible to understand the concept attitude and the role it plays in learning and teaching. The literature review also elaborates on the growth of EMI in different geographical locations across the world and how it has been implemented in higher education highlighting the benefits and challenges associated with EMI. The reviewed literature also shows the relationship between English proficiency, teacher and student self-efficacy as well as academic achievement. The literature review presents the use of EMI in Rwandan educational context while at the same time indicating L1 use to cope with the abruptly introduced English medium of instruction. The reviewed literature lays the foundation for understanding EMI policy and practices regarding the topic under research.

### **2.2. Meaning of attitude**

Trying to describe the concept of attitude, Langat (2015, p.14) asserts:

Attitudes can be learnt or acquired predisposition which results from personal experiences and direct interactions with models or subject within our environment be it at school or home and which yields certain beliefs and perceptions about the subject. Attitudes influence own social thought and helps us in organizing and evaluating stimuli into pleasant or unpleasant, useful or not useful, favourable or unfavourable or negative or positive. This would have a strong effect on the learners behaviour which though not directly observable may be inferred from observable responses arising from the beliefs, emotional response and behaviour that determines whether they like the subject or not and whether they would be engaged or not. The

learning outcome and achievement would be determined by the level of engagement and the amount of effort exerted by the learners which also is contingent upon the kind of attitude and behaviour adopted and exhibited by the learners themselves.

Baker (1992) confirms that knowing a person's attitudes can help in predicting how he would behave for a certain period of time. In clear terms, attitudes can help predict what a person is likely to do and may determine the results as desirable or undesirable. It is the attitudes that determine the motivation of doing an action by investing some energy in it (Hechhausen, 1991).

### **2.3. Role of students' attitudes on learning**

Attitude may completely change a person's life plus his/her education. The students' attitudes towards learning determine their ability and readiness to learn. There is much likelihood for students not to continue their education if their negative attitudes towards learning are not altered. The best way to change students' negative attitudes towards learning is to find out factors that cause such attitudes and then use the factors in order to change the attitude for the better (Ministry of Education in Guyana, 2016).

When students have negative attitudes towards learning, they lack motivation thereby failing to grasp the material. So, students' attitudes, opinions and beliefs influence their behaviours in some way. Therefore, the students' attitudes play a key role in influencing their learning activities i.e. students' attitudes will either stimulate or inhibit their motivation and interest to learn. Thus, the person's positive or negative tendency has significant motivational components. When students' attitude towards the school is positive, there is



much likelihood that they will perform well at school. Additionally, they will achieve the school expectations and goals (Sharma, 2017).

## **2.4. Use of L1 in EMI**

For people to make sense of the environment around them, they must be very familiar with that environment i.e. it's social, cultural and linguistic contexts. If learning takes place within the contexts that are learner-friendly, it becomes much more effective. The use of L1 in learning therefore creates a conducive environment for learning as shown by Marton et al (2004, p.32) where they show that "A space of learning that is semantically rich allows students to come to grips with the critical features of the object of learning much more effectively than one that is semantically impoverished."

### **2.4.1. Benefits of L1 in teaching and learning**

Research conducted by Macaro et al. (2017) has shown that students taught and assessed in L1 MOI had a far much better performance than EMI students in terms of lecture comprehension. Kocakulah et al. (2005) also indicates that teaching in one's L1 boosts a child's courage to acquire the needed skills and attitudes. Neglecting L1 in teaching and learning has been a hindrance to the effective teaching and learning. Laufer (2009) asserts that language being a channel of communication remains the principal determinant of the students' success. A person's thinking is imbedded in the language thereby facilitating the comprehension of every imparted skills and knowledge. Language and thought are closely related.

## **2.5. Role of L1 in academic activities in Rwanda**

Kagwesage (2013) shows that though Kinyarwanda is not an official language of instruction at tertiary level in Rwanda, it is used to understand

the content subject since it is a language that students are conversant with. Students resort to using Kinyarwanda in order to facilitate the understanding of the academic subjects. She further found out that students dominantly use Kinyarwanda to complete an assignment given to them in English.

## **2.6. What is English-Medium Instruction (EMI)?**

Macaro et al. (2018, p.19) defines EMI as “the use of the English language to teach academic subjects (other than English itself) in countries or jurisdictions where the first language (L1) of the majority of the population is not English” i.e. academic subjects are taught in English in situations where English is not the principal communication language. Curle et al.(2020) show how EMI has been alternatively defined as not limited to teaching academic subjects in English language but also included concurrently boosting English language proficiency through learning content subjects in English. This definition resembles EMI to Content and Language Integrated Learning (CLIL) which is an educational approach where students study the subject content and a second language at the same time. For instance, when a teacher teaches mathematics in English, students will learn mathematics while at the same time gaining significant terms and language skills. Karakaş (2015) therefore explains that “In EMI contexts, English is not viewed as a subject itself but as a medium to teach and learn academic content. It means that much emphasis is put on subject content rather than the acquisition of English skills.

Other studies have proposed that EMI should not only focus on non-Anglophone settings but should also include Anglophone contexts such as the USA,UK and Australia because of the increasing numbers of international

students and migrants whose L1 is not English (Humphreys, 2017; Jenkins, 2019).

## **2.7. Evolution of EMI across the world**

English as a medium of instruction is traced back to the expansion of the British Empire in the 16<sup>th</sup> Century. The British Empire facilitated the spread of the English language to British colonies where it has served as a language of instruction ever since. Apart from the British Empire, the spread of English is associated with both economic and cultural influence of the USA after the Second World War and expansion of internet as well as advancement of other technologies.

In addition, as a result of the recent trend of globalisation and internalization, higher learning institutions across the globe (in both English speaking and non-English speaking countries) have increased degree programs which are taught through the medium of English.

This study reviews the literature about EMI practices in different parts of the world.

### **2.7.1. EMI in Europe**

EMI was received differently in European higher education. While in some countries there was resistance to the implementation of EMI, others seemed to adapt to EMI with less or no resistance. For instance, in Italy and France, EMI was not welcomed as it was seen as an infringement on the freedom of teaching to Italian teachers and as a danger to the national language as well as to the authenticity of the French identity (Gallix, 2013). On the other hand, Nordic countries i.e. Denmark, Sweden, Finland, Estonia, Iceland and Norway were not much bothered by the implementation of EMI except for

the national language councils and the elites of cultural groups who expressed worries about the imminent threat to minority languages. The resistance or acceptance of EMI depends on how prestigious native languages are viewed in some European countries. For instance, countries like Germany, France and Spain consider their native languages prestigious which makes the adoption of EMI slower compared to Sweden, Norway, Denmark, Finland, the Netherlands, Belgium, and Turkey whose native languages have relatively less prestige and prevalence (Finardi, 2016). Across Europe, in English and non-English contexts, EMI was and is mostly used for post graduate programs.

Most European countries embraced EMI due to a number of reasons. 'Englishisation' of some academic programs such as business, economics, engineering, technology, and later social sciences and natural sciences was driven by global, European, national, institutional as well as classroom imperatives. Dimova et al. (2015) explain the reasons behind the use of EMI in Europe. At global level, EMI was favoured by the provisions of The 1995 General Agreement on Trade in Services (GATS) which put in place a mechanism that required countries to commit themselves to free up trade in services and avails a mechanism for solving disagreements between countries. It is under this framework that higher education was considered a service for trade rather than a common good. As a result, higher education was progressively viewed as an article of trade and universities have started competing for international students by putting in place English-medium programmes. In addition, EMI trend in Europe was influenced by the establishment of European Higher Education Area (EHEA) which brought 49 European countries together with a common goal to increase staff and students' mobility and to facilitate employability. Furthermore, the use of

EMI in European universities was decided at national level where by some countries viewed English as a way to internationalise their universities and be able to recruit the best international staff and students thereby enhancing their status and visibility as was the case of Denmark.

Institutional policies have also contributed to the spread of EMI. Some institutions were in favour of a medium of English language so as to prepare nationals for a global job market. Last but not the least, the class composition has made English a lingua franca so as to accommodate students who do not speak any local national languages.

### **2.7.2. EMI in Latin America**

Macaro et al. (2018) indicated that the growth of EMI in Latin America higher education is relatively inexistent which might imply that there is very little or lack of use of English as a medium of instruction. In recent years, however, there had been initiatives to learn English as a subject in many countries in south and Central America.

Despite the low English proficiency among teachers and students, countries in Latin America have slowly started to implement EMI programs. It all started by putting in place policies and programs to improve English language learning (ELL). The efforts to improve English proficiency was driven by the fact that English is increasingly needed for business and international communication. Consequently, in many Latin American countries, English language learning has become mandatory by law, a move that has laid foundation for EMI programs.

However, teaching and learning English language is still deficient as teachers lack the required English proficiency. This implies that as long as teachers'

proficiency in English language is low, they perform below the set expected proficiency levels (Cronquist et al., 2017).

Due to the increase of multinational companies in Latin America, English has become a common cooperate language. For example, tourism and financial services in Colombia require workforce who master the English language while in Mexico, 80% of job listings require proficiency in English. The same trend in demand of proficient English speakers meant for international co-operation and success in the global economy happens in other Latin American countries like Costa Rica, Argentina, Chile, Peru, Brazil, Panama, Ecuador and Uruguay (Neeley, 2012).

Brazil's use of Portuguese as the only language for instruction in higher education has led to failure to attract foreign students. Even though language policy is not explicit in Brazil, English is used in programs like Science without Borders (SwB), Language without Borders (LwB) and Capes Print meant to facilitate academic mobility. In a document "Guide of Brazilian Higher Education Courses in English" which was published by the British Council and the Brazilian Association of International Education (FAUBAI) in 2016 in a bid to figure out the courses taught in English in four Brazilian regions has indicated that a few short-term and undergraduate and graduate courses and programs were offered courses in English (Guimarães & Kremer, 2020).

Regarding English skills, Major et al. (2002) show that domestic lecturers and students in Brazil are required to have a C1 proficiency level in English in order to teach or enrol in EMI programs which discourages the implementation of EMI.

It has also been observed that foreign lecturers, especially those from Portugal who share the first language with students in Brazil, are more likely to be understood than the lecturers who are native speakers of English. This is due to the fact that the English accent of lecturers from Portugal is more understandable than that of native speakers of English.

The increase of foreign companies (especially from the United States) in Latin America made English proficiency a priority for college graduates so that they would secure well paid jobs from the foreign companies.

In Latin America, the internationalisation process of offering courses through the medium of English has been slow compared to Europe and Asia. This was because both Spanish and Portuguese are widely used languages as home languages in Latin America and also used as second languages in other parts of the world.

### **2.7.3. EMI in Asia**

Just like Europe, EMI has been used in Asia for internationalization of higher education. Due to the increasing drive of raising visibility and status of higher education in Asia, countries like China, Japan, South Korea, Taiwan, and Vietnam have quickly started to use EMI for a number of reasons.

In recent years, many American, British and Australian universities have signed bilateral relationships with some universities in Asia to help in teaching EMI programs. Even EMI campuses were established in east and southern Asia by western universities. As a result of this trend, many Asian countries established their own EMI programs. However, the EMI policy at higher education level in Asia is a top-down style whereby instructions are given from top levels to those who implement them (Gill, 2006, cited in

Manh, 2012). For instance, in Vietnam, the Ministry of Education instructed that universities start offering programs like science, business administration, economics finance and banking through the medium of English (MOET, 2005).

Japanese universities have also started offering 10 to 30 % of academic courses in English from the request of the government, private educational authorities and some major business and industrial leaders (Brady, 2008). Chinese universities were also instructed by the Ministry of Education to use English as a medium of instruction in subjects like biotechnology, information technology, new material technology, foreign trade, finance, economics and law (Nunan, 2003). To fully implement EMI, famous Chinese universities bought textbooks that are used by universities in English speaking countries like Harvard, MIT and Stanford University.

The proliferation of EMI in South Korea began in late 1990's and early 2000's. As EMI was seen as a common practice worldwide, Korea's Advanced Institute of Science and Technology instructed that all undergraduate courses be taught through English medium. This decision, however, caused heated debates and wide media coverage. The controversy was especially aggravated by suicides of four students and a lecturer allegedly caused by stressful academic life on the side of domestic students who found it hard to cope with taking courses in English-only medium(Kang, 2018). Byun et al.(2011) indicate that the compulsory implementation of EMI without considering the students 'and lecturers' English proficiency have caused more problems. On the other hand, EMI policy have yielded positive results in terms of overall improvement of students'' proficiency in English.



As for Taiwan, EMI policy was seen as a way of increasing international students' enrolment and strengthen mobility and employability at international level. The study by Huang (2015) has shown that students' motivation towards EMI was high as they believed that their English ability and professional knowledge improved thanks to EMI policy. Another reason for implementing EMI in Taiwanese higher education is the belief that students would be more interested and motivated to learn the English language if the content subjects are taught in English. Using EMI in teaching the content subjects would result in improved English proficiency thereby contributing to students' academic performance as well as their competitiveness on the labour market (Chang, 2010).

#### **2.7.4. EMI in Africa**

Practically all postcolonial African countries use English or another International language as the medium of instruction at secondary and tertiary level. In most African countries, a foreign language (especially English) is medium of instruction even at pre-school and primary education levels even though it is not the first language of the majority of students. Milligan & Tikly (2016) assert that the predominant use of English as a medium of instruction in Africa is associated with the colonial and postcolonial legacies which have always been in favour of global languages and often minimised the value of indigenous languages. In addition, the use of English medium of instruction in Africa is linked to globalisation whereby proficiency in English is viewed as a lingua franca in a globalised world. While many policy makers view EMI as key indicator for economic growth and parents believe that immersion in English at an early stage leads to success in the job market (Tembe & Norton, 2011), they underestimate the impact that EMI has on

educational outcomes and linguistic needs of various groups of underprivileged learners.

Most African countries which use English as the sole medium of instruction do it because they were either colonised by the British or due to the multilingual nature of their societies which necessitates a common language for education. Even monolingual countries like Rwanda and some Arab countries have been using EMI due to global trend of internationalisation of education where English is seen as global lingua franca.

## **2.8. Use of English-Medium Instruction (EMI) in Rwanda**

As shown in 1.1, English was made a medium of instruction in Rwanda since 2008. Rwanda has taken this path because English serves as a common language between Rwanda and other member states in the East African Community and the Commonwealth of which Rwanda is a member state (Sibomana, 2014). This is due to a global acceptance of English as a lingua franca as it is considered a vehicle of globalization and the language of science and technology (Martin del Pozo, 2017). It remains to know whether the content lecturers and students have got sufficient English proficiency to teach or learn through EMI. Even though some lecturers may have studied in English speaking countries and have therefore gained advanced skills in a second language, it does not guarantee the content comprehension if students have low skills in the language of instruction.

### **2.8.1. English proficiency in Rwanda**

The English proficiency in Rwanda can be understood by analysing her linguistic landscape, by looking at the quantity of English language input and output in Rwanda as well as how it affects English acquisition. More than 99% of Rwandans speak Kinyarwanda and this makes Rwanda one of the few

countries where almost all people speak the same mother tongue (Sibomana, 2014). As a result, Rwanda is practically a homogeneous linguistic community. On the other hand, English, French and Kiswahili are both used as foreign languages and official languages. Like English and French, Kiswahili is also taught as a compulsory school subject. As indicated by Rosendal (2010), there is a very low level of proficiency in foreign languages that are studied formally in Rwanda. Other researchers (Williams, 2011; USAID, 2012; Sibomana, 2014) have shown that primary, secondary and university students have poor English reading proficiency. According to Pearson (2014), teachers in both rural and urban schools in Rwanda were reported to have insufficient skills to teach in the medium of English.

Lynd (2010:16) indicates that, despite the use of EMI, most teachers in Rwanda have no intermediate levels of proficiency in English. The research shows that "85% of primary teachers and 66% of secondary teachers had only beginner, elementary, or pre-intermediate levels of English proficiency....". It is evident that if teachers of such low levels of proficiency in English are forced to deliver the course content in English only, it will undoubtedly affect the quality of course delivery, students' participation and content comprehension.

For the Rwandan Higher learning institutions, English language was made a medium of instruction since 2008. Therefore, all students had to take courses in English and the teaching staff had to deliver instruction in English only. Most of students and lecturers had received instruction in French and were more fluent and comfortable in French than English. Despite the fact that English has been a medium of instruction in universities in Rwanda for more than ten years, proficiency in English language remains a challenge for both students and academic staff (Mbonyinshuti, 2020a). The low proficiency

level in English was even confirmed by a once Minister of education, Dr Eugene Mutimura who showed that the low level of competence in English at universities in Rwanda may be affecting the teaching and learning process as one *“is not able to know if the student has science skills because this student can't communicate effectively”* (Tanganika, 2018). Mbonyinshuti (2020b) further shows that some of the teaching staff don't use English in class which affects teaching and learning as students are not encouraged to use it.

### **2.8.2. Factors affecting learning English in Rwanda**

According to Dulay et al., (1982), English language teaching and learning in Rwanda is hindered by an environment which does not favour second/foreign language acquisition. English is not widely used across the country except in academic settings. Yet, language acquisition necessitates a conducive environment which exposes the language learner to everything related to the target language i.e. interactions in shops and restaurants, chats with friends, television programs, signposts on the streets as well newspapers. Language environment, therefore, plays an important role in learning a language. Rwanda's language environment (markets, churches, streets, shopping areas, local radio/TV programs, in taxis, and in many non-academic workplaces, etc.) does not favour the exposure to enough English language inputs thereby reducing the chance of mastering English. Kinyarwanda, on the other hand, is the language that most people are exposed to in everyday activities and events. Worse still, Kinyarwanda dominates even in informal interactions among lecturers and students in academic environment and therefore reduces chances of improving proficiency in English. Both formal and informal acquisition of English as a second language in Rwanda is still a challenge because many teachers still have limited proficiency in the target language

and also due to lack of exposure to sufficient input of English language in an almost Kinyarwanda-only speaking community.

