



Effect of English as a Medium of Instruction on Academic Performance of Students in Civil Engineering in Higher Learning Institutions: A Case of Rwanda Polytechnic, Huye College

Ally Majaliwa, Jacques Albert Twahirwa, Niyibaho Alain Frederic, Nadege Kwizera
Rwanda Polytechnic (Huye College)
Email : majaliwaally@gmail.com

Abstract: *The aim of this paper was to investigate the Effect of English as a Medium of Instruction on Academic Performance of Students in Civil Engineering in Higher Learning Institutions. A Case of Rwanda Polytechnic, Huye College. Simple random sampling technique was further applied to obtain lectures and students from civil engineering department, making 198 target individuals. The study used a sample of 132 respondents from the sampled department at Rwanda Polytechnic Huye College. The collected data was analyzed using descriptive statistics, correlation, and regression analysis through the statistical package for social science (SPSS) version 21. The data collected were analyzed using descriptive statistics and multiple regression. The results of the findings indicated that English usage as medium of instruction was more correlated with the performance of students in civil engineering department ($r = 0.611$; $p = 0.000$). Multiple linear regression analysis showed that English usage as medium of instruction contributed to 71.9% of variation on the performance, hence plays a vital role in performance of students in Huye College. Additionally, it was further inferred that English usage as medium of instruction increases positive attitudes toward learning other subjects in civil engineering department. The study recommended that lecturers who teach modules in civil engineering, as influential figures in Huye College, consistently utilize only the English language during the teaching process to serve as effective role models for students.*

Keywords: *English as a Medium of Instruction, academic performance, Civil Engineering, Higher Learning Institutions, Rwanda Polytechnic*

How to cite this work (APA):

Majaliwa, A., Twahirwa, J. A., Niyibaho, A. F. & Kwizera, N. (2024). Effect of English as a medium of instruction on academic performance of students in civil engineering in higher learning institutions: A case of Rwanda polytechnic, Huye College. *Journal of Research Innovation and Implications in Education*, 8(3), 367 – 377. <https://doi.org/10.59765/opeg2749>.

1. Introduction

English as a Medium of Instruction (EMI) is becoming a fashion in many leading global tertiary education institutions in non-English speaking nations, and they view it as an essential answer for their reputations (Shimauchi, 2018). The tertiary institutions in Saudi Arabia are involved in the Englishization of science-related

specializations. In other words, they seek to enhance their tertiary education by affiliating it with EMI. These nations seem to understand internationalization, the enhancement of their education, and the improvement of their students' communication skills through the Englishization of tertiary education (Delgado-Marquez et al., 2017). Such an understanding is believed to influence many students in the Arabic Gulf area, so many educators view EMI as a

primary way to improve student English language proficiency (Ismail, 2011). However, such a linearity between EMI and language competency is less often than many would like to believe (Macaro, 2018).

Globally, the momentum for using English as a medium of instruction (EMI) began with the Bologna Declaration of 1999, which catalyzed rapid expansion in EMI adoption (Walkinshaw et al., 2017). Since then, there has been substantial evidence of EMI's growth, marking it as a central feature in language policy and planning within education systems over the past twenty-five years (Dearden & Macaro, 2016; Zumor & Qasem, 2019). In recent years, many top universities in non-English speaking countries have integrated EMI into their higher education programs (Al Hakim, 2021). This trend reflects a broader shift towards using English in tertiary education globally, with numerous non-English speaking countries embracing EMI as part of their educational strategies (Shimauchi, 2018; Yuan et al., 2020).

In Europe, EMI has been widely adopted in countries where English is not the native language, with similar trends observed in Asian nations such as Bangladesh, China, Malaysia, and South Korea (Rahman et al., 2019). Although EMI is becoming increasingly common in these regions, the majority of existing research has been focused on European contexts (Rahman et al., 2019). Studies, such as those by Dearden & Macaro (2016), highlight a growing support for EMI in countries like Poland, Austria, and Italy, despite some awareness gaps regarding the challenges and negative impacts associated with EMI. This indicates a need for more comprehensive research and adaptation to better address the specific issues arising from EMI implementation.

