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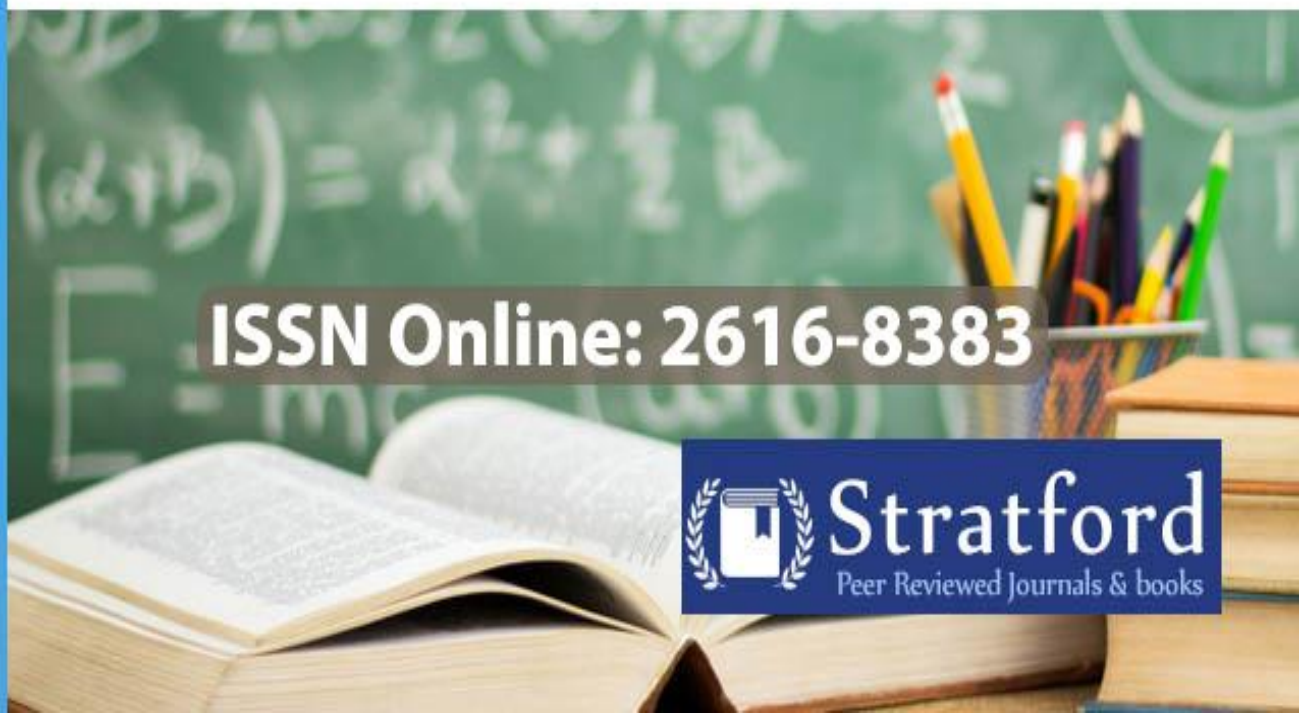

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Relationship Between Language Barrier and Students' Academic Performance in Higher Learning Institutions in Rwanda

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Abstract

Language barrier remains a critical challenge affecting students' academic performance in higher learning institutions in Rwanda, where English is the primary medium of instruction. This study examined the relationship between language proficiency and academic achievement among undergraduate students at the University of Rwanda College of Education. Using a quantitative research approach with a descriptive-correlational design, data were collected from 339 students across arts and science faculties. Descriptive statistics measured the level of perceived language barriers, while Pearson correlation analyzed the relationship between language proficiency and academic performance. Findings revealed a significant negative relationship between language barriers and students' academic outcomes, indicating that limited English proficiency hinders comprehension, participation, and overall performance. The study recommended targeted interventions, including supplementary language courses, enhanced pedagogical strategies, and supportive academic resources to mitigate language challenges. Addressing these barriers is crucial to improve students' academic success and prepare graduates for competitive employment in Rwanda's socio-economic context.