### **2.8.3. Effects of shift of medium of instruction in Rwanda**

In 2008, Rwanda abruptly changed French medium of instruction to English. The implementation of EMI policy faced many challenges as more than 90% of teachers were competent in French language. It was undoubtedly not easy to turn such a big number of French-speaking teachers into proficient English users. It is a progressive task which requires a long period of time. Many researchers(Othman & Saat, 2009; Lynd, 2010; Niyibizi, 2010; Samuelson & Freedman, 2010; Mansor, Badarudin, & Mat, 2011; Nzitabakuze, 2011) believe that changing the language of instruction was good provided that teachers and students are given ample time to learn the new language of instruction before it is used as a medium of instruction.

The World Politics Review (2017, cited in WENR, 2019:8) indicates that:

“The implementation of English as the language of instruction ... was one of the most abrupt policies introduced by the Rwandan government. While other policies have also been introduced with limited notice, this one stands out, as it had an impact on the entire population, and there was insufficient time allowed for the change. For example, teachers were required to learn and/or adopt English in four months.... The government ... overestimated the number of teachers who would be able to educate students effectively in a new language. The consequence of these planning failures was that initial results are below expectations. In due course, many of the logistical issues—for example, a shortage of English-language text books—were resolved, but a large cohort of children have progressed through the education system with limited language skills and subject knowledge.”

## **2.9. Perceived effects of EMI on teaching and learning**

Benson (2008) points out that people learn effectively through their mother tongue. Research findings (Ho and Man, 2007) have shown that students in Hong Kong performed better when assessed in Chinese (L1) than in English (L2 and MoI). In a study conducted on Filipino students, Maminta (1985, cited in Uwambayinema, 2013) finds out that poor performance in subjects like science and mathematics which are cognitively tough is caused by the use of the English medium of instruction and more especially when teachers do not master English language.

Limited language proficiency of content lecturers may also have adverse effects on the quality of education especially when lecturers resort to the simplification or reduction of the course material. For instance, lecturers may teach slowly or it may take them longer time while giving explanation of some points. Additionally, poor proficiency in English may bring about difficulties in explaining lengthy content that has to be summarised. Lack of English proficiency may also weaken the content delivery and cause ambiguity in presentations thereby reducing student learning (Dimova et al., 2015). The fact that lecturers cannot use humour in class also hampers the building of connection with students (Tsui, 2017).

Furthermore, students learning through a language that is not their language are disadvantaged when English-only is used in class. Proponents of English-only policy argue that students with less opportunity to use English outside classroom, need to hear and use it as much as possible. However, students cannot learn from English if they do not understand what is said in English (Kirkpatrick, 2011). In EMI classes, the students' low proficiency in English may impair the academic knowledge acquisition and negatively affects class

participation and therefore impact on student motivation (Kang & Park, 2005).

## **2.10. Coping strategies in EMI classes**

There have been problems related to limited English proficiency among lecturers and students especially in some monolingual Asian countries like Hong Kong, Japan, South Korea, some Arab countries as well as countries like Rwanda and Namibia which have recently introduced English as a medium of instruction (Choi, 2018; Sawahel, 2015 & Plonski et al., 2013). EMI policy led to passive participation of students in the classroom activities, lowered lecturers' and students' confidence, hindered content comprehension thereby affecting academic performance, etc. Due to challenges linked with the poor command of the language of instruction, lecturers and students have devised different coping strategies in EMI classes.

### **2.10.1. Lecturers' teaching strategies**

Normally, lecturers feel confident if they are teaching in the language they master. But when they are required to teach the content in the language they do not know well to students with low proficiency in the language of instruction, it is obvious that lecturers will devise strategies to facilitate instruction. The most commonly observed teaching strategies in EMI classes include code-switching, content memorizing, use of dictionaries, peer support etc.

Code-switching is the use of two languages in a discourse, conversation or an utterance. Code-switching has been found to be an effective teaching technique which is relevant for bilingual students (Simasiku et al., 2014). Teachers always used code-switching to explain difficult concepts, translate

new vocabulary, make listener pay attention, keep discipline, motivate students, elaborate key points, give examples from personal life, explain a concept from a different culture and build rapport. Most teachers resort to L1 when English-only strategy fails to work (Bhatti et al., 2018). In Hong Kong, teachers used code switching to break boredom by using humour in class conversations (Alenezi, 2010).

Though, code-switching is viewed as a useful strategy for content teaching in EMI classes, it is only effective when the lecturer and students share the language switched to. Code-switching may not be relevant if there are international students as it may prevent them from participating and understanding the content (Curle et al., 2020).

### **2.10.2. Students' coping strategies**

Language plays a central role in content learning. If students lack competence in the language of teaching, then that language becomes a barrier not only to acquiring knowledge and skills but also to students' cognitive processes.

It would therefore be better if students learn in a language they understand well for better academic outcomes. It is not easy to learn something in a language one does not master because it reduces the attention a student pays to the lecture as it is divided between understanding the language and learning the content (Oxford University Press ELT, 2019).

If students do not master the language of instruction, they devise ways to cope with academic work. One of the strategies students have used to deal with EMI related challenges includes the use of L1 to ensure content mastery. This strategy is linked to the fact that L1 is associated with cognitive development, and a better student is that one whose cognition functions well.



Research has shown that learning and teaching through EMI has negatively affected Dutch engineering students' learning (Klaassen & De Graaff, 2001; Vinke, 1995). The same effect is highlighted by Kagwesage (2013) where she shows that the use of foreign languages (English included) in teaching and learning yield appropriate results in higher education context only when there is peer mentoring and support systems which facilitate the comprehension of subject content and enable students to effectively carry out daily academic activities. The research carried out by Airey&Linder (2006), shows that Swedish students who were taking Physics through EMI reported difficulties in taking lecture notes and were also unable to ask and answer questions in English. This was due to failure to understand the lectures and lecturers' accents. As far as content comprehension is concerned, the survey conducted at Çukorova University in Turkey has revealed that students could not understand the content in depth when taught through EMI. They only memorised it and could not remember anything after a while (Kırkgöz, 2005).

In Rwandan higher education, Kagwesage (2013) has found out that students used different strategies to cope with learning academic content through EMI. Students reported using different languages (including L1) to facilitate understanding of the domain specific content and to convey meaning as well as constructing knowledge. Students also resorted to mentoring and peer support so as to get enhanced understanding of the subject content while extensive reading worked when a student had no one to help understand the subject matter. In addition, students found regular attendance to lectures and content memorization helpful in understanding content learned through English.

### **2.11. Benefits of EMI**

According to Curle et al., (2020), benefits of EMI include recruitment of international students/staff, cultural diversity, language acquisition, and prestige. Firstly, universities across the world raises their status and rankings thanks to international staff and students (Altbach and Knight, 2007). Doiz et al., (2011) indicate that universities which do not offer courses through EMI are likely to be isolated on international arena as no international students would enrol in those universities.

As for cultural diversity, EMI institutions are believed to offer degrees which provide more job opportunities. This belief is associated with the fact that English as an international language plays a big role in promoting cultural diversity and mobility. EMI is also credited for learning both the content and the language simultaneously. While learning the content in English, a student acquires the content and learns English as a foreign language. Vinke et al., (1998) show that when lecturers prepare for classes and teach in English, EMI might again benefit lecturers as it would be an opportunity for lecturers to practice the language and improve their language competences.

EMI increases access to teaching materials as more academic publications and teaching materials are written in English than any other language (Liu, 2017). More scholarly publications in English are cited and more accessible to a wider readership. For example, 90% of publications in natural sciences are in English (Di Bitetti & Ferreras, 2017; Ammon, 2012). In some countries, academic resources in local languages are not available which necessitates the use of EMI where resources are readily available in English (Galloway et al., 2017).

## **2.12. Required English proficiency for EMI**

There is very little literature about the optimal English proficiency level required for both content lecturers and students in EMI. It is with no doubt that the mastery of the language of instruction plays a vital role in learning and teaching. Lecturers cannot make sense of the content and the students cannot understand the content without the adequate proficiency in the medium of instruction.

For a successful EMI, lecturers and students need to develop their English skills especially, their academic English so that they can understand and use study materials effectively. For students, proficiency in English would help them get the meaning of the assigned tasks thereby determining the selection of appropriate and relevant material for the tasks. Additionally, mastery of the English medium of instruction contributes to proper academic writing in terms of writing well-structured and coherent work without plagiarism (The Open University, 2021).

It should be noted that English proficiency for both lecturers and students is of paramount importance in EMI. If the teacher cannot speak the language of instruction, students will most likely not learn. Also, if students cannot listen nor speak the language of instruction, learning will not take place effectively.

Though, there is little research on the ideal level of English proficiency for effective teaching and learning in EMI, some research found out that, in order for a student-centred approach to be possible in EMI, C1 is the required threshold proficiency level (Airey, 2011).

In a survey of 70 universities in Europe, O'Dowd (2018) found out that 75 percent of universities in Spain, the Netherlands, Italy, Sweden, Austria,

France and Germany required a certain English proficiency level from their faculty. The threshold level ranged from B2 to C1 (on a Common European Framework of Reference for Languages-CEFR levels). However, other findings show that a B2 or C1 level of English proficiency may not be adequate enough to guarantee the success in EMI studies (Trenkic & Warmington, 2019). It seems that universities require higher English proficiency level than Intermediate (B2) to teach in English. Research is required to determine the minimum level of English proficiency needed for teaching different content subjects. For instance, Macaro et al. (2018) indicate that language plays a minimal role in teaching courses which involve mathematical formulae and codes.

Mastery of English language has been reported to affect the students' performance. Jha et al.(2019) point out that English medium of instruction in Hindi speaking regions in India created a barrier to communication thereby affecting the medical students' performance in academic tasks. The findings further show that there is a positive correlation between the language of instruction and the performance of students. Students who were found proficient in English performed much better academically than the students with low self-reported English proficiency.

Other findings have stressed the need for English proficiency in effective teaching in EMI classes. Eslami & Fatahi (2008) indicate that Iranian teachers who perceived themselves as proficient in English felt more efficacious. The same applied to teachers at secondary schools in Poland who were reported to lose self-esteem due to poor command of the English language. This teachers' lack of confidence prevented them from accomplishing the pedagogical function of being communicative.

So, since English language is most of the times used as the sole medium of communication in EMI classes in form of lectures, textbooks, assessments and student-lecturer interactions with some lecturers and students of less or non-English background, the issue of English proficiency should therefore be addressed to make EMI classes successful and increase teacher self-efficacy.

### **2.13. Relationship between language proficiency and teaching self-efficacy**

Teacher self-efficacy was defined by Tschannen-Moran et al. (1998) as a teacher's self-perception of their capability to effectively accomplish a definite instructional goal for a topic. Bandura (1977) believes that people without self-efficacy concerning their accomplishments can easily lack courage to do the given tasks. So, the teacher self-efficacy has been proved to be one of the predictors of a good teacher (Wang, 2021). The same author shows that the language of instruction plays a significant role in influencing EMI teachers' teaching self-efficacy. Teaching self-efficacy may, in turn, influence “teachers' teaching performance, such as classroom behaviour, teaching goals, efforts in teaching, and aspiration level” (Tschannen-Moran and Hoy, 2001, p.7). Moreover, teachers' higher self-efficacy can contribute to productive teaching and enhance students' learning (Klassen and Tze, 2014). English proficiency required for EMI classes is not only limited to general language proficiency such as grammar and pronunciation but also puts emphasis on the practical nature of classroom English i.e., language for instruction and interaction.

Wang (2021) goes on to show that the increase of EMI teachers' teaching self-efficacy is linked with proficiency in English for teaching where the teacher feels able enough to effectively carry out teaching activities. For instance, the teacher must be able to “use fixed sentence structures to explain

concepts, terms, or lesson content, and how to give clear instructions in English when conducting activities, giving homework, and managing the classroom. In addition, teachers must be able to appropriately use English signals to indicate stages of a lesson” (Wang, 2021, p.6).

Besides English for teaching, EMI teachers should be able to use English of instruction to ensure that teaching and learning are student-centred. Though some research have shown no positive correlation between teaching self-efficacy and the language of interaction (Wang, 2021), it does not necessarily imply that the language of interaction has no role in predicting EMI teachers' teaching self-efficacy.

Student engagement undoubtedly requires sufficient level of language of interaction and therefore the effective classroom interaction will depend on the teacher’s ability “to use appropriate English to ask questions or to provide clues and hints, to respond to students' questions, such as seeking clarification, giving confirmation, and asking for repetition, and to give feedback skilfully in English, such as acknowledging, evaluating, and commenting on students' responses” (Wang, 2021, p.6)

For effective classroom instruction and interaction, the EMI teacher should have both language skills that are subject specific and the language competence needed for student-teacher interaction during content delivery (Elder, 2001).

#### **2.14. L2 proficiency and students’ self-beliefs**

Research has shown that L2 ability influences students’ confidence to undertake courses in a foreign language. Students’ perception of their own ability has been reported to boost motivation and preparedness, hence, academic success (Thompson et al., 2019).

A survey conducted on Japanese students at a university in Japan who were doing International Business through EMI revealed that students whose English competence was high had a high degree of self-efficacy and were therefore motivated to learn through EMI and their academic performance was high compared to the students with low proficiency in English whose poor academic achievement was associated with the fact that they felt less confident to take lectures through the English medium(Thompson et al., 2019).

It is noted that there is a significant association between performance and self-efficacy. Most of the students saw that their academic achievement was linked to their own self-efficacy and this relationship emanated from the students' perceptions of their English ability as being a means to benefit learning through EMI.

### **2.15. Summary**

This chapter focused on the relevant literature which provided foundation of the knowledge on the topic under study. For purposes of contextualizing this study, the review of literature dealt with attitudes and their impact on learning and the use of English as a foreign language and as a medium of instruction in Rwanda. Literature about the growth of EMI across the world is also reviewed to show how the medium of English has become a global academic lingua franca. The benefits and challenges associated with EMI as well as coping strategies used by both students and lecturers during learning and teaching have been discussed. The reviewed literature also shows how L2 proficiency influences the students' confidence to undertake courses in a foreign language and lecturers' teaching self-efficacy improves with the mastery of L2.

## **CHAPTER III: RESEARCH METHODOLOGY**

### **3.1. Introduction**

This chapter presents how the research has been conducted. The research design is explained, i.e., how the researcher used mixed methods approach to collect and analyse data in line with the research objectives questions. The reason for choosing the mixed method research design is also explained. The chapter then describes the target population and the sampling procedures used to select participants who would participate in the research. The next point to be discussed in this chapter is the data collection procedure and tools that have been used for the quantitative and qualitative phases by using a questionnaire and interviews respectively. The methods used to analyse both the quantitative and qualitative data are explained. Lastly, ethical considerations regarding the study are also discussed.

### **3.2. Research design**

Claire et al. (1962) define research design as “an arrangement of conditions for the collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy and procedure”. This study has used the mixed methods design to collect and analyse data.

#### **3.2.1. Mixed methods design**

According to Johnson et al. (2007), the mixed methods research refers to the kind of research in which qualitative and quantitative elements of research, (i.e. use of quantitative and qualitative perspectives, data collection and analysis, inference techniques) are combined by a researcher so as to get the broad and deep understanding and validation of the investigated issue(s). The purpose of the mixed methods approach is “to expand and strengthen a



study’s conclusions and therefore contribute to the published literature” (Schoonenboom and Johnson, 2017, p.110). When conducting a mixed method research, different designs are available for researchers to choose from. For this study, the convergent parallel design has been used to collect qualitative and quantitative data concurrently in the same phase of the study, then, the quantitative and qualitative data have been analysed and compared (Creswell & Clark, 2011). The convergent parallel design has been used for this research so as to explore the students’ and lecturers’ attitudes towards learning engineering course content in the medium of English and to get an in-depth understanding of their views about the advantages and challenges of using EMI in engineering classes. Data have been collected by the use of a questionnaire and interviews, then quantitative and qualitative data have been analysed separately and the results have been compared during interpretation.

### 3.3. Population

No.	Colleges	Engineering options
1	IPRC KIGALI	Civil Engineering
		Mining Engineering
		Electrical and Electronics
		Mechanical Engineering
2	IPRC KARONGI	Mechanical Engineering
		Electrical and Electronics
3	IPRC HUYE	Electrical and Electronics
		Civil Engineering
		Mechanical Engineering
		Irrigation Engineering

4	IPRC NGOMA	Civil Engineering
		Mechanical Engineering
5	IPRC GISHARI	Civil Engineering
		Mechanical Engineering
		Electrical and Electronics
6	IPRC TUMBA	Renewable Energy
		Electronics and Telecommunication Technology
7	IPRC MUSANZE	Agriculture Engineering
		Electrical and Electronics
		Civil Engineering
8	IPRC KITABI	Forest Engineering and Wood technology
		Wildlife and Conservation Technologies

The target population of this study is students and lecturers of Rwanda Polytechnic. Rwanda Polytechnic has eight colleges which have engineering faculties as shown in the table below:

**Table 1. Distribution of Engineering programs per College**

### 3.4. Sample/sampling technique

Due to the limited time, financial means and a large population, convenience sampling has been used to select sample colleges for this study. As shown by Etikan et al. (2016), convenience samples are sometimes taken as ‘accidental samples’ since subjects may be included in the sample just because they are situated in a spatially or administratively accessible area for the researcher. It is in this regard that only three colleges have been selected as a sample i.e., IPRC Musanze, IPRC Karongi and IPRC Kigali as their locations favour the researcher in data collection. In order to avoid the homogeneity of the sample, the researcher has selected different engineering programs from the sample colleges as follows:

- . Agriculture engineering from IPRC Musanze;

- . Mechanical engineering and Electrical and Electronics engineering from IPRC Karongi;
- . Civil Engineering from IPRC Kigali.