In Africa, EMI is seen as a key tool for universities, teachers, and students to meet the demands of internationalization and to compete in the global economy (Palazon & Martinez, 2014). However, the shift from a native language to English presents several challenges. Macaro et al. (2018) conducted a systematic review of 83 EMI studies from various regions, revealing consistent concerns about students' English proficiency and lecturers' ability to teach effectively in English. This gap often leads to difficulties in comprehension and teaching efficacy. To address these issues, many EMI lecturers resort to translation, code-switching, or code-mixing (Yeh, 2012). Nevertheless, excessive translation can create conflicts between policy and practice, and while code-switching may benefit less proficient students, it can deter those with better English skills and potentially affect their exam performance (Ariffin & Husin, 2011).

In Rwanda, experts in education have called on all universities in Rwanda to use English only as the language of instruction to help students to be more proficient when they graduate, function optimally in their workplaces and network internationally, if necessary (Tembasi, 2022). The call comes after a recent communiqué from one of Rwanda's higher learning institutions urging staff to conduct all learning and teaching activities in English fired up the ongoing language in education debate in the country. But students' poor command of English after completing school, where the use of Kinyarwanda is widespread, is a challenge for higher education institutions when these learners enrol for their studies. In fact, most institutions continue to struggle with the students' language transition from school to university as well as the strengthening of the English skills of academic staff. It was these concerns that surfaced at the Integrated Polytechnics Regional College (IPRC) Huye, where a recent communiqué announced to all academic staff and students that "English is the only medium of instruction allowed to be used in classes, workshops and any other academic activities".

1.1 Statement of the Problem

The English language holds a significant position as one of the four official languages in Rwanda. Initially, in 1995, Kinyarwanda, English, and French were declared official languages, and in 2017, Kiswahili was included. Notably, English plays a predominant role, particularly within the realm of education, as it has been the approved medium of instruction in Rwanda since 2009, replacing French. The government of Rwanda has diligently worked towards furnishing diverse teaching and learning materials in English to primary and secondary schools and has provided robust teacher training programs. Despite these endeavors, a considerable number of students enrolling in higher learning institutions in Rwanda are observed to have a low level of English proficiency (Kagwesage, 2013).

The challenges of teaching English as a Medium of Instruction (EMI) in Higher Learning Institutions (HLIs) in Rwanda are complex. These challenges arise from the fact that most teachers are native Kinyarwanda speakers and lack proficiency in English (Uwizeyimana, 2018). Consequently, Rwandan students show accuracy but lack fluency in English (Sibomana, 2010). Sibomana (2010) astutely points out that the focus is mainly on producing grammatically correct written sentences, neglecting oral communication. Also, English learning is limited in the classroom, which restricts real-world application (Banegas, 2019), hindering the development of speaking skills, which are particularly challenging to improve in level 1 classes. Students' fear of ridicule from peers further discourages them from engaging in spoken English (Du,

2019), worsening language anxiety. Although efforts have been made to use English as the medium of instruction, its specific effect on the performance of students in the civil engineering department within HLIs, especially in Rwanda Polytechnic, Huye College, has not been extensively explored. It is against this background that this paper aims to uncover effective solutions to address these pressing issues in Rwandan HLIs in Huye College.

1.2. Research Hypothesis

This study attempted to address the following research hypothesis:

H₁ There is no significant relationship between English usage as a medium of instruction and academic performance of students in civil engineering department in Rwanda Polytechnic, Huye College

2. Literature Review

2.1. Teaching and Learning English in high learning institutions

Higher education institutions in non-English speaking countries are increasingly adopting English as the medium of instruction to meet various goals, such as enhancing internationalization and improving students' English skills. This shift requires students to learn academic content in a language other than their native tongue and often necessitates that instructors teach in English, which may not be their first language. The literature discusses the challenges and adjustments associated with this transition. According to recent research, while the shift to English instruction is generally welcomed, there is still limited understanding of how changing the language of instruction affects disciplinary learning in higher education.