Keywords: *Language barriers; English language proficiency; Academic performance; Higher learning institutions; Medium of instruction*

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1 Introduction

Education is a key driver of national development, particularly in Rwanda, where higher learning institutions (HLIs) are mandated with producing competent graduates for the labour market. Academic performance in HLIs is influenced by multiple factors, among which language proficiency has emerged as a critical determinant. English is the primary medium of instruction in Rwandan universities, yet many students face challenges in mastering it, affecting comprehension, participation, and academic achievement. Previous research has highlighted the importance of language skills in educational outcomes globally, yet few studies focus on Rwanda's context. Addressing the impact of language barriers on students' performance is essential for improving teaching strategies, curriculum design, and student support services. This study investigates the relationship between language barriers and students' academic performance at the University of Rwanda College of Education, aiming to provide evidence-based recommendations to enhance learning outcomes and graduate competencies in Rwanda's higher education system.

1.1. Background to study

Academic performance is a multifaceted construct influenced by individual, institutional, and socio-cultural factors. Globally, language proficiency has been recognized as a significant predictor of academic performance, particularly in contexts where students are required to learn in a language that is not their first language (Gibson & Rankin, 2015). Studies in Europe and North America demonstrate that students with limited proficiency in the instructional language often face difficulties understanding lectures, completing assignments, and performing well in examinations, ultimately affecting their overall academic success (Chamorro-Premuzic & Furnham, 2008).

In Africa, English-medium instruction has been widely adopted to promote integration and international competitiveness. However, many students enter higher education with inadequate English language skills due to limited exposure at secondary school levels (Adeyemo, 2012). In East Africa, research has shown that language barrier directly influences comprehension, critical thinking, and engagement in classroom discussions, which are essential for high academic performance (Andala & Ng'umbi, 2016).

Rwanda presents a unique case where English was adopted as the official medium of instruction in 2008, replacing French. This policy shift created a transitional generation of students and lecturers who may lack full mastery of English, creating communication challenges in the classroom (MINEDUC, 2014). Empirical evidence suggests that limited English proficiency in Rwandan universities negatively impacts students' learning experiences, including understanding lecture content, engaging in debates, and completing assignments effectively (HEC, 2017).

Furthermore, studies conducted in the University of Rwanda indicate that students often struggle with academic texts, research materials, and examination questions presented in English. These challenges are compounded by lecturers' preparedness and teaching strategies, but the language barrier remains a dominant factor influencing performance (Dewett, 2007). Students with low language proficiency are more likely to experience anxiety, reduced participation, and lower confidence, all of which affect academic outcomes (Olaniyan & Okemakinde, 2008).

Addressing language barrier in Rwanda requires evidence-based interventions. Pedagogical approaches such as supplementary English courses, peer-assisted learning, and language support centers have proven effective in similar contexts globally (Adediran, Ojomo, & Adeyanju, 2015).

By focusing on language as a predictor of academic performance, educators and policymakers can design targeted strategies to enhance comprehension, classroom participation, and academic achievement among students. Given the growing importance of quality education for Rwanda's socio-economic development, understanding the relationship between language barriers and academic performance is critical. This study seeks to fill the research gap by providing empirical evidence from the University of Rwanda College of Education, offering insights to improve students' learning experiences, teaching approaches, and institutional policies that support academic success.

1.2. Statement of the Problem

Despite Rwanda's efforts to improve higher education quality, students continue to face challenges in achieving satisfactory academic performance. One of the most significant obstacles identified is the language barrier, as English is the primary medium of instruction in universities. Many students, particularly those from francophone backgrounds, have limited proficiency in English when entering higher learning institutions. This limitation negatively impacts their comprehension of lectures, engagement in classroom activities, and performance in assessments (Gibson & Rankin, 2015).

Existing studies globally and in Africa have documented the link between language proficiency and academic achievement, highlighting that students with weak language skills struggle to understand academic content, interpret examination questions, and express their knowledge effectively (Chamorro-Premuzic & Furnham, 2008; Adeyemo, 2012). However, Rwanda-specific empirical research remains limited, with few studies exploring the direct relationship between language barrier and academic performance among university students. Moreover, available studies often focus on broader predictors of academic performance without isolating language proficiency as a variable of interest (Olaniyan & Okemakinde, 2008).

The lack of targeted research has implications for policy and practice. Without clear evidence, universities may not prioritize language support interventions, leaving students at risk of underperformance despite their intellectual potential. Lecturers may also face challenges in designing inclusive teaching strategies that accommodate students with varying levels of English proficiency (HEC, 2017). Consequently, students' academic performance may decline, affecting graduation rates, employability, and the overall quality of higher education in Rwanda.