The variance of colleges and engineering programs is deliberately meant to diversify the responses.

The selection of students and lecturers was based on criterion sampling as the researcher aims to include participants from different engineering programs. In criterion research, the researcher first finds a condition which is vital to the research. The researcher selects the respondents who have the needed information and deals with the cases which meet that criteria. The selected participants are the ones who have knowledge and experience with the phenomenon of interest and will therefore be able to give the needed information (Cohen & Crabtree, 2006). This sampling technique increases the chance of exploring different attitudes towards the problem under study.

### **3.5. Data collection instruments**

This research relies on both quantitative and qualitative approaches so as to get accurate results and sufficient data from the respondents. The quantitative nature of data have been collected by means of students questionnaires which based on the students' experiences of studying engineering courses through English medium of instruction so as to measure the students' attitudes towards the language of teaching while interviews have been used to collect the qualitative data from both students and content lecturers so as to have a deep understanding of the perceptions of both students and lecturers regarding the use of EMI in learning/teaching engineering subject content. The data collection techniques and instruments used in this study are explained below.

### 3.5.1. Questionnaires

Questionnaires have been developed and administered to 150 students so as to get understanding of the attitudes and opinions of the students towards learning and teaching through EMI. The researcher was interested in knowing the students' language background and the self-reported English proficiency which might help in determining their level of readiness to study engineering courses through English. The questionnaire has also included questions about students' attitudes towards studying Engineering through EMI, their confidence in learning engineering courses through EMI, content comprehension and students' participation, challenges faced as well as indicating ways used understand academic content taught through EMI. A Likert scale of four response options was used to explore students' attitudes towards learning engineering courses in English. The Likert scale ranges from *Strongly Disagree* to *Strongly Agree*. It does not include a "Neutral" option so as to reduce the likelihood of respondents who would choose it to show that they have no opinion when they really do. By removing the neutral option, respondents are forced to use their cognition to give their true perceptions on the topic thereby minimizing the impact of social desirability bias (Garland, 1991). The questionnaire was set in English with a Kinyarwanda translation so as to avoid any misinterpretations of items on the questionnaire in case some respondents may not be proficient in English. Questionnaires have been piloted among 25 students and a few imperfections related with the language used in a questionnaire were corrected by adding a Kinyarwanda version to the questionnaire for students who might not be proficient in English. In addition, the researcher has sought support from experienced researchers and supervisors to scrutinize the validity and reliability of the questionnaire before it could administered to respondents.

### **3.5.2. Interviews**

Semi-structured interviews have been conducted with 20 lecturers. Lecturers have answered questions about their experience in teaching engineering courses in English only. We also tried find out lecturers' self-reported English proficiency and their confidence in teaching through EMI. There were questions about the perceived benefits and challenges faced by lecturers while teaching engineering courses through EMI and how they cope with the challenges. With this tool, we were able to obtain detailed information about lecturers' attitudes and it allowed for detailed information from the respondents. Due to their tight schedules, 10 lecturers were interviewed by telephone and they were audio recorded on their consent. All the lecturers preferred to answer in Kinyarwanda as they wanted to express themselves freely, then, their narratives were recorded and translated into English by the researcher.

For students, there have been four Focus Groups with 5 students each. Students who formed focus groups have been selected from those who had participated in answering the questionnaires i.e. five from mechanical engineering, five from Electrical engineering, five from civil engineering and five from agriculture engineering. Focused group Discussions included semi-structured questions meant to collect in-depth information about how students feel to learn engineering courses through EMI, the challenges they face and strategies they use to cope with learning academic courses in English only. All four Focus group discussions were conducted in Kinyarwanda, a language which students preferred for intensive discussions. Then, data have been audio recorded, transcribed and translated into English.

### **3.6. Data analysis**

This section explains how data have been analysed in a mixed methods design. It describes how quantitative and qualitative data have been analysed and presented. Then, it shows how data have been integrated to give a comprehensive understanding of the topic under study.

#### **3.6.1. Quantitative data analysis**

Data from the questionnaires have been presented in form of tables showing frequencies and percentages for easy analysis. Microsoft Excel have been used to present and analyse quantitative data. The quantitative analysis of the data focused on students' and lecturers' attitudes regarding the use of EMI in engineering courses and findings were then discussed in line with the research questions. Some tables were put in the appendix III.

#### **3.6.2. Qualitative data analysis**

Data from Focus Group Discussions and interviews with lecturers have been transcribed and translated into English from Kinyarwanda. Data have been presented in form of narratives under different themes. Taguette, an online open resource for qualitative data analysis, was used to code and categorize qualitative data into themes for easy analysis. Lecturer's quotations have been labelled with (Lect.) for *lecturer* while those of students have been marked (FGD) for *Focus Group Discussion* and (Std.) for *Student*.

The presented quantitative and qualitative data have been merged in order to create comprehensible and convincing interpretations with regards to the research questions.

### **3.7. Limitations of the study**

Due to limited time and financial resources, the researcher has preferred to choose IPRCs that were easily accessible and the sample size of 170 might

not allow findings to be generalised considering the number of all students and lecturers in 8 IPRCs. However, the selection of different engineering options from three different IPRCs guarantees the representativeness of the findings since the data collected shows an overall image of how students and lecturers view learning and teaching engineering courses through EMI. The study focussed on Year 2 &3 students in academic year 2021-2022. Year 1 students were not involved because they were deemed not convenient as they had just been admitted to higher education hence experiencing low frequency of exposure to class lectures at university.

### **3.8. Ethical considerations**

Since the study included human subjects, the researcher first obtained approval from the authorities to carry out the survey and the interviews. The researcher also obtained verbal consent from the participants. The names of the respondents were also kept confidential.

### **3.9. Summary**

This chapter has shown how mixed method approach was used in data collection and analysis. It has explained how quantitative data has been collected and presented and then be compared with the qualitative data obtained through interviews so as to fully understand the students' and lecturer's attitudes towards the use of English medium of instruction in engineering courses. The chapter also discussed the aspects of population, sample and sampling techniques used as well as validity and ethical issues.

## CHAPTER IV: DATA ANALYSIS AND INTERPRETATION

### 4.1. Introduction

This chapter presents finding in line with the research questions. Data from questionnaires and Focus Group Discussions are merged to present comprehensive findings about students' attitudes, benefits, challenges and coping strategies regarding the use of EMI in engineering courses. Then, findings from students are compared with those from lecturers' interviews to fully understand how both students and lecturers view learning and teaching through EMI.

### 4.2. Response rate from questionnaires and Focus Group Discussions

Data collected from 150 students of three IPRCs are shown in the table 2 below. The response rate was 80% i.e., 120 questionnaires were returned fully completed. For the Focus Group Discussions, all the five groups composed of five respondents each were interviewed.

**Table 2. Response rate from questionnaire & FGDs**

<b>Institution</b>	<b>Departments</b>	<b>Sample size</b>	<b>Response rate</b>	<b>Focus Group Discussions</b>
IPRC Karongi	Mechanical Engineering	30	27	1 (n=5)
	Electrical & Electronic Engineering	35	30	1 (n=5)
IPRC Kigali	Civil Engineering	40	29	1 (n=5)
IPRC Musanze	Agriculture Engineering	45	34	1 (n=5)
TOTAL		150	120	5 (20)
Percentage		00%	80%	100%



### 4.3. Students' English language background

The students' English language background was relevant for this study as it would show which languages students are most familiar and comfortable with in their everyday life. The students' language background may therefore partly determine the students' attitudes towards EMI. To assess students' linguistic background, the first four items were set in the questionnaire to find out their comfortable language in different spheres of life, and results have revealed that Kinyarwanda (L1) is the most comfortable language used in their day-to-day life. The fact that students use a medium of instruction they do not use in everyday life may create a feeling of nervousness in classroom interactions.

**Table 3. Linguistic experience of students in EMI**

Questions	Alternatives, Respondents & Percentages			
	English	French	Kinyarwanda	Others
Q5. In which language were you taught in lower primary school? (n=120)	8 6.7%	0 0.0%	112.0 93.3%	0 0.0%
Q6. In which language were you taught in upper primary school? (n=120)	120 100%	0 0%	0 0%	0 0%
Q7. In which language were you taught in secondary school? (n=120)	120 100%	0 0%	0 0%	0 0%

From the table 3 above, though respondents admitted that English was the medium of instruction from upper primary (100%) to secondary education (100%), it is clear that the big part of the students are more comfortable in using Kinyarwanda than any other foreign language (*See Appendix III*).

This implies that English, as a medium of instruction, is least used which is likely to affect students academically since it was even reported to be among languages which students cannot use comfortably (3.3%). If students experience discomfort with using English, this feeling might produce a negative attitude towards the use of English both socially and academically.

#### **4.3.1. Students' exposure to English**

For someone to communicate effectively in a target language, it will depend on the amount of time he/she interacts with the target language. Kozhevnikova (2019) explains that teachers are one of the sources of the language input that students are exposed to. According to the author this means:

Learners pick up a lot of incidental language from the teacher, especially if the teacher relates stories, interacts with students, asks questions and increases language exposure. Students can also be a good source of vocabulary acquisition, since students pay more attention to what other students say. This allows the vocabulary spin-off in the classroom and creates the friendly stress free atmosphere in the classroom which is integral for successful language acquisition. English teacher sometimes is learners' only input of near authentic language and authentic materials (Kozhevnikova, 2019:434).

Knowing how much students are exposed to English language would give a hint of whether or not students are familiar with English which might influence their perception towards EMI.

**Table 4. Students' exposure to EMI**

<b>Questions</b>	<b>Alternatives</b>	<b>Respondents( n=120)</b>	<b>%</b>
Q8. Which language(s) was mostly used by teachers while explaining subject content in secondary school?	English only	12	10
	French only	0	0
	Kinyarwanda only	0	0
	Mix English & Kinyarwanda	108	90
Q9. What language do you use most in communicating with your:	<b><i>Classmates?</i></b>		
	English only	0	0.0
	Kinyarwanda	120	100.0
	English& Kinyarwanda mixed	0	0.0
	Others	0	0.0
	<b><i>Lecturers and staff at college?</i></b>		
	English only	0	0
	Kinyarwanda	8	6.7
	English& Kinyarwanda mixed	112	93.3
	Others	0	0

Figures in table 4 above show that lecturers used code-switching in secondary school and that Kinyarwanda is a means of communication in student-student interactions while student-lecturer interaction is done through a mixture of Kinyarwanda and English. This means that Kinyarwanda is predominantly

used in academic life, hence, the likelihood of failing to communicate effectively using the English medium of instruction since both students and academic staff most frequently use L1. Even the Focus Group Discussions with students confirmed the predominant use of Kinyarwanda outside class activities. When the respondents from different Focus Groups were asked the question: “*Do you ever speak English outside class activities?*” they responded as follows:

- *No, we do not use English outside classroom.(FGD 1:Std. 3)*
- *Even in the classroom among ourselves we do not speak English, we use Kinyarwanda. (FGD 2:Std. 5)*
- *Except if the lecturer or a stranger speaks to you in English, I try to use it with difficulty. (FGD 3: Std. 1)*
- *Even with lecturers, we use Kinyarwanda outside classroom. However, if I meet a lecturer for the first time, I try to use English but most of the times they respond to me in Kinyarwanda and the conversation continues in the language the lecturer is using. (FGD 4: Std. 3)*

From the respondents’ narratives, English language is hardly used by both students and lecturers. Most respondents reported never to have tried English with their peers as they replied to the question: “*How do peers perceive you when you speak English with them?*”

- *I normally do not use English with my peers, I use Kinyarwanda. (FGD 1: Std. 1)*
- *Ah! I have never held a conversation with my peers in English. May be I say short greetings in English like “Good morning”, “Hi”. I think, since everyone is very familiar with such greetings, they reply without any hesitation. And we continue in Kinyarwanda for the rest of the conversation. (FGD 2: Std. 4)*

Kinyarwanda being a shared national language outweighs English which is a minority language across Rwanda as 99% of the population speak Kinyarwanda (Sibomana, 2014). It is therefore this monolingual environment that inhibits the use of any foreign language.

#### 4.3.2. Students' self-reported proficiency in English

Though, there is little research about the minimum level of English proficiency required for effective learning and teaching through EMI, some research has revealed that B2/C1 are the required threshold proficiency levels for learning and teaching different content subjects (Airey, 2011). Students with a good command of the language of instruction have positive attitude towards learning as Thompson et al. (2019) confirm that L2 ability influences students' confidence to undertake courses in a foreign language. Students' perception of their own ability has been reported to boost their motivation and preparedness to learn, thereby contributing to their academic success.

**Table 5. Self-reported English proficiency level of students**

Questions	Alternatives, Respondents & Percentages			
	Poor	Fair	Good	Very good
Q11. How do you rate your English READING ability? (n=120)	22 18.3%	83 69.2%	15 12.5%	0 0.0%
Q12. How do you rate your English WRITING ability? (n=120)	35 29.2%	75 62.5%	10 8.3%	0 0.0%
Q13. How do you rate your English LISTENING ability? (n=120)	56 46.7%	54 45.0%	10 8.3%	0 0.0%
Q14. How do you rate your English SPEAKING ability? (n=120)	50 41.7%	60 50.0%	10 8.3%	0 0.0%

The results of this study have shown that students rate their English proficiency as fair and not good enough to communicate in English. The self-reported low English proficiency is observed in all key English language skills (reading, writing, listening and speaking). The low proficiency in English is also confirmed by the data from the students Focus Group Discussions where most of the respondents chose Kinyarwanda for discussions as they were not confident enough to express their ideas in English especially with issues that require lengthy explanations. One respondent noted:

*“Ikinyarwanda nicyo twisangamo cyane kurusha icyongereza, noneho iyo bigeze mu gusobanura ikintu mu magambo yawe bwite ntabwo byakoroha mu cyongereza byatuma tuvuga bicye cyane kandi nabwo ntibyumvikane neza kubera icyongereza cyacu gipfuye” translated as [We feel more comfortable when using Kinyarwanda than English especially when it comes giving detailed explanation about something in your own words, it cannot be easy in English. We might say very little and still not intelligible enough due to our poor English] (FGD 1-Std. 2).*

There is no way a student can perform well in academic activities if he/she does not have the required proficiency in the medium of Instruction. The low proficiency in English will likely influence the way students participate in class and will also affect their motivation to follow lectures. It is natural for people to avoid situations that cause boredom and disappointment. In much the same way, students who lack adequate proficiency in English may lose interest in lectures since the used medium of instruction prevent them from learning effectively.

#### 4.4. Perceived benefits of EMI

Respondents were asked to show their degree of agreement with the statements regarding the relevance of learning engineering courses through EMI. The respondents' perceived benefits of EMI show their attitudes towards English language in general and English as a MoI in particular.

**Table 6. Perceived benefits of EMI**

Statements	Alternatives, Respondents & Percentages			
	Strongly Disagree	Disagree	Agree	Strongly Agree
Q15. Studying engineering courses in English only is beneficial to me (n=120)	29 24.2%	41 34.2%	37 30.8%	13 10.8%
Q16. Studying engineering subjects in English is very necessary at the university level. (n=120)	0 0.0%	25 20.8%	71 59.2%	24 20.0%
Q17. Studying engineering subjects in English will help me get a well-paid job. (n=120)	2 1.7%	30 25.0%	58 48.3%	30 25.0%
Q18. Studying engineering subjects in English helps me improve my English proficiency. (n=120)	0 0%	27 22.5%	48 40%	45 37.5%
Q19. Studying engineering subjects in English will increase opportunities for scholarships in international universities. (n=120)	25 20.8%	7 5.8%	40 33.3%	48 40.0%

Findings in table 6 above show that learning in English is important at university level in terms of improving the level of proficiency in English (77.5%), getting a well-paid job (73.3%) and having scholarship opportunities abroad (73.3%). Though participants view EMI as useful, most of them do not believe that English-only medium of instruction is beneficial to them (58.4%).

It can therefore be deduced that respondents find EMI important because English language is used for wider communication and career development as one respondent said “*Nowadays, it is important to study in English because it might increase opportunities for getting good jobs anywhere in the world, I can say that if someone said that English is a world language, it would not be a lie.*”(FGD 4-Std. 3). Although respondents want to benefit the opportunities that come with English, they think that using it as the sole medium of instruction in engineering courses would not benefit them as it constitutes an obstacle for them to acquire the desired skills since their low proficiency in English seem to complicate the comprehension of the subject content thereby creating gaps in knowledge and skills acquisition (See table 9).

#### 4.5. Students’ attitudes towards the use of EMI in engineering courses

Students’ attitudes regarding the use of EMI in engineering courses were investigated by giving attitudinal statements with which the respondents had to agree or disagree as shown in the table 7 below.