Students' views on their lecturers' competence are significantly influenced by their perception of the lecturers' English proficiency (Jensen et al., 2013). In English-medium universities, students may feel more confident in using English but encounter challenges such as memorization difficulties and limited participation in discussions conducted in English (Karabinar, 2008). Despite improvements in English proficiency, studies indicate that EMI can hinder content learning. For instance, recent findings suggest that the use of English as the medium of instruction can negatively impact students' learning outcomes (Vinke, 2023). Additionally, students often feel that EMI hinders their knowledge acquisition to some extent (Byun et al., 2023). To address these challenges, there is a need for more research on effective teaching strategies and support mechanisms for both lecturers and students in EMI contexts

2.2. English as Medium of Instruction

English Medium Instruction (EMI) involves using English to teach academic subjects in countries where English is not the primary language. While many lecturers perceive minimal differences between teaching in English and their native language, students often report noticeable differences in teaching methods and learning experiences. This perception is supported by recent studies indicating that didactic approaches and students' learning needs can vary significantly between English-medium and native language instruction (Anderson & Kirkpatrick, 2022).

The growth of English-taught programs in European universities over the past two decades has been substantial. For example, a 2023 report by European University Association (EUA) highlights that the number of such programs has dramatically increased, reflecting a broader global trend. EMI has become a prominent feature of higher education worldwide, with higher concentrations in universities and private institutions compared to lower educational levels and public institutions (EUA, 2023). This widespread adoption underscores the growing importance of EMI in the global education landscape.

Historically, the adoption of an international language for educational purposes has deep roots. Latin was the dominant language of education in Europe until the Early Modern period, followed by French and German. By the 21st century, English emerged as the leading language for scientific publications (Ammon, 2016). Today, EMI is expanding rapidly across various educational levels and regions, including primary and secondary schools. Despite its growing prevalence, the educational implications of EMI remain underexplored. Recent research aims to address this gap by examining its effects on language learning, teaching practices, and educational quality. In Rwanda, EMI has been widely implemented with the goals of improving students' subject knowledge and English proficiency, though challenges related to English proficiency among faculty and students persist (; Huang & Zhang, 2023).

3. Methodology

This research aimed to assess the impact of using English as the medium of instruction on the academic performance of students in the civil engineering program at Huye College. The study involved five lecturers who teach English as a subject in the civil engineering department at the sixth level, as well as 542 students from the same department, resulting in a total study population of 547 individuals.

Table 1: Table showing size of population of selected schools

Options in Civil Engineering department	Number of students	Head of Department	Number of Lecturers	Total population
Highway	47	-	1	47
Land surveying	46	-	1	47
Quantity surveying	50	-	1	51
Construction A	51	-	1	52
Total	194	1	4	198

Source: Directorate of Academic Service, 2024

Stratified sampling, purposive sampling and simple random sampling were used in this study. Stratified sampling was used to select a sample of civil engineering department among other department in Rwanda Polytechnic especially in Huye College. The aim was to ensure that all departments in Huye college were represented in the study. The head department of general courses of the sampled college was purposively selected to participate in the study. A simple random sampling method was also used to select 4 lecturers who teach English in level 6 year 1 department from the sample of college of Rwanda Polytechnic.

In addition, the study used the following formula proposed by Yamane (1973) to determine the sample size, as it is too large to waste scarce resources and may expose more participants than necessary to risk.

$$n = \frac{N}{1 + (N)(e^2)}$$

Where:

n = sample size

N = the population size

e = the acceptable sampling error (5%) at 95% confidence level

Thus; $n = 198 / (1 + 198)(0.05)^2$

n=132 respondents

A sample of 132 respondents was targeted to participate in this study. This formula was used to estimate a representative sample. A total number of 132 respondents was taken as sample size. The following is the table showing sample size for each category of four option in civil engineering department in Huye College:

Table 1: Table representing a sample size

Options in Civil Engineering department	Number of students	Head of Department	Number of Lecturers	Total population
Highway	31	-	1	32
Land surveying	30	-	1	31
Quantity surveying	32	-	1	33
Construction A	33	-	1	34
Total	127	1	4	132

Source: Primary data, 2024

In this study, the researcher employed a combination of interviews, questionnaires, and documentary review to gather data. Closed-ended questions were strategically used to streamline responses, ensuring that answers were categorized and relevant. This method allowed the researcher to maintain control over the data collection process and ensured that specific objectives were met. The

primary respondents, consisting of students, were provided with questionnaires and ample time to respond.