Addressing this gap is essential for improving educational outcomes and ensuring graduates are adequately prepared for Rwanda's competitive labor market. Understanding the extent to which language barrier affect academic performance can inform the design of targeted interventions, including language courses, peer support programs, and instructional strategies that enhance comprehension and engagement. This research seeks to investigate the relationship between language barriers and students' academic performance at the University of Rwanda College of Education, providing evidence to guide institutional policies, pedagogical practices, and student support services.

1.3. Research objectives

The main objective of this paper is to investigate the relationship between language barrier and students' academic performance in higher learning institutions in Rwanda.

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The specific objectives are:

i. To assess the level of language barriers experienced by students in higher learning institutions.
ii. To determine the relationship between language proficiency and students' academic performance.
iii. To provide recommendations for interventions to mitigate language barriers and improve academic outcomes.

2 Literature Review

Language plays a critical role in higher education, serving as the medium through which knowledge is transmitted. In Rwanda, English is the language of instruction in tertiary education, yet it is often a second language for both students and lecturers. This chapter reviews empirical studies, theoretical perspectives, and conceptual frameworks on language barriers and students' academic performance, highlighting gaps in the literature.

2.1 Empirical review

Language barriers significantly influence students' academic performance, particularly in higher education contexts where the medium of instruction differs from their native language, affecting comprehension, participation, and assessment outcomes. This review examines global to local empirical evidence on this phenomenon.

2.1.1 Level of Language Barriers Experienced by Students

Research in non-native English instructional settings shows that language barriers are widespread and multifaceted. A systematic review of barriers faced by university students learning English as a Foreign Language (EFL) found that linguistic difficulties, anxiety, and inhibitory self-beliefs are common challenges limiting academic engagement in educational environments where English is not the first language (Ross & Stuckler, 2025). These barriers extend beyond vocabulary and grammar to include psychological and socio-educational factors that affect comprehension and participation. Research from Tanzania illustrates how English as the medium of instruction can exacerbate comprehension difficulties. At Arusha Technical College, students' confidence and continuous assessment scores were closely related to their proficiency in English; students struggled particularly where lecture language exceeded their comfort and skill levels.

In Rwanda, research examining English language proficiency in public schools revealed that limited English use, a lack of literacy development initiatives such as reading clubs, and inadequate resources significantly restrict students' language growth, which in turn affects their ability to engage academically (Ngaboyabahizi & Mugiraneza, 2024). Similarly, a recent study of final-year TVET students in Muhanga District identified gaps in curriculum coverage, instructional time, and teacher expertise, all of which contribute to low English performance that hampers students' success in technical courses (Manirahari *et al*., 2025). Within Rwandan education, the transition to English instruction has been linked to classroom comprehension difficulties. Although many studies focus on secondary levels, their findings indicate significant barriers that likely carry into higher education; for example, geography teachers reported that students' limited English use directly affected their success in subject assessments, with the majority of proficiency indicators positively linked to performance (Emmanuel & Andala, 2024).

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2.1.2 Relationship Between Language Proficiency and Students' Academic Performance

Various international studies have examined how proficiency in the instructional language correlates with academic outcomes. Research in ESL tertiary contexts found a strong positive correlation between English proficiency scores and academic success in professional courses, indicating that students with higher proficiency tend to perform better across assessments (Escala *et al*., 2025). A broader literature synthesis on English-Medium Instruction (EMI) highlights that students often face comprehension challenges that reduce participation and learning outcomes in tertiary settings when English proficiency is limited, suggesting a negative influence on academic performance if proficiency levels are not adequate. Although some studies outside Africa point to mixed results such as research in Spain that found no significant performance differences between EMI and non-EMI student groups, the broader context underscores language as a variable that mediates comprehension of complex academic material, especially in L2 settings.

In Rwanda, research at Rwanda Polytechnic (IPRC-Kigali) documented a significant positive relationship between English language proficiency and academic performance for engineering students, with proficiency accounting for a measurable portion of variance in student achievement Mukeshimana (2023).Studies also suggest that both classroom engagement and exam outcomes correlate with proficiency levels because students with stronger command of academic English can access content more effectively and participate more confidently .