**Table 7. Students’ attitudes towards the use of EMI in engineering**

Statements	Alternatives, Respondents & Percentages			
	Strongly Disagree	Disagree	Agree	Strongly)
Q20. It is hard to learn engineering subjects in English. (n=120)	5 4.2%	26 21.7%	67.0 55.8%	22 18.3%
Q21. It is unfair to study engineering subjects in English because students with lower English proficiency may score lower grades. (n=120)	6 5.0%	34 28.3%	40 33.3%	40 33.3%
Q23. Studying engineering courses in Kinyarwanda and English is desirable to me (n=120)	2 1.7%	24 20.0%	43 35.8%	51 42.5%



Q27. I like it more when the instructor is teaching engineering courses in English only (n=120)	19 15.8%	88 73.3%	13 10.8%	0 0.0%
Q28. Studying engineering courses in English only increases my chances of passing the exams (n=120)	28 23.3%	82 68.3%	10.0 8.3%	0 0.0%
Q29. Studying engineering courses in Kinyarwanda and English increases my chances of passing the exams (n=120)	0 0.0%	0 0.0%	82.0 68.3%	38 31.7%

From the table 7 above, findings show that the majority of students find it challenging when they learn engineering courses in English. 74.1% of respondents find it hard to learn engineering courses in English; 66.6% of respondents have shown that studying engineering subjects in English is unfair as students with lower English proficiency may score lower grades. Respondents (80%) also indicated that if the subject content is taught in English, they spend much time on revising the content. Students (91.6%) disagreed with the fact that studying engineering courses in English only increases their chances of passing the exams while 100% of the respondents are in favour of mixing Kinyarwanda and English while studying engineering courses because it helps them pass exams. The results show that studying engineering courses in English only poses limitations in terms of academic performance as students fail to revise the subject content which reduces their chances to succeed in exams. In addition, the interviewed student added that *“Even some lecturers seem not to master English and use Kinyarwanda in class and I do not find it a problem because it makes the content much clearer.”*(FGD 2-Std 4). This is clear as it confirms the fact that students reported that they mix Kinyarwanda and English in communicating with the

academic staff (see table 4). In contrast, the subject notes and exams are written in a language (English only) which is not used in student-lecturer communication as it is indicated in table 4 that English mixed with Kinyarwanda is the common medium of communication between students and lecturers(93.3%). Code mixing is therefore the preferred medium of instruction as indicated in table below. 65.8% of respondents prefer using a mixture of English and Kinyarwanda in teaching engineering courses whereas 34.2% preferred English-only medium of instruction.

**Table 8. Preferred MoI in engineering courses**

**Table 9. Preferred MoI in engineering courses**

<b>Question</b>	<b>Alternatives</b>	<b>Respondents (n=120)</b>	<b>%</b>
Q30. I would prefer the course to be taught in:	English only	18	15
	French only	0	0.0
	Both English and Kinyarwanda	102	85

When the respondents were requested to explain their preferred medium of instruction in engineering courses, they identified reasons to justify their choices as summarized in the table 9 below.

**Table 10. Students' reasons for their preferred MoI**

<b>Ideas</b>	<b>Frequency (n=120)</b>	<b>%</b>
<b>English only</b>		
✓ <i>Studying in English will improve my English proficiency level</i>	7	5.8
✓ <i>Studying in English will increase professional opportunities(international jobs and scholarships, access to research)</i>	10	8.3
✓ <i>Many technical terminologies have no Kinyarwanda words, so English would be the best language to study engineering courses</i>	1	0.8
<b>Both English and Kinyarwanda(Code-mixing)</b>		
✓ <i>Because it helps us understand the meaning of new terminologies used in the course</i>	19	15.8
✓ <i>Kinyarwanda helps clarify difficult material</i>	8	6.7
✓ <i>Both languages complement each other in comprehending the content</i>	10	8.3
✓ <i>Mother tongue helps in internalizing the content instead of memorizing it and it improves active participation in the lesson as well as academic performance</i>	38	31.7
✓ <i>Kinyarwanda helps to fill the English language gap I had in primary and secondary, so when explanation is given in Kinyarwanda, I can easily understand.</i>	19	15.8
✓ <i>Some lecturers are not proficient in English, if they explain in English it becomes rather confusing but when they switch to Kinyarwanda everything is clear</i>	2	1.7
✓ <i>After all, Kinyarwanda is predominantly used at local labour market, that is why Kinyarwanda should also be used</i>	4	3.3
✓ <i>Promotion of mother tongue is needed</i>	2	1.7

The researcher tried to categorise and quantify the respondents' explanations regarding their preferred medium of instruction. It was therefore found out that only 18 respondents (15%) were in favour of English-only medium of instruction. Most of them believed that studying engineering courses in English only would help them get different opportunities such as international jobs and scholarship as well as access to research most of which is available in English and were also of the view that studying in English-only would improve their English proficiency level. Findings show that 102 respondents (85%) chose code mixing (English and Kinyarwanda) mainly because mixing the two languages during instruction *“helps in internalizing the content instead of memorizing it and it improves active participation in the lesson as well as academic performance.”*(FGD 2-Std. 1). They also reported the need for code mixing as good way to fill the English language gap they had in primary and secondary. With code mixing, the content can easily be understood as one respondent put it *“When explanation is given in Kinyarwanda, I can easily understand.”*(FGD 4-Std.5)

Other respondents think that code mixing is helpful when it comes to explaining technical terminologies that are hard to understand when presented in English only (15.8%). 8.3% of the respondents believe that both English and Kinyarwanda complement each other to make the subject content more comprehensible.

The fact that most of the respondents prefer code mixing to English-only medium of instruction is evidence that students view English as a medium of obstruction since it obstructs effective learning and teaching of subject content. If students dislike learning through English only, they will have difficulty using the disliked language thereby creating a feeling of disappointment or hopelessness, which might in turn affect their self-

confidence. This situation impedes student’s academic progress (Agajie, 2020).

#### 4.6. Challenges associated with English medium of instruction

Limited English language proficiency constitute a major issue for EMI learners and more especially when English-only is used in academic activities to learners who rarely use English outside classroom. If students do not hear nor use English as much as possible, they can hardly learn from it (Kirkpatrick, 2011). Respondents raised challenges faced while learning engineering courses through EMI as shown in table 10 below.

**Table 11. Students’ perceived challenges linked to EMI**

Statements	Alternatives, Respondents & Percentages			
	Strongly Disagree	Disagree	Agree	Strongly Agree
Q24. I fail in the assignments and exams mainly because my English level is low. (n=120)	0 0.0%	11 9.2%	53 44.2%	56 46.7%
Q25. I memorize what I have studied in English without understanding the meaning (n=120)	0 0.0%	7 5.8%	68 56.7%	45 37.5%
Q26. In class, when the lecturer asks me a question in English, I respond in Kinyarwanda (n=120)	0 0.0%	5 4.2%	76 63.3%	39 32.5%

##### 4.6.1. EMI versus academic work

From the table 10 above, findings have shown that 109 respondents (90.9%) fail assignments and exams due to their low level of English proficiency. The same problem was raised during Focus Group Discussions where a respondent pointed out that:

*“There is a big difference between the way we are taught and what is required to do during assignments or exams. A course we were taught in English only requires us to memorise the content in the hand out and reproduce it exactly as it appears in the hand out. For the courses where lecturers predominantly use Kinyarwanda, during exams I try to translate what I was taught into my poor English which affects clarity of my ideas resulting to low grades. If a lecturer fails to understand what I have written, he either marks it wrong or gives you low score. Sometimes, if I do not know the right word in English, I write it in Kinyarwanda and it’s up to the lecturer to judge whether to mark me right or wrong! Again, understanding the question in exams is a bit easier than answering that question because a question is short but it requires a long explanation in English which makes it difficult for me. Luckily enough, almost all exams are written which reduces pressure and nervousness to use English however bad it may be. The problem arises when we have assignments to present orally, we fail not because we do not know the content but because of our poor English.”(FGD 3-Std.3)*

Another respondent further revealed that *“When you try to answer the exam questions in your own words in English, you get low marks may be due to our poor English which lecturers fail to understand. You see, what you write in English may convey a wrong meaning to the lecturer and as a result you lose marks.” (FGD 2-Std.1)*

#### **4.6.2. Impact of EMI on cognition**

Respondents (94.2%) also showed that they have to memorize the content without necessarily understanding it. When the respondents were asked about the challenges they face in using English to study engineering subjects, one respondent said: *“The problem is memorizing the content that I do not understand, if you want to succeed, just memorise everything even if you do*

*not know what they mean only for the sake of getting marks.” (FGD 2-Std.4).*

Discussions with different students’ Focus Groups reported that they face challenges in performing certain activities such as remembering the basic content (basic elements; terminologies, etc.) of their subjects as shown by a respondent account *“Since some terminologies are completely specific to a certain field, I fail to recall the right words to say what I exactly want to say. For example, in Automobile Technology there are terminologies which are specific to automobiles only which you cannot find in another field like electricity. If you do not remember such words then you fail the Continuous Assessment test (CAT) or exam.” (FGD 3-Std.5).* EMI seems to affect more the theoretical content than the one that requires practice as it does not involve remembering concepts but steps as noted by one respondent *“This problem[of remembering the basic content] occurs when a lecturer tells you for example to describe in writing the steps to “assemble the engine”, you do not get the right terminologies and fail as a result but when it is about assembling the engine in practice, you do it successfully, because you remember all the steps without necessarily associating them with their corresponding terms.” (FGD 2- Std.2).*

Regarding how students reflect on, analyse and understand engineering related concepts and theories so as to apply them in real situations, respondents revealed that EMI complicates the learning process as indicated in a respondent concern:

*“It is hard to internalise the content if you have not understood it. Theories are normally hard to understand. Imagine if those theories are taught in a language you do not understand well. It is more complicated..... it is*

*difficult to analyse something you do not understand. The content is complicated in English. In addition, you are dealing with the content that you are not very familiar with..... for you to analyse something you need to have fully understood the content surrounding the idea you are analysing. Most of us fail to understand part of the content that might help us to critically analyse a given situation. The root cause is the language (English) barrier.”* (FGD 1- Std.1).

EMI obstructs learning more in theoretical subject content than in practical sessions. English complicates theoretical courses as they are abstract in nature and require lengthy explanations and literature while practical courses are taught by using concrete and practical demonstrations which make it much easier to understand. A respondent attested it in these words:

*“I do not experience any problem of putting the learnt theories in practice because practical sessions help me to understand the theories I could not understand in English. Since practice is about more of demonstrations, there is no much language(English) involved.....I can easily understand practical courses when the lecturer is teaching them but when I am asked to explain a practical task in English, I do not manage to do it confidently. But I can do it in Kinyarwanda..... Again, If for instance, the practical part is not taught and I am asked to apply the theories I learnt in English, I may not be able to do it because most of the times I do not understand theories to a point of translating them into reality. The big problem is that theoretical part is taught in too much English which hinders comprehension.”* (FGD 4- Std.4).

It is evident that the students’ low proficiency in English creates a barrier to effective learning as it is shown that the students’ cognition is hindered by poor English language skills. According to IvyPanda (2019), understanding



the message depends only on the appropriate perception and interpretation of the words and sentences. People's perception and recognition of words are related to how people master the language i.e. its words and structure. So, if students are taught in a language they do not master, it is very likely that their cognitive processes like remembering, analysing, problem solving and understanding will be affected thereby inconveniencing students' academic progress. Thus, there is a close connection between human cognition and language processing.

#### **4.6.3. EMI versus students' participation**

Findings in table 10 have shown that students (95.8%) opt to answer in L1 (Kinyarwanda) when they are asked to participate in learning activities as one respondent said *"Every time a lecturer asks a question in English, I try to answer it in Kinyarwanda, I push in Kinyarwanda because I cannot express my ideas clearly in English. Sometimes I do not understand well what is asked and I seek clarification in Kinyarwanda."*(FGD 1-Std.5). The failure to understand the content taught in English is also partly due lecturers poor English as one respondent reports *"We push for Kinyarwanda because we do not understand English, that's reason number 1. Reason number two, we fail to catch what lecturers say because their English is so broken/ poor that it is not intelligible. Again, lecturers opt for Kinyarwanda because some seem to lack fluency in English. We try to guess what the lecturer is saying."*(FGD 1-Std.2). Respondents also noted that anxiety to use English makes the class more passive. This feeling of nervousness was raised by one respondent *"sometimes, I have ideas to give in class or questions I want to ask lecturers but the problem of my English makes me keep quiet! There are some lecturers who require us to use English if we want to say anything in class. If you do not know English well, you choose to keep quiet instead of feeling humiliated*

*by poor English..... participation reduces in lectures delivered through English and even questions to seek clarification are always asked in Kinyarwanda.”(FGD 3-Std.3).*

#### **4.7. Coping strategies**

Students devise ways to adapt to challenges they face while learning through EMI. All the strategies used are meant for content comprehension while at the same time mitigating the impact of EMI on academic performance. The respondents pointed out the commonly used strategies to cope with EMI in engineering courses.

**Table 12. Students’ coping techniques to EMI**

<b>Questions</b>	<b>Alternatives</b>	<b>Respondents (n=120)</b>	<b>%</b>
Q31. What strategies /techniques do you use to understand the content you learn in English?	I have no problem of understanding the content I have learnt in English (n=120)	14	11.7
	I seek support from my classmates who know English (n=120)	105	87.5
	If I fail to understand the content, I leave it (n=120)	0	0.0
	I use a dictionary to find the meaning of words I do not understand (n=120)	95	79.2

##### **4.7.1. Peer support in L1**

Data reveal that students try to mitigate the challenges related to EMI by seeking support from their peers who seem to master English (87.5%) and use dictionaries to look up for terminologies they do not understand (79,2%).

Only 11.7% of respondents reported to have no problem with EMI. Since student-student interactions take place in Kinyarwanda (see table 4), peer support becomes the effective strategy to get enhanced understanding of the domain specific content and to convey meaning as well as constructing knowledge (Kagwesage 2013). Peer support strategy was also highlighted in the words of a respondent in Focus Group Discussions: *“Most of the time, we revise the lecture notes in groups and through peer coaching so as to manage to make sense of the notes.”*(FGD 1-Std.4).

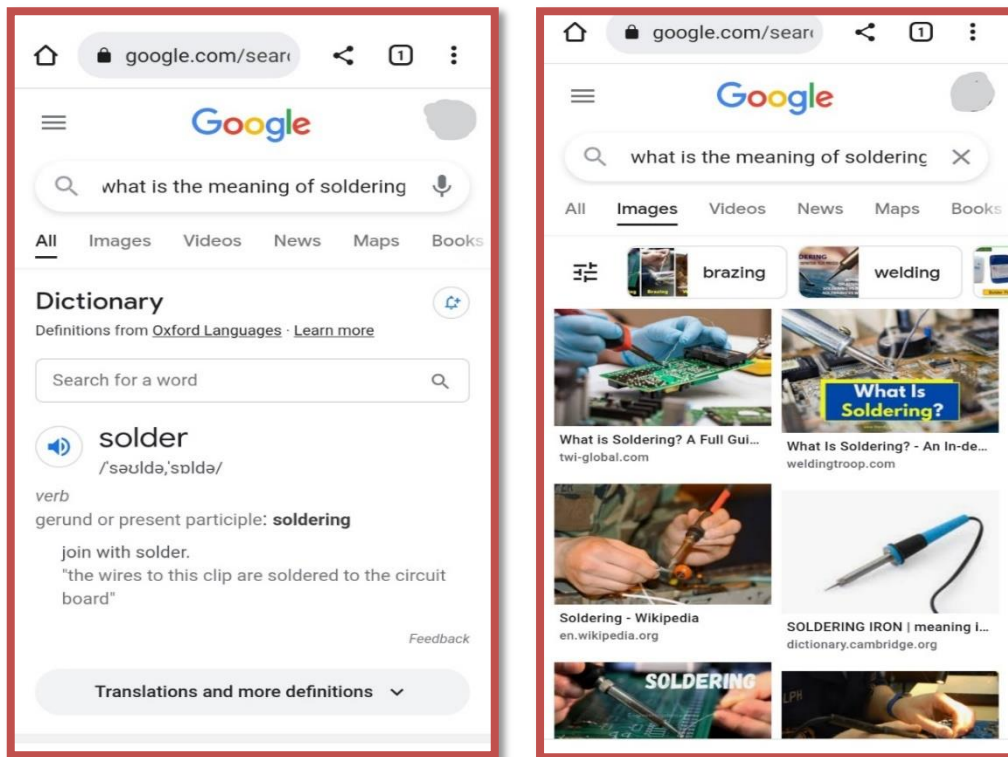
#### **4.7.2. Memorization**

When students are preparing for Continuous assessment tests and exams, they reported that they memorize the content which they do not understand so as to pass exams as one respondent noted: *“To tell the truth, the content I do not understand I memorize it for the sake of passing exams.....”* Students also try to guess the meaning of words from the context in which they are used. A student said, *“..... from technical terms used in the lecture notes, we can predict the meaning, the only problem is when a terminology is not familiar, and it makes the content hard to understand.”*(FGD 4-Std.1). Memorization indicates that EMI favours rote learning where students commit everything to memory hence undermining the development of cognitive processes such as understanding, analysing and problem solving.

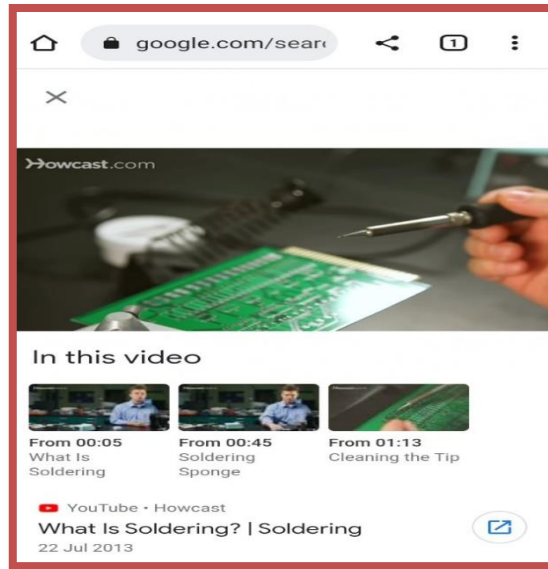
#### **4.7.3. Use of internet**

Internet is also used to search for meanings of words as indicated by a respondent *“We also ask google [internet] to find out the meanings of difficult words. At times we fail to understand the meanings given and search for related images or videos, if you are lucky you land on an image or video which clearly portrays the difficult concept you are searching.”*(FGD 2-Std.4). The same student-respondent went ahead to demonstrate how they

use internet to understand the meaning of difficult terms. In figures 8, 9&10 below, the respondent shows three ways they use to understand the meaning of the word “soldering”. The first screenshot (Fig.8) is about looking up a word in google dictionary and how it is pronounced. If the meaning of the word is not understood, the students use google images (Fig.9) as they might give an idea of what the concept means. If the meaning of the concept still cannot be understood, google videos related to the concept are searched (Fig. 10).