Furthermore, the study utilized oral questions alongside interview guides to extract comprehensive information from the respondents. This approach allowed for both flexibility and precision in data collection. Interview

guides were skillfully implemented to engage the head of the department of General Courses and lecturers responsible for teaching the English module in the civil engineering department. The use of semi-structured interview questions provided the researcher with the opportunity to elicit comprehensive and organized responses. All interviews were conducted on-site at the college campus.

Prior to conducting data analysis using SPSS Version 21, extensive measures were taken to ensure the accuracy and reliability of the data. Advanced statistical techniques, encompassing both descriptive and inferential statistics, were applied to analyze the quantitative data obtained from the questionnaire. The outcomes were presented using percentages, means, standard deviations, and frequencies. Additionally, a robust regression model was utilized to examine the influence of English usage as a medium of instruction on the academic performance of students in the civil engineering department at Rwanda Polytechnic, Huye College. This approach effectively facilitated the

comprehensive evaluation of the relationships between the study's dependent and independent variables.

$$Y = \beta_0 + \beta_1 X_1 + \epsilon$$

Where;

Y = Academic performance of students

X1 = English as Medium of Instruction

β_0 = Constant Term;

β_1 = Beta coefficients;

ϵ = Error Term.

4. Results and Discussion

4.1. Findings

In this study the research sampled Lecturers with English module and Head of Department of General courses, and students from civil engineering department of Huye College because they have better knowledge and experience about their teaching and learning practices. Table 3 shows the return rate of respondents.

Table 3. Response rate

Respondents	Targeted	Obtained	Response rate(%)
Head of Department	1	1	100
Lecturers	4	4	100
Students	128	119	92.9
Total	132	124	93.9

Source: Primary data, 2024

As indicated in Table 3, we distributed 128 (100%) questionnaires to students, but only 119 (92.9%) were returned, resulting in a participation rate of 92.9% for students. Additionally, all 5 (100%) lecturers and department heads who were approached for interviews agreed to participate. Therefore, the overall response rate of the respondents was 93.9%. According to Mugenda and Mugenda (2003) and Kothari (2004), a response rate of above 50% is adequate for a descriptive study. Thus, the response rate of 93.9% in this study was very good for the study.

4.1.1 Descriptive Statistics of English usage as Medium of Instruction

In this research the study attempted to determine the effect of English as a medium for Instruction on academic performance of students of civil Engineering in Huye College. The respondents were asked to rate the statements by indicating the extent to which they apply to their organization in 5-point Likert scale as shown on: 5. Strongly Agree (SA), 4 Agree (A), 3. Neutral (N), 2. Disagree (D) and 1. Strongly Disagree (SD). Besides, the mean and deviation were used for interpretation of the findings where mean (M) is the average of group of scores and it is sensitive to extreme score when the population samples are small. Moreover, the standard deviation (SD) was also used to measure the variability in those statistics as it shows how much variation is there from the average (mean).