2.1.3 Recommendations for Interventions to Mitigate Language Barrier and Improve Academic Outcomes

Across global contexts, scholars emphasize the necessity of language support programs, scaffolded learning, and explicit academic language instruction to bridge gaps between basic interpersonal communication and cognitive academic language proficiency (CALP). Interventions such as structured vocabulary enhancement, motivational techniques, and scaffolded lesson design have been recommended to improve academic outcomes for learners facing language barriers. Reviews of EFL challenges recommend addressing emotional and psychological dimensions of language learning such as foreign language anxiety through inclusive pedagogical strategies, peer support, and adaptive teaching approaches that reduce barriers to participation.In Rwanda, studies on English proficiency recommend enhanced teacher training, expanded instructional time for English language courses, and curriculum reforms to ensure that language instruction develops reading, speaking, listening, and writing skills holistically (Manirahari *et al*., 2025). Supplementing classroom instruction with language clubs, language-focused workshops, and greater access to learning resources has also been proposed as a way to reinforce English use beyond formal lessons.

2.2 Theoretical Framework

This section explains the theories that help us understand how language barriers influence students' academic performance. It discusses behaviorist learning theory, human capital theory, and learning by doing theory, and links each theory to language barriers in higher education contexts.

2.2.1 Behaviorist Learning Theory

Behaviorist learning theory emerged in the early 20th century, rooted in the work of Ivan Pavlov and Edward Thorndike, and was significantly developed by B. F. Skinner. Skinner (1957) proposed that learning is best understood through observable behavior shaped by reinforcement rather than internal mental states. Behaviorism posits that learning occurs through the formation of stimulus–response associations and the reinforcement of desired responses. Positive or negative reinforcement determines whether a behavior is repeated (Skinner, 1957). In classroom settings, effective learning is reinforced when students comprehend instruction and receive feedback that strengthens accurate responses.

In higher learning, students must decode and process information delivered through the language of instruction. When language barriers exist, the normal feedback–reinforcement cycle is disrupted because students may not correctly interpret stimuli (lectures, questions, assessments), undermining their ability to respond appropriately. This theory is pertinent because it directly links language comprehension with observable learning outcomes. If students cannot functionally understand English-medium instructional content, reinforcement mechanisms (such as correct responses, feedback, and academic success) weaken. In this research, Behaviorist Learning Theory explains how limited English proficiency inhibits students' responses to academic stimuli including lectures, assignments, and examinations leading to lower academic performance. Language barriers interfere with the feedback loops that reinforce learning success(Skinner, 1957).

2.2.2 Human Capital Theory

Human capital theory was articulated by Theodore W. Schultz (1963) and later expanded by Gary Becker (1964). They argued that investments in education, skills, and knowledge are forms of capital that enhance individual productivity and socio-economic outcomes. Human capital theory suggests that education increases the stock of human capital, leading to personal and societal benefits such as employability, higher earnings, and economic growth. Language proficiency is a key component of human capital because it enables access to learning, communication, and cognitive skills that underpin academic performance (Becker, 1964; Schultz, 1963).

In contexts where English is the instructional language, students with limited proficiency are at a disadvantage. They cannot fully utilize educational inputs such as lectures, textbooks, discussions, thereby reducing the effectiveness of their educational investment. This theory is pertinent because academic performance is an expression of how well students convert educational inputs (time, tuition, instruction) into learning outputs (knowledge, grades, competencies). Poor language proficiency reduces the returns on this investment, weakening the contribution of education to individual and national development. This study uses human capital theory to interpret how language barriers limit students' ability to benefit from education, reducing academic performance and the future economic and social returns of higher education in Rwanda.

2.2.3 Learning by Doing Theory

Learning by doing theory originates with John Dewey (1938), who emphasized experiential learning as foundational to education, and was later elaborated by David A. Kolb (1984), who

framed learning as an iterative process of experience, reflection, conceptualization, and experimentation. Dewey (1938) argued that education must connect with students' experiences; learning occurs when individuals actively engage with content rather than passively receive information. Kolb's experiential cycle explains how learners construct knowledge by doing and reflecting.

In higher education, activities such as laboratory work, group discussions, case studies, and presentations depend on clear language comprehension. Language barriers reduce students' ability to engage meaningfully with these experiences, limiting the effectiveness of such learning activities. This theory is pertinent because academic success is not just about memorizing content but actively applying knowledge in various contexts that require language competence. Students unable to interact fully with learning materials and peers due to language constraints are more likely to underperform. The learning by doing theory informs how language barriers hinder students' engagement in experiential and interactive instructional activities in Rwanda's higher learning institutions, resulting in reduced mastery of competencies and lower academic performance.