**Figure 8. Definition of a word from Google      Understanding the meaning of "Soldering" from Google images**



**Figure 9. Understanding the meaning of a word by using Google video**

Despite the fact that internet may be used to make sense out of EMI content, students need to have smart electronic devices such as smart phones, tablets, laptops, etc. so as to regularly use them in academic activities. However, not every student can afford these relatively expensive devices and therefore the most reliable coping strategy remains peer support because the content can be clearly explained and fully understood since L1 is used.

#### **4.8. Lecturers' attitudes towards EMI**

One-on-one semi-structured interviews were used to explore the views of the lecturers regarding the use of EMI in teaching engineering courses. Due to the lecturers' tight schedules, they could not be available for face to face interviews and then telephone interviews were conducted with them. Twenty (20) academic staff preferably, those who teach domain-specific courses were interviewed.

The interviews with lecturers revolved around their language experience and professional details i.e., their language background and English proficiency. The interviews also focused on exploring lecturers' attitudes towards EMI in general as well their attitudes towards teaching engineering courses in English. The respondents were given opportunity to give their opinions on EMI-related issues that they think might not have discussed. The interviews were conducted in a conversational tone and follow up questions were asked so as to get a deep understanding of the lecturers' attitudes towards teaching through EMI.

#### **4.8.1. Lecturers' language experience**

Most of the interviewed lecturers preferred to conduct interviews in Kinyarwanda (L1) because it is the language they felt most comfortable with as explained by one respondent: *"Let's not tell lies, we are all Rwandans, the language we can use freely is Kinyarwanda. So, I cannot choose other languages for an interview unless it is a job interview. If I was given a chance to choose, I would still choose Kinyarwanda for a job interview."* (Lect. 6). Kinyarwanda still remains the preferred tool of communication for many Rwandans including the educated ones.

Responding to the question that aimed to find out whether lecturers ever speak English outside class, respondents provided the following answers:

- *Not very common, unless I am talking to a foreigner. (Lect. 7)*
- *Yes, but with foreign stakeholders who cannot speak Kinyarwanda, but with fellow Rwandan lecturers, I use Kinyarwanda. (Lect. 8)*
- *"Ahhh!...if someone approaches me and speaks to me in English, I respond in English. (Lect. 4)*

- *Rarely, not because I cannot speak English but the environment I work in determines how I interact with people. I use a language that I think one is comfortable with. I practice language flexibility. My belief is that no language is superior to another. They all serve one purpose: communication, and there is no communication if you cannot convey meaning or if someone cannot make sense out of the communicated message. (Lect. 9)*

The research revealed also that lecturers do not practice English in their everyday conversations, rarely even with their peers as it appears through their responses on how their peers perceive them when they speak English with them:

- *I do not know, I have never paid attention to how my peers react. Sometimes they respond in English or reply in Kinyarwanda if it requires explanation. (Lect. 17)*
- *I do not use English with peers. I only use it with students in classroom. I do not know how they would perceive it if I spoke English to them. (Lect. 15)*
- *Some responds in Kinyarwanda may be as a way to tell me that I have to use Kinyarwanda. So I cannot insist using English with someone who seems to be uncomfortable with English. (Lect. 18)*

Since lecturers rarely speak the language of instruction, it would be harder for them to boost their English proficiency and would thus struggle to deliver courses in EMI.

#### **4.8.2. Lecturer's EMI background**

Lecturers were asked to tell the language in which they received instruction in secondary and tertiary levels. Most of the interviewed lecturers (17 out of 20)

reported that French was the medium of instruction at secondary level while 3 out of 20 lecturers were educated in EMI.

For tertiary education, 16 lecturers were educated in EMI and 4 in French Medium of instruction. Findings show that most of the interviewed academic staff received their secondary education through the French medium of instruction. Indirectly, this also implies that their primary education was done in French and/or Kinyarwanda. They only came across English at university. It is therefore more likely that an adult person at university will face challenges in learning a second language as their age does not allow natural and efficient acquisition of a new language. Second language acquisition declines with age. This process is known as Critical Period Hypothesis. It is a belief that the early childhood is the suitable age of learning a language and that a person's ability to learn a new language shrinks after puberty (Scovel, 1988).

#### **4.8.3. Self-reported English proficiency**

Most of the respondents (13 out of 20) rated their English proficiency as average and four interviewees said their English proficiency is good enough to express themselves in various situations. Only 3 respondents rated their proficiency as poor. Most of the respondents reported poor proficiency in speaking skills as it appears in the following respondents' quotations.

✓ *My English is average but speaking freely in English remains a challenge. You see when I speak in a spontaneous way, I fall short of words. (Lect. 4)*

✓ *I know English in a way that I can express myself in it. Like many Rwandans, my speaking skill is not good as it should be. I express myself well during lectures may be because I have prepared what to say in advance but when it is unplanned speech especially in non-academic issues I realise that I*



*still have a long way to go in improving my English vocabulary beyond my area of specialization. (Lect. 11)*

The lecturers' proficiency in English is reported not to be so adequate that they may teach with ease. As it is noted, the speaking skills are still wanting yet speaking is the mostly used way when delivering subject content. It means that if EMI interferes with effective subject content delivery, lecturers will find an alternative way to communicate. EMI might consequently be viewed as source of inconvenience to the lecturers with low English proficiency.

#### **4.8.4. Lecturers' perceptions of EMI in general**

In trying to find out how lecturers perceive teaching engineering courses in EMI, they were asked the following question: "*What do you think about teaching engineering courses in English?*" The lecturers' general attitude towards EMI is mixed as their narratives indicate.

*✓ It is good since English is dominating in world affairs, we must use English to meet international labour market needs. The only problem is that both lecturers and students have no standard level of English which might affect the teaching and learning. More effort is needed to improve our English proficiency if we are to compete with other countries. (Lect. 1)*

*✓ English is good as it is an international language. Since we do not have Kinyarwanda words for every terminology that we use in engineering, English remains the best language to teach engineering though it may affect comprehension of the content to some extent especially for us Rwandans who have had language shift, I want to mean we changed from French medium of instruction to English. (Lect. 4)*

✓ *It is good because it is used worldwide but since more of engineering is about practice, it is no good to use English only in class as students might not understand the content, I mean for the case of Rwanda but English is useful as students might get scholarships abroad. (Lect. 9)*

✓ *Studying engineering courses in English is very good since at university level we train future researchers who will need to collaborate with other researchers worldwide. English is the right tool to use for wider communication. However, content comprehension must always be the ultimate goal. (Lect. 18)*

EMI is viewed as useful in teaching engineering courses because English is a global language which provides many opportunities such as employment, scholarship, access to scientific research etc. The lecturers share the same view with students that EMI is beneficial in studying engineering courses (See table 6). Both lecturers and students disapprove of the use of English-only medium of instruction as it might hamper content comprehension (See Table 7).

When lecturers were asked how they feel about teaching engineering courses in English, they expressed feelings of nervousness, embarrassment, discomfort and dispassion. Respondents expressed their feelings as follows:

✓ *Using English only does not make the class more interesting. For the lecturer to motivate students and sustain their attention, there should be the use of humour, telling stories etc. When students love you and your course you feel encouraged to teach as well. (Lect. 5)*

✓ *I feel disappointed because with English, I fail to explain the content to the best of my knowledge. (Lect. 14)*

✓ *I really feel very nervous because some students are good at English and might identify errors in my English and lose confidence in me. (Lect. 19.)*

The findings are in line with the literature that the lecturers' feeling of discomfort for EMI will most likely affect their teaching self-efficacy. Research has shown that the language of instruction influences teachers' teaching self-efficacy thereby improving "teachers' teaching performance (Wang, 2021). Fruitful teaching and improved students' learning will depend on lecturers' higher self-efficacy. If a teacher is proficient in the language of instruction, he/she will feel able enough to successfully perform teaching activities.

#### **4.9. Challenges faced by lecturers regarding EMI**

Low English proficiency has been a source of pedagogical challenges for both students and lecturers (Dimova et al., 2015; Kang & Park, 2005; Kirkpatrick, 2011 & Tsui, 2017). The interviewed lecturers have reported challenges linked to the use of EMI in teaching engineering courses. To find out what kind of challenges lecturers are facing, the following item was included in the interview; "*Are there any particular challenges in using English to deliver basic elements (e.g. terminologies, basic notions etc.) in your subject?*" and respondents highlighted the following:

✓ *There is no challenge with delivering terminologies since most of them(terminologies) are very familiar because I am used to them even right from secondary school. The only problem would be the right pronunciation because I pronounce them the way I studied them but sometimes you find that even my former teachers were mispronouncing them. (Lect. 10)*

✓ *I do not have any problem with domain-specific vocabulary unless another vocabulary or expression which is not commonly used in my field of specialization is used. I might not understand it. (Lect. 9)*

It is observed that lecturers experience less problems regarding teaching domain-specific terms as they are very used to them. The only point of concern may be the right pronunciation of the terminologies.

Lecturers, however, reported challenges in explaining complex notions such as principles and theories in English as described below:

✓ *For explaining theories and principles, you need to know English very well so that students can understand what you mean. As for me, I use both English and Kinyarwanda so that I give explanation clearly and for students to grab what I mean because when you explain in English only students do not understand. (Lect. 12)*

✓ *It is wasting much time! It is double work! I teach in English and then translate in Kinyarwanda for students but at the moment, what I think is difficult to explain in English I do it in Kinyarwanda to save time or even mix English and Kinyarwanda. (Lect. 13)*

✓ *You see! My English proficiency is somehow not good enough and the same applies to that of students. Theories and principles necessitate too much explanation which is difficult to give in English only. Even if I tried students will not understand due to either my inadequate English or the students' poor English. (Lect. 14)*

Findings have shown that teaching theories and principles require verbosity, it makes it hard for both students and lecturers whose English proficiency is low. On the contrary, lecturers experience less problems while teaching practical topics in English because it is more of demonstrations than oral presentations as some respondent quoted saying:

✓ *Teaching application is much easier than theories because explanations are brief whereas concrete demonstrations are more elaborated. So, the English to be used in application is simple. (Lect. 8)*

Despite the fact that practical topics are simpler to teach in English, respondents cautioned the likelihood of the poor quality of imparted and learnt skills if instructions or explanations are either poorly given by lecturers or misunderstood by students whose English proficiency is poor.

✓ *English causes more problems in application. You know in technical schools, the most important part is translating theories into practice. So using English only makes students miss out some key skills. For instance, if you are teaching how to apply some irrigation techniques, you use a language which students might feel comfortable to ask questions. Most of the time if students have not understood how to apply something they can make mistakes some of which are hazardous (Lect. 10)*

✓ *English limits us in giving clear instructions and explanation regarding application of knowledge. To avoid any misinterpretations by students, we mix English and Kinyarwanda. (Lect. 11).*

#### **4.10. Lecturers' coping strategies**

The key instructional role of a lecturer is to prepare and deliver the subject content to the students in a comprehensible manner. Language is the ultimate tool to negotiate and convey meaning of the subject content. For this to happen, it is better for lecturers to use a language they understand. If lecturers do not master the medium of instruction, they devise their own strategies to deal with the language issue provided that the main goal is achieved: content comprehension. For this study, the interviewed lecturers highlighted different coping strategies when giving instruction in English.

#### **4.10.1. Use of code mixing and /or code-switching**

Respondents revealed that due to either their own poor proficiency in English or that of students, they mix English and Kinyarwanda during content delivery as shown in the extracts below:

*✓ For sure, content delivery is the most challenging part. Imagine delivering a three hour session in English. I cannot manage. First of all, I cannot explain everything clearly in English only I choose to mix English and Kinyarwanda for the benefit of students. They themselves have problems in English. (Lect. 1)*

*✓ I know that English is MOI and I can teach in English without any problem, but I fear that students might not fully understand the content and the learning objectives will not be achieved. In short, it would be a zero achievement. For me I use whatever means provided that the content is understood. If it means to teach the content in Kinyarwanda more than English I do it. (Lect. 2)*

*✓ I use both Kinyarwanda and English since we do not have any international student who would be inconvenienced if I taught in Kinyarwanda. (Lect. 3)*

Research has proved code-switching to be a useful strategy for content teaching in EMI classes when the lecturer and students share the same language. However, code-switching may not be relevant if there are international students as it may prevent them from participating and understanding the content (Curle et al., 2020).

#### 4.10.2. Use of internet

Like students, lecturers also reported using internet while preparing lectures to search for the meaning of difficult concepts as exemplified in the respondents' quotations below:

*✓ I use internet to look for the content. When I prepare for lectures, I read the part to be taught over and over again so as to understand it. I even ask my colleagues to support me. I memorize the key concepts especially the right pronunciation. (Lect. 1)*

*✓ I take time and prepare the lessons as usual, English is not a big issue when I read the content I understand it and the problem arises when it comes to delivering the content. My English speaking skills are still low. I also use internet to check for the pronunciation of some English words because if I pronounce them badly, students might learn the wrong pronunciation from me (Lect. 7)*

*✓ For me, at least I master French, when I face English problem I use internet to translate the content from English into French so that I can understand. But I am starting to get used to English. (Lect. 15)*

*✓ I do not face many problems because most of the courses I teach are practical and you do not have to know much English to prepare them and when I prepare the content I use YouTube , with it everything is simple. (Lect. 18)*

Internet is also used for translating the English content into the language the lecturers understand better especially French. For practical courses, lecturers can access YouTube videos on the Internet because the videos are more concrete and understandable than writings in English.

#### **4.10.3. Support from colleagues**

Peer support is the commonly used strategy by people who seek support from the more knowledgeable and experienced co-workers. This research has found out that lecturers with low level of English proficiency try to look for support from their proficient colleagues. This was revealed when respondents were asked how they manage to set exams, assignments and homework in English, and they responded as follows:

✓ *All exams are set in English and then subjected to proofreading or internal moderation by colleagues to remove any errors including grammatical mistakes. (Lect. 4)*

✓ *For class or take home assignments, I set them in English and then give clarification to students in Kinyarwanda so that no one misinterprets the questions. For exams, they are set in English and I do not think setting exams in English is as challenging as preparing lecture notes. Setting exams in English is easier (Lect. 6).*

To mitigate the effect of lecturers' low proficiency in English, peer support is needed in terms of proofreading or moderating exams for identifying possible English language errors. Lecturers also use Kinyarwanda (L1) to clarify the assigned tasks so that all students have common understanding of the given assignments.

#### **Summary**

The findings of this study show that both students and lecturers view EMI as beneficial in career development and global integration. On the other hand, low proficiency in English for students and lecturers has caused a negative attitude towards learning and teaching engineering courses through EMI as it obstructs subject content comprehension. Despite the obstacles linked with their limited English proficiency, students and lecturers have mostly used code-switching among other strategies to carry out the academic activities.



## **CHAPTER V: GENERAL CONCLUSION AND RECOMENDATIONS**

This chapter gives an overview of the findings and their implications in line with the research questions. Based on the findings, recommendations are made to different stakeholders in education so as to mitigate challenges associated with the use of EMI in content subjects.

### **5.1. Summary of the findings**

The main findings revolve around the main themes such as views of both students and lecturers about the use of EMI in learning and teaching engineering courses, their perceptions regarding the challenges of EMI in engineering courses as well as strategies they use to cope with EMI-related challenges.

Regarding students' and lecturers' views about the use of EMI in engineering courses, results have shown that both students and lecturers view EMI as important in learning and teaching engineering courses as proficiency in English has become a prerequisite for to secure scholarships in different higher learning institutions globally. In addition, knowing English is viewed as an opportunity to get well paid jobs. This view stems from the fact that English has become a business lingua Franca because communication skills in English are slowly becoming a requirement at workplace in many multinational companies. EMI is also believed to play a big role in improving proficiency in English language. Despite the positive attitude towards EMI, respondents disagreed with the exclusive use of EMI in engineering courses as it is a barrier to content comprehension. This negative perception is attributed to students' and lecturers' low proficiency levels in English since Kinyarwanda (L1) is more frequently and comfortably used than the language of instruction. The perceptions about EMI are mixed in a sense that respondents viewed EMI as an opportunity and an obstacle at the same time.

Findings have also indicated that students and lecturers experience challenges in learning and delivering the subject content due to inadequate proficiency in English. Findings have shown that student-lecturer interaction is not effective enough in EMI classes thereby resulting in passive participation of students. The English-only medium of instruction also affects student self-belief and lecturer teaching self-efficacy by lowering their confidence to successfully take on the assigned academic tasks. Failure to master the medium of instruction, students and lecturers employ strategies to overcome the EMI-related challenges.

In overcoming EMI challenges, the most frequent strategy that is used to fill the English language gap was reported to be code-switching. Kinyarwanda (L1) is prioritised when it comes to lengthy explanation of the subject content while English is used to only utter domain-specific terminologies that cannot be easily translated in L1 but their meaning is phrased in L1. Besides code-switching, internet and peer support are used to deal with pronunciation, word meaning, and get enhanced comprehension of the subject content.