Table 4: English as medium of instruction and academic performance

Statements	M	SD
Engineering programs that emphasize English language skills alongside technical knowledge may better prepare students for success in their careers.	4.3	.87
EMI programs can prepare students for global teamwork and communication, which are essential skills in the field.	4.0	.79
Well-designed courses, competent instructors, and appropriate teaching materials can mitigate language barriers	4.3	.91
English serves as a common language for engineering terminology and standards worldwide.	4.0	.46
Proficiency in English is crucial for civil engineers students to communicate effectively in other subjects.	4.1	.80
Students' access to English-language resources, such as textbooks, journals, and online materials, can also impact their academic performance	4.3	.87

Source: Primary data, 2024

The findings presented in Table 4 pertain to the assessment of the impact of English as a medium of instruction on the academic performance of civil engineering students at Huye College, as indicated by six specific statements. The results indicate that a significant majority of respondents strongly agreed with the first statement, suggesting that engineering programs that emphasize English language skills alongside technical knowledge can better equip students for career success. The mean value for this response was 4.3, with a high positive correlation standard deviation of 0.87. Similarly, for the second statement regarding the preparation of students for global teamwork and communication through EMI programs, a majority of respondents strongly agreed (M=4.0, SD=0.79). In response to the third statement about the potential of well-designed courses, competent instructors, and appropriate teaching materials to mitigate language barriers, most respondents agreed (mean of 4.3) with a very positive and low standard deviation correlation (0.91). The fourth statement, addressing the prevalence of English as a common language for engineering terminology and standards worldwide, also garnered strong agreement from

respondents, with an average mean of 4.0 and a strong positive standard correlation of 0.46. The fifth statement, which emphasized the importance of English proficiency for effective communication among civil engineering students, received a strong majority agreement, with a mean of 4.1 and a standard deviation of 0.80. Finally, the last statement, relating to the impact of students' access to English-language resources on their academic performance, saw a majority of respondents expressing strong agreement (M=4.3, SD=0.87). These results underscore the consensus among respondents regarding the critical role of English as a medium of instruction in the academic performance of civil engineering students at Rwanda Polytechnic, particularly at Huye College.

4.1.2 Correlation analysis

The findings of the correlations between the independent variables and the dependent variables are summarized and presented in Table 5

Table 5: Correlation English as Medium of Instruction and Academic Performance of students

		English as Medium of Instruction	Academic Performance of students
English as Medium of Instruction	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	124	
Academic Performance of students	Pearson Correlation	.611**	1
	Sig. (2-tailed)	.000	
	N	124	124

** . Correlation is significant at the 0.01 level (2-tailed).

According to the findings presented in Table 5, the Pearson correlation analysis revealed a significant positive relationship between using English as the Medium of Instruction and the academic performance of students at Rwanda Polytechnic, particularly at Huye College. The correlation coefficient was 0.611, and the p-value was 0.000, indicating that this relationship is statistically significant (since the p-value is less than 5%). This means that as English is increasingly used as the medium of instruction, there is a notable improvement in students' academic performance.

4.1.3 Multiple Regression

A multiple regression analysis was performed in this study to identify the predictor and its contribution towards the criterion. It aimed to determine the prediction of a single dependent variable from a group of independent variables. The multiple regression analysis was performed with all the assumptions complied with. The study tested the following hypothesis:

H₁ There is no significant effect between English usage as Medium of Instruction and Academic Performance of students in civil engineering department in Huye college

Table 6. Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.848a	.719	.708	.48113

a. Predictors: (Constant), English usage as Medium of Instruction

The R-squared shows the variation in the dependent variable that can be explained by the independent variables being studied. The R-squared in this study was 0.719, which implies that the independent variable can explicate

71.9% of the dependent variable whereas the remaining 29.1% variation is explained by other factors which are not included in the model.

Table 7. Significance of Independent variable

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	156.849	3	52.283	164.885	.000 ^b
	Residual	57.710	182	.317		
	Total	214.559	185			

a. Dependent Variable: Academic Performance of students

b. Predictors: (Constant), English usage as Medium of Instruction

Table 7 above indicated standard regression which provides the effect of individual predictor variables. Analysis of variance was carried out on the regression

model and the results are as presented in Table 6 above. The findings above show that the F-critical (164.885), which shows that the model can be used in predicting the

effect of the independent variables on the dependent variable. The results on the analysis of the variance (ANOVA) indicate that the overall model was statistically significant at 95% confidence level.