2.3 Conceptual framework

The conceptual framework provides a visual and theoretical representation of the relationship between language barriers and students' academic performance. It links the study's independent variable (language barriers) with the dependent variable (academic performance) through measurable indicators. This framework is grounded in the theoretical foundations discussed in section 2.2, highlighting how comprehension, communication, and engagement affect learning outcomes.

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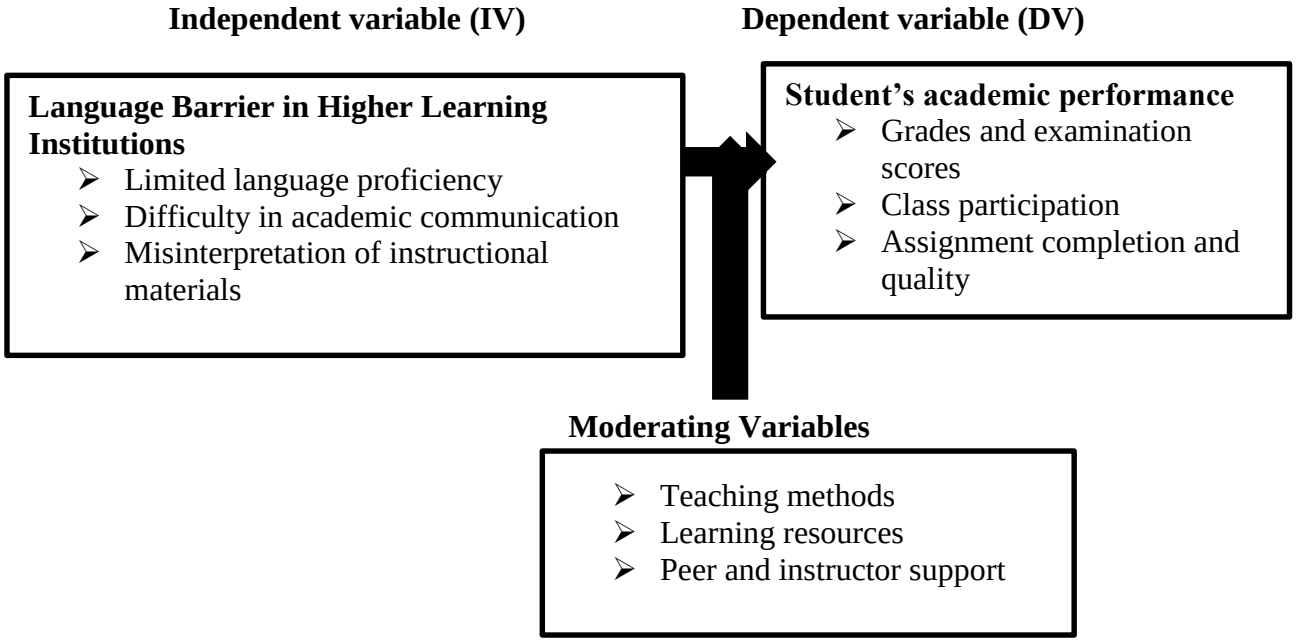

Figure 1:Conceptual Framework

The conceptual framework illustrates the relationship between language barriers and students' academic performance in higher learning institutions in Rwanda. The independent variable, language barriers, encompasses limited language proficiency, difficulty in academic communication, and misinterpretation of instructional materials, which hinder comprehension, participation, and knowledge acquisition. The dependent variable, academic performance, is reflected in students' grades, class participation, and assignment quality, representing their ability to process and apply learned content. The framework also considers moderating factors such as teaching methods, learning resources, and peer or instructor support, which can mitigate the negative effects of language barriers. Arrows in the framework depict the directional influence of language barriers on academic performance, showing that greater barriers are likely associated with lower performance. By linking theory and practice, this framework provides a structured understanding of how language-related challenges affect learning outcomes and offers a basis for targeted interventions to improve academic success.

3 Research Methodology and Design

This chapter presents the methodological framework used in investigating the relationship between language barriers and students' academic performance in higher learning institutions in Rwanda. It describes the research design, approach, population, sampling procedure, data collection methods, data analysis techniques, validity and reliability of instruments, research philosophy, and ethical considerations.