Briefly, findings of this study shows that when English is used as a medium of instruction, students and lecturers face communication barriers to delivering and understanding engineering subjects. Although Kinyarwanda is a majority language in Rwanda, English remains the dominant language across the world. Therefore, lecturers should cautiously use code mixing as a strategy for students to understand the subject content because the frequent code-switching to one's mother tongue can prevent students from communicating in English both inside and outside the classroom. However, the mediating role of Kinyarwanda and its potential to facilitate learning should not be neglected. There should be ministerial guidelines to determine when and how to responsibly employ code switching during class lectures.

## **5.2. Recommendations**

English language has been the medium of instruction since 2008 in higher education in Rwanda. This means that all subject content, except languages other than English, must be delivered in English only. It is more than a decade since the EMI has been implemented from upper primary to tertiary level. However, findings have shown a limited English proficiency in both students and lecturers which hinders learning and teaching engineering courses. Even this study was carried out on 100% of students who were educated in the English medium from upper primary (see table 4) and lecturers many of whom have done part of their secondary education and entire tertiary education through the English medium of instruction. If the use of EMI constitutes a language barrier, it is therefore a necessity to find practical solutions to alleviate the negative impact EMI has on academic achievement. It is therefore against the findings of this study that the recommendations are made to different education stakeholders so as to boost the English proficiency thereby contributing to positive perceptions about EMI.

### **5.2.1. Policy makers**

Policy makers should design a language policy of Content and Language Integrated Learning (CLIL) whereby content lecturers can teach the subject content while at the same time teaching language. Findings have shown that content lecturers feel not concerned with language mistakes that students make in the classroom as pointed out by one respondent “*Lecturers do not correct us if we use bad English but they only correct you if you said a wrong idea.*” (FGD 1: Stdt 4). Integrating content teaching and language teaching

would improve students' English proficiency rather than leaving English teaching to the language lecturers alone.

### **5.2.2. Ministry of education and/or Higher Education Council (HEC)**

Findings on EMI challenges suggest that there is need to develop the students' receptive and productive skills in English. This would be possible if a preparatory period was put in place for the newly admitted students to undergo an intensive English courses. The current practice of having English courses alongside other domain-specific courses overload the students to the extent that they have less time to learn English.

Proficiency in English should be a requirement for graduation at all levels of education in Rwanda so that learning English is taken seriously. English proficiency qualifications should be required for teaching jobs preferably a B1 (Independent user) or C1 (Advanced) levels. Otherwise, teachers with poor English proficiency will most likely produce students with limited English proficiency as one lecturer complained, “..... *Look! I was taught in English by lecturers who did not master English, and I did not master English as well. So, do you expect me to teach in English only when I was not taught in English only? Do you expect my students to know English if they were taught by lecturers like me? It is a cycle and I do not know when that cycle will be broken.*” (Lect. 4)

Education stakeholders should also put much effort in nursery, primary and secondary education levels as it is easier to manage students' academic and extra-curricular activities such as debating clubs. In addition, it is at the lower levels of education that the chances of learning a second language are higher than those of adults as Scovel (1988) explained that second language acquisition declines with age in what is known as Critical Period Hypothesis.

The need to scale up the English proficiency from the lower education levels is shared by the interviewed lecturers. One respondent suggested that: “.....*Policy makers should enforce EMI in primary and secondary education, it will then be automatic at tertiary level since everyone will have become proficient in English.....*” (Lect. 4).

Since findings have shown that code-switching and the predominant use of L1 are common practices in engineering classes, Higher Education Council (HEC), as a regulatory agency, should establish regulations for effective use of L1 or code-switching. Curle et al.(2020) pointed out that L1 is used in EMI classes to increase classroom interaction and enhance comprehension by providing explanations of domain-specific terminologies. Guidelines about the use of L1/Code-switching would limit the excessive use of translanguaging while at the same time helping students and lecturers with limited English proficiency to successfully accomplish their daily academic tasks.

### **5.2.3. Schools and academic establishments**

Academic institutions should put in place mechanisms for students and lecturers to use English within the premises of those institutions because language skills can quickly deteriorate and perish if they are not frequently used. If mechanisms are established and well implemented, English proficiency will improve since schools provide a relatively more conducive environment to learn English than outside school where L1 is predominantly used.

Limited English proficiency in lecturers can be solved if content lecturers and language lecturers work hand in hand to boost their English skills. The medium of instruction will be successful if the involved lecturers share and

collaborate so as to identify language gaps and determine the needed support systems. Language lecturers should provide regular remedial sessions to engineering lecturers whose English proficiency is still low. By so doing, lecturers will be able to successfully carry out their academic tasks in English only thereby giving students a chance to get exposed to the target language, hence the development of students' English proficiency.

### **5.3. Recommended future research**

This research could not exhaust the EMI-related issues, it is therefore recommended that further research is needed in the following areas:

1. Relevance of Code-switching in EMI classes as this would identify situations under which switching languages would be most appropriate.
2. Experimental research on the relationship between the students' English proficiency and academic performance. If Standard English proficiency tests are administered to students, it would give a real picture of whether English proficiency determines the academic performance by looking at students' performance in content subjects which have been taught in English only.
3. The extent to which subject content and language are integrated by content teachers. This kind of research would find out whether content lecturers correct students' mistakes in English and then findings would help in organising trainings on Content and Language Integrated Learning (CLIL) for content lecturers.

## REFERENCES

- Agajie, B. A. (2020). Factors Affecting English Medium of Instruction within Injibara. *Journal of Education and Practice*, 11(10), 26-33. Retrieved from <https://www.iiste.org/Journals/index.php/JEP/article/view/52436/54169>
- Airey, J. & Linder, C. (2006). Language and the experience of learning university physics in Sweden. *European Journal of Physics*, 27(3), 553-560.
- Airey, J. (2011). Talking about teaching in English: Swedish university lecturer's experiences of changing teaching language. *Ibérica*, 22, 35-54. Retrieved July 20, 2021, from <http://www.redalyc.org/articulo.oa?id=287023888003>
- Alenezi, A. A. (2010). Students' language attitude towards using code-switching as a medium of instruction in the college of health sciences: an exploratory study. *Arecls*, 7, 1-22.
- Altbach, P. G., & Knight, J. (2007). The internationalization of higher education: Motivations and realities. *Journal of Studies in International Education*, 11(3-4), 290-305.
- Baker, C. (1992). *Attitudes and Language*. Clevedon: Multilingual matters Ltd.
- Bandura, A. (1997). Self-efficacy: toward a unifying theory of behavioural changes. *Psychol. Rev.*, 84, 191-215. Retrieved from <https://doi.org/10.1037/003-295X.84.2.191>
- Benson, C. (2008). Summary overview. Mother tongue-based education in multilingual contexts. In C. Haddad (Ed.), *Improving the Quality of mother tongue-based literacy and learning: Case studies from Asia, Africa and South America* (pp. 2-11). Bangkok: UNESCO.
- Bhatti, A., Shamsudin, S., & Said, S. M. (2018). Code-Switching: A Useful Foreign Language Teaching Tool in EFL Classrooms. *English Language Teaching*, 11(6), 93-101. Retrieved February 11, 2021, from <http://doi.org/10.5539/elt.v11n6p93>

Brady , A. (2008). Developing a civic educational vision and practice for foreign-additional-other (FAO) language and content integration in higher education. In R. Wilkinson , & V. Zegers , *Realizing content and language education in higher education* (pp. 96-109). Maastricht, Netherlands: Maastricht University Language Centre. Retrieved July 11, 2021, from <https://cris.maastrichtuniversity.nl/ws/portalfiles/portal/46982639/7a48d841-788b-44b1-add7-c0878081ffd7.pdf>

Byun, K., Chu, H., Kim, M., Park, I., Kim, S., & Jung, J. (2011). English-medium teaching in Korean higher education: policy debates and reality. *High Educ*, 62, 431–449. Retrieved March 7, 2021, from <https://doi.org/10.1007/s10734-010-9397-4>

Cassels, J. T., & Johnstone, A. H. (1983). The meaning of words and teaching of Chemistry. *Journal of Education Chemistry*, 20, 432. Retrieved April 9, 2021, from <https://www.researchgate.net/publication/292201779>

Cassels, J. T., & Johnstone, A. H. (1985). *Words that matter in science*. London: Royal Society of Chemistry.

Chang, Y. Y. (2010). English-medium instruction for subject courses in tertiary education: Reactions from Taiwanese undergraduate students. *Taiwan International ESP Journal*, 2(1), 55-84.

Choi, T. H. (Forthcoming). An Analytical Framework of Implementation and Impact of Language-in-Education Policies: Insights from South Korea and Hong Kong. In K. J. Kennedy, & J. C.-K. Lee (Eds.), *Handbook for Schools and Schooling in Asia London: Routledge*. <https://> (pp. 1-12). London: Routledge. Retrieved July 23, 2021 , from <https://www.researchgate.net/publication/319416511>

Cohen, D., & Crabtree, B. (2006, July). *Reflexivity*. Retrieved June 17, 2021, from Qualitative Research Guidelines Project: <http://www.qualres.org/HomeRefl-3703.html>

Claire, S. et al. (1962). *Research methods in social sciences*, New York: Holt, Rinehart and Winston: Published for the Society for the Psychological Study of Social Issues.



- Creswell, J. W., & Clark, V. L. (2011). *Designing and conducting mixed methods research* (2 ed.). Los Angeles: Sage Publications.
- Cronquist, K., & Fiszbein, A. (2017). *English Language Learning in Latin America*. New York: The Dialogue. Retrieved September 19, 2017
- Curle, S. (2018). Developing and Validating a Japanese English Medium of Instruction Attitude Scale (JEMIAS). *The Journal of Asia TEFL*, 15(4), 1195-1221.
- Curle, S., Jablonkai, R., Mittelmeier, J., Sahan, K., & Veitch, A. (2020). English Medium Part 1: Literature review. In N. Galloway (Ed.), *English in higher education* (pp. 977–8). London: British Council. Retrieved May 5, 2021, from <https://www.teachingenglish.org.uk/article/english-higher-education-%E2%80%93-english-medium-part-1-literature-review>
- Dimova, A. K. H., & Jensen, C. (2015). *English-Medium Instruction in European Higher Education*. Boston/Berlin: Walter de Gruyter, Inc. Retrieved March 15, 2021, from [https://www.academia.edu/21409156/English\\_Medium\\_Instruction\\_in\\_European\\_Higher\\_Education](https://www.academia.edu/21409156/English_Medium_Instruction_in_European_Higher_Education)
- Doiz, A., Lasagabaster, D., & Sierra, J. M. (2011). Internationalisation, multilingualism and Englishmedium instruction. *World Englishes*, 30(3), 345–359.
- Dulay, H., Burt, M., & Krashen, S. (1982). *Language two*. New York: Oxford University Press.
- Elder, C. (2001). Assessing the language proficiency of teachers: are there any border control? *Lang. Test.*, 18, 149-170.
- Eslami, Z. R., & Fatahi, A. (2008). Teachers' Sense of Self-Efficacy, English Proficiency, and Instructional Strategies: A Study of Nonnative EFL Teachers in Iran. *TESL-EJ*, 11(4), 1-19. Retrieved June 26, 2021, from <http://www.tesl-ej.org/wordpress/issues/volume11/ej44/ej44a1/>
- Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of Convenience Sampling and Purposive Sampling. *American Journal of*

*Theoretical and Applied Statistics*, 5(1), 1-4.  
doi:10.11648/j.ajtas.20160501.11

Finardi, K.R. (2016). Globalization and English in Brazil. In K.R. Finardi (Ed.), *English in Brazil: views, policies and programs*, 13-32. Londrina, PR: Eduel.

Gallix, A. (2013, May 23). The French protect their language like the British protect their

currency. Retrieved April 26, 2021, from <http://www.theguardian.com/commentisfree/2013/may/23/language-french-identity>.

Galloway, N., Kriukow, J., & Numajiri, T. (2017). *Internationalisation, higher education and the growing demand for English: an investigation into the English medium of instruction (EMI) movement in China and Japan*. *ELT Research papers 17.2*. British Council. Retrieved April 24, 2021, from [https://www.teachingenglish.org/uk/sites/teacheng/files/H035%20ELTRA%20Internationalisation\\_HE\\_and%20the%20growing%20demand%20for%20English%20A4\\_FINAL\\_WEB.pdf](https://www.teachingenglish.org/uk/sites/teacheng/files/H035%20ELTRA%20Internationalisation_HE_and%20the%20growing%20demand%20for%20English%20A4_FINAL_WEB.pdf)

Garland, R. (1991). The mid-point on a rating scale: Is it desirable? *Marketing Bulletin*, 2, 66-70. Retrieved March 26, 2022, from <http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.462.1082>

Guimarães, F. F., & Kremer, M. M. (2020). Adopting English as a Medium of Instruction (EMI) in Brazil and Flanders (Belgium): a comparative study. *Ilha do Desterro*, 73(1), 217-246. Retrieved from <http://dx.doi.org/10.5007/2175-8026.2020v73n1p217>

Huang, D. F. (2015). Exploring and assessing effectiveness of English medium instruction courses: the students' perspectives. *Procedia - Social and Behavioral Sciences*, 173, 71-78. Retrieved June 16, 2021, from <http://www.sciencedirect.com/science/article/pii/S1877042815013427>

Humphreys, P. (2017). EMI in Anglophone nations: contradiction in terms or cause for consideration. In B. Fenton-Smith, P. Humphreys, & I. Walkinshaw (Eds.), *English medium instruction in higher education in Asia-Pacific. Multilingual Education* (pp. 93-114.). Germany: Cham : Springer.

- IvyPanda. (2019, January 3). *The Role of Language in Cognitive Psychology*. Retrieved March 3, 2022, from IvyPanda: <https://ivypanda.com/essays/the-role-of-language-in-cognitive-psychology/>
- Jenkins, J. (2019). English medium instruction in higher education: The role of English as lingua franca. *Second Handbook of English Language Teaching*, 91–108.
- Jha, K., Kumar, Y., Kumar, T., Singh, R., & Dubey, P. (2019). Role of language proficiency and personality traits upon the academic performance of undergraduate medical students. *Journal of Education and Health Promotion*, 8, 260. Retrieved June 26, 2021, from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6967238/>
- Johnson, B. R., Onwuegbuzie, A. J., & Turner, L. A. (2007). Toward a definition of mixed methods research. *Journal of mixed method research*, 1, 112-133.
- Johnson, B., Onwuegbuzie, J. A., & Turner, A. L. (2007). Toward a definition of mixed methods research . *Journal of mixed method research*, 1, 112-133.
- Kagwesage , A. M. (2013). Coping with English as Language of Instruction in Higher Education in Rwanda. *International Journal of Higher Education*, 2(2), 1- 12. Retrieved from <http://dx.doi.org/10.5430/ijhe.v2n2p1>
- Kang, K. I. (2018). English-Medium Instruction Policies in South Korean Higher Education. *Working Papers in Educational Linguistics*, 33 (1), 31-52. Retrieved April 12, 2021, from <https://repository.upenn.edu/cgi/viewcontent.cgi?article=1304&context=wpel>
- Kang, S., & Park, H. (2005). English as the medium of instruction in Korean Engineering education. *Korean Journal of Applied Linguistics*, 21(1), 155–174.
- Karakaş, A. (2015). Key Concepts in Intercultural Dialogue. English Medium Instruction. *Center for Intercultural Dialogue*(66), 1.

Kırkgöz, Y. (2005). Motivation and student perception of studying in an English-medium University. *Journal of Language and Linguistic Studies*(1), 101–123.

Kirkpatrick , A. (2011). Internationalization or Englishization: Medium of instruction in today's universities. *The Asian Journal of Applied Linguistics*, 1(2014), 4-15. Retrieved from <https://www.researchgate.net/publication/225083938>

Klaassen, R. G., & De Graaff, E. (2001). Facing innovation: preparing lecturers for English-medium instruction in a non-native context. *European Journal of Engineering Education*, 26(3), 281-289. doi:<https://doi.org/10.1080/03043790110054409>

Klassen , R. M., & Tze, V. M. (2014). Teachers' self-efficacy, personality and teaching effectiveness: a meta-analysis. *Educational Research Review*, 12, 59-76. Retrieved July 28, 2021, from <https://doi.org/10.1016/j.edurev.2014.06.001>

Kocakulah, S., Ustunluoglu, E., & Kocakulah, A. (2005). The Effect of Teaching in Native and Foreign Language on Students' conceptual Understanding in Science Courses. *Asia-Pacific Forum on Science Learning and Teaching*, 6(2), 1-30. Retrieved May 5, 2021, from [https://www.eduhk.hk/apfslt/download/v6\\_issue2\\_files/kocakulah.pdf](https://www.eduhk.hk/apfslt/download/v6_issue2_files/kocakulah.pdf)

Kozhevnikova , E. (2019). The impact of language exposure and artificial linguistic environment on students' vocabulary acquisition. *PEOPLE: International Journal of Social Sciences*, 5(1), 430-439. Retrieved from <http://grdspublishing.org/>

Langat, A. (2015). *Students' attitudes and their effects on learning and achievement in Mathematics: a case study of public secondary schools in Kiambu County, Kenya*. Unpublished thesis of Master of education of Kenyatta University. Nairobi.

Laufer, B. (2009). Second Language Vocabulary Acquisition from Language Input and from Form-Focused Activities. *ournal of Language Teaching*, 42(2); 341-354.