4.2 Discussion

From the findings, the study found that English usage as Medium of Instruction affects performance of students in civil engineering department. The study revealed that Engineering programs that emphasize the development of English language skills, in addition to providing a solid foundation in technical knowledge, play a critical role in preparing students for successful careers in the field. English stands as the prevailing language for engineering terminology and standards worldwide. Recognizing the importance of this, English Medium Instruction (EMI) programs are designed to ensure that students are well-versed in standardized terminology and are able to proficiently articulate technical concepts with professionalism, thereby laying a strong foundation for academic success and professional growth in the field of civil engineering. The impact of effective English language instruction on academic performance cannot be overstated. Well-designed courses, competent instructors, and appropriate teaching materials can significantly mitigate language barriers and enable students to more easily comprehend complex engineering concepts. Proficiency in English is not only imperative for effective communication within the field of civil engineering, but also for understanding and excelling in other related subjects. Moreover, students' access to a wide range of English-language resources, including textbooks, journals, and online materials, can heavily influence their academic performance. Institutions that provide comprehensive resources and support for learning in English are likely to witness improved outcomes for their engineering students, thereby further solidifying the vital role that English language proficiency plays in the academic and professional success of civil engineering students. These findings could have various implications, such as the need for language support for non-native English speakers or the importance of ensuring clarity and proficiency in English instruction to enhance learning outcomes in technical fields like civil engineering.

The interview data gathered the views of the participants on the effect of English usage as medium of instruction on performance of the students in civil engineering department subject in Rwanda Polytechnic, Huye College; The head of department and lecturers have been interviewed. The findings from the interview showed that all respondents unanimously agree that there is a strong correlation between English usage as medium of

instruction and the performance of students in civil engineering department.

One of them expressing his views by stated that:

“The attitudes held by students and educators toward EMI vary based on different contexts. This variation could be attributed to various factors, including socioeconomic and political elements. In the Rwandan context, particularly at Huye College, although many instructors and students view EMI as a potential barrier to academic progress, they pragmatically support it due to the wealth of resources it provides and the extensive access it offers to global scientific knowledge. Additionally, proficiency in English is becoming increasingly vital in the global engineering sector, where collaboration and communication often occur in English. Engineering programs that emphasize English language skills alongside technical expertise may better equip students for success in their careers.” (20th April, 2024).

The Head of Department also observed that for students transitioning from education systems where the medium of instruction is not English, there may be an initial adjustment period during which academic performance could be affected. However, with time and practice, students can adapt and perform well in English-medium engineering programs.

Another Lecturer A emphasized that students majoring in English must excel in the language to fully grasp their course subjects. While English proficiency is crucial, it's essential to recognize that standardized English tests may not always accurately assess students' overall language abilities. It's important to understand that language proficiency is just one among many factors influencing academic success, rather than being the sole determining factor.

These findings are relevant with Shohamy (2013) who claimed that English for Academic Purposes (EAP) students experience find it challenging to follow the lectures when new specialized linguistic terms are introduced in their science classes. Such encounters are attributed to most science lecturers not emphasizing language learning when teaching sciences (Ali, 2013). Sciences or subject lecturers see their role as English language teachers and assume that students already have sufficient English skills to satisfy EMI demands (Dearden, 2015). In addition, content instructors' language abilities and pedagogical skills may constitute a barrier to successfully conveying academic content (Jiang et al., 2016). In observations for Norwegian lecturers, Griffiths (2013) revealed that despite their scientific competencies, many science lecturers do not possess sufficient English

language competencies when they teach science and that their "limited vocabulary caused problems in all disciplines." Some content instructors choose to teach in their native language because they find it easier to communicate their content (Alkhateeb, 2021). However, some institutional language regulations may prohibit such practices, placing instructors in a precarious position because they lack the training to teach using EMI (Macaro, 2018).

5. Conclusion and Recommendations

5.1 Conclusion

Based on the findings of this study, it was concluded that there is a strong relationship between the use of English as a medium of instruction and student performance. The data indicates that students who are more proficient in English tend to achieve higher academic results. Consequently, the research hypothesis was tested, verified, and subsequently rejected in light of the statistical (regression analysis) findings. According to the research, the correlation of 71.9% is categorized as a positive and very high correlation. This confirms that there is a significant relationship between using English as a medium of instruction and the academic performance of students in civil engineering.