3.1 Research Philosophy

The study adopted a positivist philosophy, assuming objective reality and measurable phenomena (Saunders *et al*., 2015). A cross-sectional survey design was employed, collecting data at one point in time, allowing for statistical testing of the hypothesis regarding language barriers and academic outcomes.

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3.2 Research Method

A quantitative method was employed to capture numerical data on the independent variable (language barrier) and the dependent variable (academic performance). This method allowed for objective measurement of the extent to which language proficiency affects students' academic results. A descriptive approach was integrated to provide a detailed profile of respondents' demographic characteristics (age, gender, program, academic level) and the intensity of language barriers, thereby supporting comparisons and correlations.

3.3 Research Design

A research design provides an overarching plan for conducting the study and ensures control over factors that could compromise the validity of findings (Burns & Grove, 2001). This study adopted a quantitative research design with a survey approach, allowing the researcher to collect numerical data on language barriers and academic performance from students at the University of Rwanda–College of Education. The survey design is appropriate because it facilitates the measurement of the frequency, intensity, and patterns of language-related challenges and their relationship with academic outcomes.

3.4 Population and Sampling

The study population included all undergraduate students receiving loans at UR-CE in the 2019–2020 academic year, totaling 3,272 students. Polit and Hungler (1999) define a population as the complete set of elements sharing specified characteristics. The focus on loan recipients allowed the study to target students likely to experience academic challenges due to financial and linguistic constraints. A purposive random sampling method was used to select participants, ensuring every eligible student had an equal chance of inclusion. The sample size was calculated using Thomson's formula (Thomson, 2012) to achieve a 95% confidence level and 5% margin of error.

$$n = \frac{Np(1-p)}{(N-1)(e^2/z^2)+p(1-p)}$$

Where

N=3,272, p=0.5, e=0.05, and Z=1.96, giving a sample of 344 students. This sample represents both science and arts programs, ensuring diverse academic perspectives. Therefore, sampling reduces the cost, time, and effort of data collection while allowing generalization of results (Polit & Hungler, 1999). Using 344 students instead of the full population made the study feasible without compromising representativeness.

3.5 Data Collection Methods, and Procedure

Data were collected using a self-administered questionnaire, divided into two sections. Section A captured demographic information, while Section B focused on language barriers and academic performance. The questionnaire contained 60 items (50 items on independent variables and 10 items on dependent variables), measured on a five-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree). Verbal interpretations of scores were used to categorize responses as very low, low, average, high, and very high. Questionnaires were administered anonymously to ensure candid responses.

A pilot study with 35 students tested reliability, yielding Cronbach's alpha values between 0.6 and 0.9 (Singh *et al*., 2011). For the main study, questionnaires were distributed in classrooms with COVID-19 safety measures observed. Respondents returned completed questionnaires to a designated basket to maintain anonymity.

In this regard, the content validity was ensured by different validators with different expertise, including research, educational management, statistics, and English language experts. Items were reviewed for clarity and relevance to students' academic experience (Burns & Grove, 2001). Moreover, the reliability measures consistency of the instrument (Polit & Hungler, 1999). Cronbach's alpha from the pilot study was 0.729, while the main study yielded 0.89, indicating high reliability across items measuring language barriers and academic performance.

3.6 Data Analysis Methods

Data cleaning was performed to remove missing values and outliers. Cleaned data were analyzed using SPSS. Descriptive statistics summarized demographic profiles and variable levels. Inferential statistics, including t-tests, ANOVA, correlation, and multiple regression, examined the relationship between language barriers and academic performance (Taherdoost, 2016).

3.7 Ethical Considerations

The study adhered to principles of confidentiality, anonymity, informed consent, and non-harm (Polit & Hungler, 1999). Participation was voluntary, questionnaires were anonymous, and respondents were treated respectfully, with freedom to withdraw at any time. Generally, a quantitative survey design, purposive random sampling, validated questionnaires, and rigorous ethical and reliability measures ensured accurate, generalizable, and ethically sound findings.

4 Results Presentation

This chapter presents the findings of the study on the influence of language barriers on academic performance among students at the University of Rwanda, College of Education (UR-CE). The results are presented in sections: demographic information of respondents, and findings according to the specific research objectives.

4.1 Demographic Information of Respondents

The demographic profile of respondents included gender, age, academic level, and program of study. Table 4.1 summarizes these findings.