- Liu, W. (2017). The changing role of non-English papers in scholarly communication: Evidence from Web of Science's three journal citation indexes. *Learned Publishing*, 30, 115–123.
- Lynd , M. (2010). *Assessment report and proposal for an education strategy*. USAID. Retrieved April 2, 2021, from [http://pdf.usaid.gov/pdf\\_docs/PNADY121.pdf](http://pdf.usaid.gov/pdf_docs/PNADY121.pdf)
- Macaro , E., Curle , S., Pun , J., An , J., & Dearden, J. (2018). A systematic review of English medium instruction in higher education. *Language Teaching*, 51(1), 36-76. doi:10.1017/S0261444817000350
- Major, R. C., Fitzmaurice, S. F., Bunta, F., & Balasubramanian, C. (2002). The effects of nonnative accents on listening comprehension: implications for ESL assessment. *TESOL Quarterly*, 36(2), 173-190.
- Manh, L. D. (2012). English as a Medium of Instruction in Asian Universities: The Case of Vietnam. *Language Education in Asia*, 3(2), 263-267. Retrieved May 20, 2021, from [http://www.leia.org/LEiA/LEiA%20VOLUMES/Download/LEiA\\_V3\\_I2\\_2012/LEiA\\_V3I2A14\\_Manh.pdf](http://www.leia.org/LEiA/LEiA%20VOLUMES/Download/LEiA_V3_I2_2012/LEiA_V3I2A14_Manh.pdf)
- Mansor, N., Badarudin, M. I., & Mat, A. C. (2011). Teachers' perspective of using English as a medium of instruction in mathematics and science subjects. *International Journal of Instruction*, 4(2), 129-138. Retrieved March 5, 2021, from <https://files.eric.ed.gov/fulltext/ED522687.pdf>
- Marton, F., Runesson, U., & Tsui, B. A. (2004). The Space of Learning. In F. Marton, & A. B. Tsui (Eds.), *Classroom Discourse and the Space of Learning* (pp. 3-40). Mahwah, New Jersey, London: LAWRENCE ERLBAUM ASSOCIATES, PUBLISHERS. Retrieved August 18, 2021, from <https://silo.pub/qdownload/classroom-discourse-and-the-space-of-learning.html>
- Martin del Pozo, M. A. (2017). The Internationalization of Universities and the English Language. In M. Geat, & V. Piccione (Eds.), *The reasons of Erasmus: Scientific research and intersections. For education in present*

*days: humanities, internationalisation, networking, innovation* (pp. 67-81). Rome: Roma TrE-Press.

Mbonyinshuti, J.D. (2020a, March 12). French to English. An imperfect transition for Universities. *University World News*. Retrieved February 8, 2022, from <https://www.universityworldnews.com/post-mobile.php?story=20200311085157484>

Mbonyinshuti, J.D. (2020b, December 3). Academic staff on a journey towards English proficiency. *University World News*. Retrieved February 8, 2022, from <https://www.universityworldnews.com/post-mobile.php?story=2020112303511157>

Milligan, L. O., & Tikly, L. (2016). English as a medium of instruction in postcolonial contexts: moving the debate forward. *Comparative Education*, 52(3), 277-280. doi:10.1080/03050068.2016.1185251

Ministry of Education, G. (2016, August). *About Student Attitudes on Learning*. Retrieved from [www.education.gov.gy](http://www.education.gov.gy): <https://education.gov.gy/web/index.php/teachers/tips-for-teaching/item/2192-about-student-attitudes-on-learning>

MOET (2005). Vietnam higher education renovation agenda: Period 2006-2020. Hanoi, Vietnam: Ministry of Education and Training.

Neeley, T. (2012, May). Global Business Speaks English: Why You Need a Language Strategy Now. *Harvard Business Review*, 90(5), pp. 116–124.

Niyibizi, E. (2010). *An evaluation of the Rwandan trilingual policy in some nursery and primary schools in Kigali City*. Pretoria.: University of South Africa. Retrieved from <http://hdl.handle.net/10500/3720>

Nunan, D. (2003). The impact of English as a global language on educational policies and practices in the Asia Pacific region. *TESOL Quarterly*, 37 (4), 589-613. Retrieved June 18, 2021, from <http://www.nzdl.org/gSDL/collect/literatu/index/assoc/HASH01fc.dir/doc.pdf>

Nzatabakuze, C. (2011). *Implementation of the English medium policy in Rwandan primary schools: A case of Gasabo district, Rwanda (Unpublished master's thesis)*, Kenyatta University . Nairobi, Kenya.

O'Dowd, R. (2018). The training and accreditation of teachers for English medium of instruction: an overview of practice in European universities. *International Journal of Bilingual Education and Bilingualism*, 21, 553-563. Retrieved June 8, 2021, from <https://doi.org/10.1080/13670050.2018.1491945>

Obura, A. P. (2003). *Never Again. Educational reconstruction in Rwanda*. Paris: UNESCO-IIEP.

Othman, J., & Saat, R. M. (2009). Challenges of using English as a medium of Instruction: Pre-service science teachers' perspectives. *Asia-Pacific Researcher*, 18, 307-316.

Oxford University Press ELT. (2019, February 5). *Use of L1 in EMI: Understanding why and moving to how*. Retrieved July 7, 2021, from OXFORD UNIVERSITY PRESS English Language Teaching Global Blog: <https://oupeltglobalblog.com/2019/02/05/use-of-l1-in-emi-understanding-why-and-moving-to-how/>

Pearson, P. (2016). *Language Policy in Rwanda: Shifting Linguistic and Educational Landscape. PHD Dissertation*. Georgia: Georgia State University. Retrieved July 19, 2021, from [https://scholarworks.gsu.edu/alesl\\_diss/39](https://scholarworks.gsu.edu/alesl_diss/39)

Plonski, P., Teferra, A., & Brady, R. (2013). Why Are More African Countries Adopting English as an Official Language? *African Studies Association Annual Conference* (pp. 1-26). Baltimore, Maryland: Plonski, P. Retrieved July 23, 2021, from <https://www.booksforafrica.org/assets/documents/2013-ASA-Conference---English-Language-in-Africa-PAPER.pdf>

Rosendal, T. (2010). *Linguistic Landshapes: A comparison of official and non-official language management in Rwanda and Uganda, focusing on the position of African languages. Unpublished Doctoral Thesis, University of Gothenburg*. Germany.

Samuelson, B. L., & Freedman, S. W. (2010). Language policy, multilingual education, and power in Rwanda. *Language Policy*, 9, 191-215. doi:10.1007/s10993-010-9170-7

Sawahel, W. (2015, November 23). *Arab Countries Last in Global Test of English Proficiency*. Retrieved July 23, 2021, from Al-Fanar media: <https://www.al-fanarmedia.org/2015/11/arab-countries-last-in-global-test-of-english-proficiency/>

Schoonenboom, J., & Johnson, R. B. (2017). How to construct a mixed methods research design. *Köln Z Soziol*, 69, 107-131.

Scovel, T. (1988). *A Time to Speak. A Psycholinguistic Inquiry into the Critical Period for Human Speech*. New York: Newbury House.

Sharma, C. B. (2017). *Unit 5 Factors Affecting Learning*. Retrieved April 13, 2021, from [ww.egyankosh.ac.in](http://www.egyankosh.ac.in): <http://egyankosh.ac.in/handle/123456789/8289>

Sibomana, E. (2014). The acquisition of English as a second language in Rwanda: challenges and promises. *Rwandan Journal of Education*, 2(2), 19-30. Retrieved from <https://www.ajol.info/index.php/rje/article/view/117147>

Simasiku, L., Kasanda, C., & Smit, T. (2014). Teaching subjects matter through English as the medium of. *2nd Mediterranean interdisciplinary forum on social sciences and humanities, MIFS* (pp. 315-324). Almeria, Spain: European Scientific Institute, ESI.

Tabaro, C. (2019). Rwandan attitudes towards English: A case study of secondary school learners in Kigali City. *International Journal of Contemporary Applied Researches*, 6(5), 196-217. Retrieved from <http://www.ijcar.net/assets/pdf/Vol6-No5-May2019/15.-Rwandan-attitude-towards-English-The-case-study-of-secondary-school-learners-in-Kigali-city.pdf>

Tanganika, F. (2018, October 3). Proficiency in English by college graduates is tenable. *The New Times*. Retrieved March 9, 2021, from <https://www.newtimes.co.rw/opinions/Proficiency-english-college-graduates-tenable>

Tembe, J., & Norton, B. (2011). English Education, Local Languages and Community Perspectives in Uganda. In H. Coleman (Ed.), *Dreams and Realities: Developing Countries and the English Language* (pp. 117–140).



London: British Council. Retrieved May 23, 2021, from <http://www.teachingenglish.org.uk/sites/teacheng/files/Z413%20EDB%20Section06.pdf>

The Open University. (2021, July 26). *The importance of language skills*. Retrieved from [www.help.open.ac.uk](http://www.help.open.ac.uk): <https://help.open.ac.uk/the-importance-of-language-skills>

Thompson, G., Aizawa, I., Curle, S., & Rose, H. (2019). Exploring the role of self-efficacy beliefs and learner success in English Medium Instruction. *International Journal of Bilingual Education and Bilingualism*, 1-19. doi:10.1080/13670050.2019.1651819

Trenkic, D., & Warmington, M. (2018). Language and literacy skills of home and international university students: How different are they, and does it matter? *Bilingualism: Language and cognition*, 22 (2), 349-365. Retrieved May 22, 2021, from <https://doi.org/10.1017/S136672891700075X>

Tschannen-Moran, M., Hoy, A. W., & Hoy, W. K. (1998). Teacher efficacy: its meaning and measure. *Review of Educational Research*, 68(2), 202-248. Retrieved June 5, 2021, from <https://doi.org/10.3102/00346543068002202>

Tschannen-Moran, M., and Hoy, A. W. (2001). Teacher efficacy: capturing an elusive construct. *Teach. Teach. Educ.* 17, 783–805. doi: 10.1016/S0742-051X(01)00036-1

Tsui, C. (2017). Teacher Efficacy: A case study of faculty beliefs in an English-Medium Instruction Teacher Training Program. *Taiwan Journal of TESOL*, 15(1), 101–128.

USAID . (2012). *Early Grade Reading and Mathematics in Rwanda*. RTI International.

Uwambayinema, E. (2013). *Science Teachers' Challenges Implementing Rwanda's English as a Medium of instruction policy: A case study of Nyarugenge District Rural secondary schools*. Unpublished thesis of Master of Arts in Linguistics in the College of Arts and Humanities. California State University.

Vinke, A. A. (1995). *English as the medium of instruction in Dutch engineering. Dissertation*. Delft, Netherlands: Delft University Press.

Vinke, A. A., Snippe, J., & Jochems, W. (1998). EnglishMedium Content Courses in Non-English Higher Education: A Study of Lecturer Experiences and Teaching Behaviours. *Teaching in Higher Education*, 3(3), 383–394.

Wang, C. (2021). The Relationship between Teachers' Classroom English Proficiency and Their Teaching Self-Efficacy in an English Medium Instruction Context. *Front. Psychol.*, 12(611743), 1-9.  
doi:10.3389/fpsyg.2021.611743

WENR. (2019, October 15). *Education in Rwanda*. (S. Trines, Editor) Retrieved from WENR-World Education News + Reviews:  
<https://wenr.wes.org/2019/10/education-in-rwanda>

Williams, E. (2011). Language Policy, politics and development in Africa. In H. Coleman (Ed.), *Dreams and Realities:Developing Countries and the English Language* (pp. 2-18). London: British Council.

Yevudey, E. (2013). The pedagogical relevance of codeswitching in the classroom: Insights from EWE-English codeswitching in Ghana. *Ghana Journal of Linguistics* 2.2:1-, 2(2), 1-22.  
doi:<https://dx.doi.org/10.4314/gjl.v2i2.1>

# **APPENDICES**

## APPENDIX I. DATA COLLECTION TOOLS

### 1. STUDENTS' QUESTIONNAIRE (WITH A TRANSLATED VERSION IN KINYARWANDA-L1)

#### Section A (IGICE CYA A)- Biographical Information (Amakuru yawe)

SEX: Male OR Female:.....

DEPARTMENT:.....

LEVEL

(CLASS):.....

Please tick **one** answer which best applies to you ( *Shyira akamenyetso ka √ mu kazu kamwe gataganye n'igisubizo kijyanye nuko ukoresha indimi*)

#### Language use and background (Uko ukoresha indimi)

1. Which language do you feel most comfortable using in your day-to-day life? (*Ni uruhe rurimi ukoresha bitakugoye mu buzima bwa buri muni?*)

- a. English (*Icyongereza*)
- b. French (*Igifaransa*)
- c. Kinyarwanda (*Ikinyarwanda*)
- d. Other(s) (*Izindi*)

2. Which second language do you feel most comfortable using in your day-to-day life? (*Ni uruhe rurimi rwa kabiri ukoresha bitakugoye mu buzima bwa buri muni?*)

- a. English (*Icyongereza*)
- b. French (*Igifaransa*)
- c. Kinyarwanda (*Ikinyarwanda*)
- d. Other(s) (*izindi*)
- e. N/A (*Ntarwo*)

3. Which third language do you feel most comfortable using in your day-to-day life? (*Ni uruhe rurimi rwa **gatatu** ukoresha bitakugoye mu buzima bwa buri muni?*)

- a. English (*Icyongereza*)
- b. French (*Igifaransa*)

c. Kinyarwanda (*Ikinyarwanda*)

d. Other(s) (*Izindi*)

e. N/A (*Ntarwo*)

4. Which language do you use most in your family? (*Ni uruhe rurimi ukoresha cyane iyo uri mu rugo iwanyu?*)

a. English (*Icyongereza*)

b. French (*Igifaransa*)

c. Kinyarwanda (*Ikinyarwanda*)

d. Other(s) (*Izind*)

5. In which language were you taught in lower primary school? (*Wize mu ruhe rurimi mu kiciro cya mbere cy' amashuri abanza?*)

a. English (*Icyongereza*)

b. French (*Igifaransa*)

c. Kinyarwanda (*Ikinyarwanda*)

d. Other(s) (*Izindi*)

6. In which language were you taught in upper primary school? (*Wize mu ruhe rurimi mu kiciro cya kabiri cy' amashuri abanza?*)

a. English (*Icyongereza*)

b. French (*Igifaransa*)

c. Kinyarwanda (*Ikinyarwanda*)

d. Other(s) (*Izindi*)

7. In which language were you taught in secondary school? (*Wize mu ruhe rurimi mu mashuri yisumbuye?*)

a. English (*Icyongereza*)

b. French (*Igifaransa*)

c. Kinyarwanda (*Ikinyarwanda*)

d. Other(s) (*izindi*)

8. Which language(s) was mostly used by teachers while explaining subject content in secondary school? (*Ni uruhe rurimi abarimu bakoreshaga cyane mu gusobanura ibyigwa mu mashuri yisumbuye?*)

a. English only (*Icyongereza gusa*)

b. French only (*Igifaransa gusa*)

c. Kinyarwanda only (*Ikinyarwanda gusa*)

d. English and Kinyarwanda (*Icyongereza kivanze n' Ikinyarwanda*)

9. What language do you use most in communicating with your ...(*Ese ni uruhe rurimi ukoresha cyane iyo uganira na....*):

a. Classmates (*n'abanyeshuri bagenzi bawe*)?

b. Teachers and staff at the college (*n'abarimu cg abandi bakozi ba kaminuza wigamo*)? \_\_\_\_\_

10. Have you ever lived or studied in English speaking country?

(*Wigeze wiga cg utura mu gihugu gikoresha icyongereza?*)  *Yego*

*NO(Oya)*

### **Section B (Igice cya B) - Self-Rated English Language Proficiency**

**Please circle a number on a scale of 1 to 4 to rate your English language ability. (*Ca agaziga werekane urwego uriho mu kumenya icyongereza*)**

#### **English language skills**

11. How do you rate your English READING ability? (*Uri ku ruhe rwego rwo kumva ibyo wasomye mu cyonereza?*)

1. Poor(*hasi cyane*)    2. Fair(*ruri mu rugero*)    3. Good(*rwiza*)    4. Very good(*rwiza cyane*)

12. How do you rate your English WRITING ability?(*Uri ku ruhe rwego mu kwandika mu cyonereza?*)

1. Poor(*hasi cyane*)    2. Fair(*ruri mu rugero*)    3. Good(*rwiza*)    4. Very good(*rwiza cyane*)

13. How do you rate your English LISTENING ability? (*Uri ku ruhe rwego rwo kumva ukanasobanukirwa ibivuzwe mu cyonereza?*)

1. Poor(*hasi cyane*)    2. Fair(*ruri mu rugero*)    3. Good(*rwiza*)    4. Very good(*rwiza cyane*)

14. How do you rate your English SPEAKING ability? (*Uri ku ruhe rwego rwo kuvuga mu cyonereza?*)

1. Poor(*hasi cyane*)    2. Fair(*ruri mu rugero*)    3. Good(*rwiza*)    4. Very good(*rwiza cyane*)

**Section C (Igice cya C): Student's views about the teaching language**  
**(Uko umunyeshuri abona ururimi yigishwamo)**

Please read each of the following statements very carefully and tick the answer which best describes your degree of agreement or disagreement  
*(Soma neza interuro zikurikira hanyuma usubize ukoresheje akamenyetso ka*  
*√ bitewe nuko wemeranya n'izo nteruro).*

The following abbreviations are used: SA - Strongly Agree; AG - Agree; DA- Disagree; SD - Strongly Disagree (*Harakoreshwa impine zikurikira: SA- Yego cyane; AG- Yego; DA- Oya; SD Oya rwose*).