5.2 Recommendations

This study has suggested that:

1. The Head of the department, in collaboration with the directorate of academic services, create comprehensive policies that actively advocate for and reinforce English as the primary medium of instruction in their classrooms.
2. Furthermore, the researchers have recommended that all lecturers who teach English module in civil engineering, as influential figures in Huye College, consistently utilize only the English language during the teaching process to serve as effective role models for students. This recommendation is based on the findings of the study, which highlighted the crucial impact of teachers on students' ability to master the English language.

References

Alexander, O. (2008). English Medium Instruction and the challenges faced by non-native lecturers. *Journal of Language Teaching and Research*, 10(1), 85-101.

Ali, M. (2013). The effectiveness of English Medium Instruction in non-English speaking countries. *Journal of Applied Linguistics*, 12(3), 45-67.

Al Hakim, T. (2021). The integration of English Medium Instruction in higher education: A case study of non-English speaking countries. *International Journal of Educational Policy and Leadership*, 14(2), 145-162.

Alkhateeb, H. (2021). Challenges and opportunities of implementing English Medium Instruction in Arab universities. *International Journal of Language Education*, 9(2), 123-140.

Anderson, J., & Kirkpatrick, D. (2022). Teaching and learning English in higher education: Challenges and strategies. *Journal of Education and Language Studies*, 10(1), 45-58.

Anderson, L., & Kirkpatrick, A. (2022). Teaching in English: A comparative study of teaching methodologies in EMI contexts. *Journal of Educational Research*, 115(3), 235-248.

Ammon, U. (2016). The dominance of English as a scientific language: A historical perspective. *Language in Society*, 45(2), 135-156.

Banegas, D. L. (2019). Exploring English language learning in the classroom: Insights and challenges. *International Journal of Applied Linguistics*, 29(3), 213-229. Wiley-Blackwell.

Byun, K., Chen, X., & O'Hara, J. (2023). The effects of English Medium Instruction on knowledge acquisition in higher education. *Higher Education Research & Development*, 42(1), 76-91.

Byun, K., Jahng, S., & Hong, S. (2010). The impact of English Medium Instruction on students' academic performance: A study in South Korea. *Journal of Multilingual and Multicultural Development*, 31(5), 425-438. Routledge.

Dalton-Puffer, C. (2011). Content and Language Integrated Learning: From practice to principle. *Language Teaching Research*, 15(2), 143-157.

Dearden, J. (2014). English as a medium of instruction – A growing global phenomenon. *British Council*.

Dearden, J. (2015). *English as a Medium of Instruction: A Growing Global Phenomenon*. Oxford University Press.

- Dearden, J., & Macaro, E. (2016). High stakes or low stakes? English-medium instruction in European higher education. *Language Policy*, 15(1), 1-22.
- Dearden, J., & Macaro, E. (2016). English Medium Instruction (EMI) in higher education: A review of research and current practices. *Language Teaching*, 49(4), 500-519.
- Delgado-Marquez, B. L., Gomez-Gras, M., & Cervera-Torres, M. (2017). English Medium Instruction and internationalization: A comparison of higher education institutions. *Higher Education Policy*, 30(4), 563-580.
- Du, X. (2019). The impact of peer influence on language learning: A study of English Medium Instruction. *Language Learning Journal*, 47(2), 231-244.
- EUA (European University Association). (2023). *Trends 2023: Learning and teaching in European universities*. European University Association.
- Galloway, N. (2020). The role of English Medium Instruction in globalizing higher education. *Global Perspectives on Higher Education*, 25(1), 34-50.
- Griffiths, G. (2013). A study of English Medium Instruction in science education: Challenges and perspectives. *European Journal of Science Education*, 16(4), 321-338.
- Hu, X. (2007). Challenges in implementing English Medium Instruction: A study of Chinese higher education. *Journal of Language and Education*, 19(3), 55-72.
- Ismail, N. (2011). English Medium Instruction and its impact on language learning in the Arab world. *Middle Eastern Journal of Language Studies*, 8(2), 110-126.
- Jensen, C., Denver, D., Mees, I., & Werther, M. (2013). Students' perceptions of English proficiency and lecturer competence. *Language Assessment Quarterly*, 10(2), 98-112.
- Jiang, X., Wang, L., & Zhang, Y. (2016). Challenges of implementing English Medium Instruction in Chinese universities: A mixed-method study. *Journal of Educational Research*, 58(1), 78-95.
- Kagwesage, C. (2013). The state of English proficiency among Rwandan higher education students: Challenges and prospects. *Rwanda Journal of Education*, 5(1), 58-72.
- Karabinar, K. (2008). Challenges in English-medium universities: Student experiences and perspectives. *Language Teaching Research*, 12(4), 341-358.
- Klaassen, R. (2001). The role of English in higher education: Insights from non-native contexts. *International Journal of Language Education*, 12(4), 89-102.
- Macaro, E. (2018). *The impact of English Medium Instruction on student outcomes*. Cambridge University Press.
- Macaro, E. (2018). English Medium Instruction: What we know and what we need to know. *Language Teaching*, 51(3), 338-359.
- Macaro, E., Curle, S., Pun, J., & An, J. (2018). A systematic review of English Medium Instruction in higher education. *Journal of Language and Education*, 29(4), 45-60. Sage.
- Maiworm, F., & Wächter, B. (2002). English-taught programs in European higher education: Current trends and challenges. *European Journal of Higher Education*, 1(1), 22-45.
- Palazon, M., & Martinez, M. (2014). EMI as a tool for internationalization and quality enhancement in African universities. *African Journal of Educational Research*, 12(1), 67-83. Academic Press.
- Rahman, M. M., Chowdhury, T., & Karim, A. (2019). The adoption and impact of English Medium Instruction in higher education: A review of Asian contexts. *Asian Education Review*, 11(3), 112-127.
- Shimauchi, S. (2018). The role of English Medium Instruction in enhancing higher education in non-English speaking countries. *International Journal of Educational Development*, 62, 88-98.
- Shohamy, E. (2013). *Language Policy: Hidden Agendas and New Approaches*. Routledge.
- Sibomana, G. (2010). The effectiveness of English as a medium of instruction in Rwandan higher education: Challenges and opportunities. *Rwanda Journal of Education*, 4(2), 33-47.

- Tembasi, N. (2022). The impact of English-only instruction policy on Rwandan higher education institutions. *Journal of Language Policy, 18*(2), 153-170.
- Uwizeyimana, J. (2018). Teaching English as a medium of instruction in Rwanda: Challenges and perspectives. *East African Journal of Education, 22*(3), 205-220.
- Vinke, A. (2023). Effects of EMI on student learning: A study in higher education contexts. *Education Research International, 2023*, 1-12.
- Wächter, B., & Maiworm, F. (2014). English-taught programs in European higher education: Trends and developments. *European Journal of Higher Education, 14*(2), 40-58.
- Walkinshaw, I., & Oanh, D. T. T. (2017). The Bologna Declaration and the rise of English Medium Instruction: A global perspective. *Higher Education Research & Development, 36*(4), 725-739.
- Yamane, T. (1973). *Statistics: An Introduction Analysis*. Harper and Row.
- Yuan, C., Ding, X., & Wang, H. (2020). English Medium Instruction in non-English speaking countries: A global overview. *International Journal of Bilingual Education and Bilingualism, 23*(6), 1138-1152.
- Yuan, R., Macaro, E., & Han, M. (2020). English Medium Instruction in higher education: Trends and challenges. *Language Teaching Research, 24*(5), 473-493.
- Zhang, X., & Pladevall-Ballester, E. (2021). The implementation of English Medium Instruction in Rwandan higher education: Achievements and challenges. *African Education Review, 18*(2), 203-220.