N	Item description(Interuro)	SD - Oya rwose (1)	DA- Oya (2)	AG- Yego (3)	SA- Yego cyane (4)
1	Studying engineering courses in <b>English only</b> is beneficial to me <i>(Kwiga amasomo y'ubumenyingiro mu Cyongereza gusa ni ingirakamaro kuri jye).</i>				
2	Studying engineering subjects in English is very necessary at the university level. <i>(Kwiga amasomo y'ubumenyingiro mu Cyongereza ni ngomwa ku rwego rwa kaminuza).</i>				
3	Studying engineering subjects in English will help me get a well-paid job. <i>(Kwiga amasomo y'ubumenyingiro mu Cyongereza bizamfasha kubona akazi).</i>				
4	Studying engineering subjects in English helps me improve my English proficiency. <i>(Kwiga amasomo y'ubumenyingiro mu Cyongereza</i>				

	<i>bimfasha kumenya Icyongereza)</i>				
5	Studying engineering subjects in English will increase opportunities for scholarships in international universities. ( <i>Kwiga amasomo y'ubumenyingiro mu Cyongereza bizanyongerera amahirwe yo kwiga mu bindi bihugu</i> )				
6	It is hard to learn engineering subjects in English. ( <i>Birankomerera kwiga amasomo y'ubumenyingiro mu Cyongereza</i> )				
7	It is unfair to study engineering subjects in English because students with lower English proficiency may score lower grades. ( <i>Sibyiza kwiga amasomo y'ubumenyingiro mu Cyongereza kuko abanyeshuri batazi neza Icyongereza bashobora gutsindwa</i> )				
8	I spend more time to revise the subject matter if it is taught in English ( <i>Iyo twize mu Cyongereza, nkoresha igihe kinini nsubiramo ibyo nize</i> )				
9	Studying engineering courses in Kinyarwanda and English is desirable to me ( <i>Nifuza kwigishwa amasomo y'ubumenyingiro mu <b>Kinyarwanda</b> n'Icyongereza bivanze</i> )				
	I fail in the assignments and exams mainly because my English level is low. ( <i>Ntsindwa imikoro n'ibizamini</i> )				



10	<i>kubera ko icyongereza cyanjye ari gicye)</i>				
11	I memorize what I have studied in English without understanding the meaning( <i>Mfata mu mutwe ibyo nize mu cyongereza kandi ntabyumva neza)</i>				
12	In class, when the lecturer asks me a question in English, I respond in Kinyarwanda.( <i>Mu ishuri, iyo mwarimu ambajije ikibazo mu cyongereza, nsubiza mu Kinyarwanda).</i>				
13	I like it more when the instructor is teaching engineering courses in English only ( <i>Ndabikunda cyane iyo mwarimu yigisha amasomo y'ubumenyingiro mu Cyongereza gusa).</i>				
14	Studying engineering courses in English only increases my chances of passing the exams ( <i>Kwiga amasomo y'ubumenyingiro mu Cyongereza gusa bituma ntsida ibizamini).</i>				
15	Studying engineering courses in Kinyarwanda and English increases my chances of passing the exams ( <i>Kwiga amasomo y'ubumenyingiro mwarimu avanga IKinyarwanda n'Icyongereza bituma ntsida ibizamini).</i>				

**Section D (Igice cya D): Please, answer the following questions.(Subiza ibibazo bikurikira)**

30. I would you prefer the course to be taught in (choose one answer)(Nifuza ko amasomo y'ubumenyingingiro yajya yigishwa mu:(hitamo igisubizo kimwe))

- a) English only (Cyongereza gusa)
- b) French only (gifaransa gusa)
- c) Both English and Kinyarwanda (mu Cyongreza kivanze n'Ikinyarwanda)

Please, explain your answer? (Sobanura igisubizo cyawe).....  
.....  
.....  
.....

31. What strategies /techniques do you use to understand the content you learn in English? Choose what apply to you (Ni iki ukora kugirango usobanukirwe neza n'amasomo wiga mu cyongereza? Hitamo uburyo usanzwe ukoresha).

- a. I have no problem of understanding the content I have learnt in English (Nta kibazo ngira kijyanye no kwiga amasomo mu cyongereza)
- b. I seek support from my classmates who know English (Nsobanuza abandi bazi icyongereza)
- c. If I fail to understand the content, I leave it (Ibyo ntumva ndabiyhorera).
- d. I use a dictionary to find the meaning of words I do not understand (Nkoresha inkoranyamagambo kugirango nsobanukirwe amagambo ntumva)

Thank you for your cooperation (Urakoze)

## **2. QUESTIONS FOR FOCUS GROUP DISCUSSIONS WITH STUDENTS (WITH A TRANSLATED VERSION IN KINYARWANDA-L1)**

### **SECTION 1: LANGUAGE EXPERIENCES**

#### **1.1. Self-identification as Users of Languages in Rwanda**

**Q1.** Which language would you prefer to use for this interview? (*Murahitamo ko tugira iki kiganiro mu ruhe rurimi?*)

**Q2.** Which other languages do you know? Why did not you choose them for this interview? (*Ni izihe ndimi zindi muzi? Kuki atarizo muhisemo muri iki kiganiro?*)

### **SECTION 2: ATTITUDES TOWARDS EMI**

#### **2.1. General Attitudes toward EMI**

**Q3.** What do you think about studying through English? (*Kwiga mu cyongereza ubitekerezaho iki?*)

**Q4.** How do you feel about studying through English? (*Kwiga mu cyongereza wumva bikumereye bite?*)

**Q5.** What do you do to perform the following tasks (*Ubyifatamo ute kugira ngo*):

a- To revise your notes in English (...*usubiremo 'notes' zawe mu cyongereza?*);

b- To participate in class in English (... *ukurikire amasomo mu cyongereza?*);

c- To write homework, assignments, and exams in English (...*wandike neza imikoro, amasuzumabumenyi, cyangwa se ibizame?*)

**Q6.** . a) Do you ever speak English outside class activities? (*Ese ujya uvuga icyongereza utari mu ishuri?*)

b) How do peers perceive you when you speak English with them? (*Bagenzi bawe bagufata cg bitwara bate iyo ubavugisha mu Cyongereza?*)

## **2.2. Specific Attitudes toward Using English to Study Specific Subjects**

**Q7.** Are there any particular challenges involved in using English to study the engineering subjects?(*Hari ingorane ziterwa no gukoresha icyongereza mu kwigama amasomo y'ubumenyingingiro?*)

**Q8.** Are there any challenges involved in using English to perform the following learning activities?(*Hari ingorane muhura na zo iyo mukoresha icyongereza mu mirimo ikurikira ijyanye no kwigama?*)

a- To remember the basic content (basic elements; terminologies, etc.) of your subjects (*Kwibuka ibyo mwize mu cyongereza;*)

b- To reflect on and understand concepts and theories in your subjects(*Kumva no gusobanukirwa amasomo mu cyongereza;*)

c- To apply theories and notions (e.g. using teaching/learning theories in school practice)( *Gushyira mu ngiro ibyo mwize mu cyongereza;*)

d- To analyze the information you get from your subjects (*Gusesengura ibyo mwize mu cyongereza.*)

## **SECTION 3: GENERAL COMMENTS ON ANY OTHER ISSUES CONCERNING EMI**

**Q9.** Do you have anything else to add to what we have just discussed? (*Hari icyo twaba twibagiwe mwumva mwakongera ku byo twavuze kugeza ubu?*)

Thank you for your participation (*Ndashimiye cyane kuba mwitabiriye iki kiganiro.*)

### 3. INTERVIEW GUIDE FOR LECTURERS (WITH A TRANSLATED KINYARWANDA VERSION)

<b>QUESTIONS FOR INTERVIEWS WITH LECTURERS (With a translated Kinyarwanda version)</b>
--

#### SECTION 1: LANGUAGE EXPERIENCES AND PROFESSIONAL DETAILS

##### 1.1. Self-identification as Users of Languages in Rwanda

Q1. Which language would you prefer to use for this interview? (*Urahitamo ko tugira iki kiganiro mu ruhe rurimi?*)

Q2. Which other languages do you know? Why did not you choose them for this interview? (*Ni izihe ndimi muzi? Kuki atarizo muhisemo muri iki kiganiro?*)

##### 1.2. Professional Training and Experience

Q3. Which subject(s) do you teach?( *Wigisha ayahe masomo?* )

Q4. What is your qualification? (*Ufite iyihe mpamyabushobozi?*)

Q5. Which language(s) did you study in? (*Wize mu ruhe rurimi?*)

a. At secondary level(*mu mashuri yisumbuye*)

b. At university level(*muri kaminuza*)

Q6. How do you rate your English proficiency in general?(*Wumva uzi icyongereza ku ruhe rugero?*)

## SECTION 2: ATTITUDES TOWARD EMI

### 2.1. General Attitudes toward EMI

Q7. What do you think about teaching engineering courses in English?

*(Kwigisha amasomo y'ubumenyanga mu cyongereza ubibona ute/ubitekerezaho iki?)*

Q8. How do you feel about teaching engineering courses in English?

*(Kwigisha amasomo y'ubumenyanga mu cyongereza wumva bikumereye bite?)*

Q9. What do you do to perform the following tasks :(*Ubyifatamo ute kugira ngo*)

a- to plan lessons? (...*utegure amasomo mu cyongereza?*)

b- to deliver the content in class?( ...*wigisha neza amasomo yawe mu cyongereza ku buryo abanyeshuri bagira icyo bamenya?*)

c- to set exams, assignments, and homework? (... *utegurire abanyeshuri imikoro, amasuzumabumenyi, cyangwa se ibizamini neza mu cyongereza? )*

Q10. a) Do you ever speak English outside class activities?(*Ese ujya uvuga icyongereza utari kwigisha?*)

b) How do peers perceive you when you speak English with them?(*Bagenzi bawe bagufata cg bitwara bate iyo ubavugisha mu Cyongereza?*)

### 2.2. Specific Attitudes toward Teaching Specific Subjects

Q11. Are there any particular challenges in using English: (*Hari ingorane zihariye uhura na zo mu gukoresha icyongereza:*)

a- to deliver basic elements (e.g. terminologies, basic notions etc.) in your subject?( *utanga icyigisho (subject) kikiri mu ntango (urugero: terminologies)?*)

b- to explain complex notions (e.g. principles, theories etc.) in your subject? (*usobanura ubumenyi bwimbitse (urugero: theories)?*)

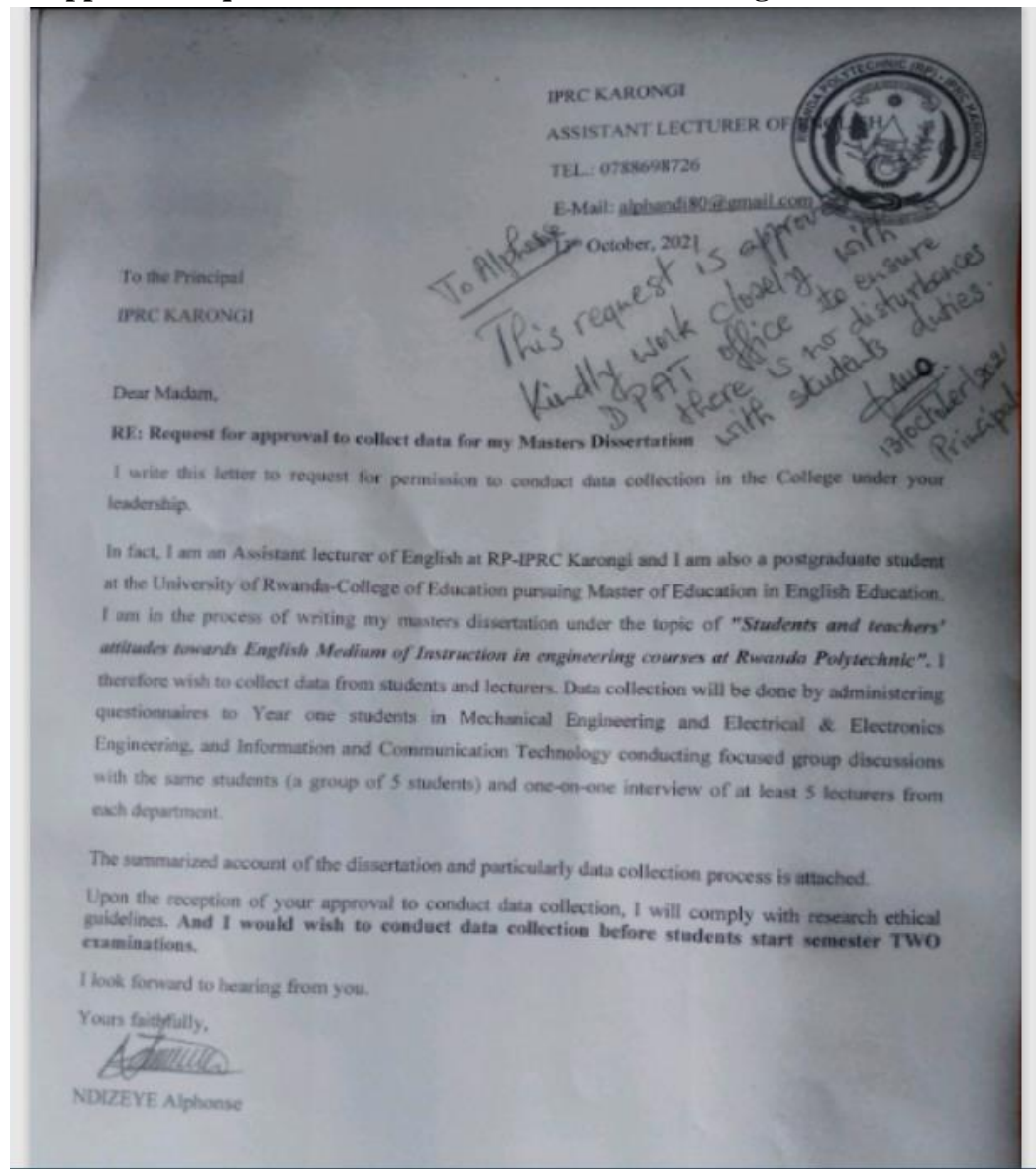
c- to apply techniques and methods in your subject?(*abanyeshuri bashyira mu bikorwa ibyizwe mu isomo (urugero: application)?*)

### SECTION 3: GENERAL COMMENTS ON ANY OTHER ISSUES CONCERNING EMI

Q12. Do you have anything else to add to what we have just discussed?(  
*Hari ikindi tutavuze wumva wakongeraho?*)

### APPENDIX II. ETHICAL CLEARANCES

#### 1. Approved request for data collection at IPRC Karongi







### 3. Data collection clearance for IPRC Musanze

 UNIVERSITY OF RWANDA  
COLLEGE OF EDUCATION

RESEARCH AND INNOVATION UNIT

Rukara, 9<sup>th</sup> February, 2022  
Ref: 03/DIRI-CE/022(c)/11N/p/2022

The Principal  
IPRC-Musanze  
Musanze District  
Northern Province, Rwanda

Re: Research recommendation letter for Mr. Alphonse NDIZEYE

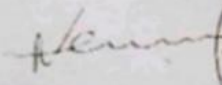
On behalf of the University of Rwanda-College of Education (UR-CE), I am pleased to introduce Mr. Alphonse Ndizeye, a post-graduate student at the School of Education of UR-CE. Mr. Ndizeye is writing his thesis on "Students' and lecturers' attitudes towards English Medium of Instruction in engineering courses at Rwanda Polytechnic" to complete his Master of Education in English Education.

He wishes to find out how students and lecturers view the importance of the English medium of instruction in learning and teaching engineering courses. Thus, he is requesting permission to collect data from the students studying Agriculture engineering and lecturers of engineering courses from your college.

Mr. Ndizeye's research project passed successfully through an internal collegial ethical process. Thus, the University of Rwanda-College of Education Directorate of Research and Innovation confirms that this research adheres to ethical standards and principles. Therefore, we kindly request you to accord him your cooperation in this research.

If you need more clarification, please do not hesitate to contact us at [urce-research@ur.ac.rw](mailto:urce-research@ur.ac.rw). We very much hope to get your usual cooperation in serving our nation.

Yours sincerely,


Digitally signed by  
UR (Rukara, Directorate of Research & Innovation)  
Date: 2022.02.10  
Time: 11:05:20 +2'00

Assoc. Prof. Eugene Ndagaba  
Director of Research and Innovation  
University of Rwanda College of Education  
E-mail: [ndagaba@ur.ac.rw](mailto:ndagaba@ur.ac.rw)  
Mobile: +250788308862

Cc:

- Principal, UR-CE
- Postgraduate Program Coordinator, School of Education
- Dr. Cyprien Tabaro (Supervisor)

*Handwritten note:*  
① Had AE  
Pls assist Mr. NDIZEYE to conduct interviews & collect information for his research work. He is a staff of IPRC Karongi.  
Shiraga 2/3/2022



EMAIL: [urce-research@ur.ac.rw](mailto:urce-research@ur.ac.rw) TEL: No. 25 0788308862 WEBSITE: [www.ur.ac.rw](http://www.ur.ac.rw)

## APPENDIX III. EXTRA TABLES

### 1. Students' English language background

Questions	Alternatives	Respondents (n=120)	%
Q1. Which language do you feel most comfortable using in your day-to-day life?	English	0	0
	French	0	0
	Kinyarwanda	120	100
	Others	0	0
Q2. Which second language do you feel most comfortable using in your day-to-day life?	English	4	3.3
	French	0	0.0
	Kinyarwanda	0	0.0
	Others	1	0.8
	N/A	115	95.8
Q3. Which third language do you feel most comfortable using in your day-to-day life?	English	0	0
	French	0	0
	Kinyarwanda	0	0
	Others	0	0
	N/A	120	100
Q4. Which language do you use most in your family?	English	0	0
	French	0	0
	Kinyarwanda	120	100
	Others	0	0