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Table 4.1: Demographic Profile of Respondents

Variable	Category	Frequency (N)	Percentage (%)
Gender	Male	179	52.8
	Female	160	47.2
Age	15-20	20	5.9
	21-25	219	64.6
	26-30	100	29.5
Level	1	20	5.9
	2	60	17.7
	3	160	47.2
	4	79	23.3
	5	20	5.9
Program	Sciences	189	55.8
	Arts	150	44.2

Source: Field Results

The demographic profile of the respondents provides critical context for understanding the dynamics of academic performance and language barrier. The predominance of students aged 21–25 years, representing 64.6% of the sample, aligns with the expected age range for undergraduates, as most students enter tertiary education around 18 years following completion of secondary school. This concentration in the early twenties suggests that the respondents are at a stage of academic maturity, where prior foundational knowledge, cognitive development, and social adjustment may interact to influence their academic performance. Furthermore, the relatively small proportions in the younger (15–20 years) and older (26–30 years) categories indicate that these groups may face unique challenges, such as adapting to the academic environment or balancing external responsibilities, which could affect their engagement and performance in class.

Gender distribution shows a slight male majority, with males constituting 52.8% and females 47.2% of the sample. While the difference is not large, it mirrors the national trends reported by MINEDUC (2015), where male enrollment in higher learning institutions tends to be higher due to socio-cultural factors and access to education. This slight imbalance is significant when considering academic performance, as gender-related factors, including societal expectations, workload at home, and opportunities for study, could influence learning outcomes and the perception of language barriers. Male students, for instance, may have relatively fewer domestic obligations, potentially allowing greater focus on studies, whereas female students might need additional support mechanisms to balance academic and personal responsibilities.

The distribution across academic levels highlights that nearly half of the respondents (47.2%) were in level three. This concentration likely reflects the timing of data collection within the academic calendar, as levels one and five had fewer students. The presence of a larger cohort at the intermediate level suggests that these students have already adapted to university learning routines, which could positively influence their ability to manage language challenges and perform academically. Conversely, students in level one may still be acclimating to university-level instruction, while those in level five may be focused on specialized tasks or internship programs,

potentially affecting their engagement with classroom learning and the use of English as the medium of instruction

Regarding the program of study, a majority of respondents (55.8%) were enrolled in science programs, compared to 44.2% in arts programs. This distribution reflects the Rwandan government's strategic emphasis on Science, Technology, Engineering, and Mathematics (STEM) education, aimed at increasing the relevance of education to national development priorities (MINEDUC, 2015). The higher representation of science students may have implications for language barrier perceptions and academic performance, as science curricula often involve technical terminology and practical laboratory components that demand both conceptual understanding and proficiency in English. Arts students, in contrast, might engage more with discourse-based learning, which could influence how language proficiency interacts with comprehension and academic outcomes. These factors are crucial to contextualizing the subsequent analysis of the relationship between language proficiency and academic outcomes, as they indicate that individual and structural characteristics intersect to influence students' learning experiences.

4.3 Language Barrier and Academic Performance

The perception of language barrier was measured using three items. Overall, respondents scored a neutral level on language barriers (M = 2.59, SD = 0.773), suggesting that English proficiency does not majorly hinder academic performance. Table 4.2 shows details.

Table 4.2: Students' Perception of Language Barrier

Item	Mean (M)	SD	Verbal Interpretation
I take a lot of time to understand lessons because of my limited English	1.65	0.68	Low
I listen to English tapes to improve my listening skills	3.44	0.74	Average
I have difficulties speaking English because it is my second language	2.68	0.90	Average
Overall Language Barrier	2.59	0.77	Neutral

Source: Field Results

The findings on language barrier and academic performance indicate that, overall, students at UR-CE perceive English proficiency as only a moderate challenge. The overall mean score of 2.59 (SD = 0.773) reflects a neutral stance, suggesting that while English is not a major impediment, it still presents some minor obstacles in specific academic contexts. This is consistent with Rwanda's longstanding use of English as the medium of instruction since 1995, which has allowed most students to develop a functional proficiency in reading, writing, and listening over the course of

their primary and secondary education. The low score (M = 1.65, SD = 0.68) on the item concerning time taken to understand lessons indicates that the majority of students do not feel significantly slowed by language difficulties in following classroom instruction, reinforcing the notion that English is generally well integrated into their academic routines.

Despite the overall neutral perception, some areas of language use still pose challenges. For example, students reported average levels of difficulty in listening and speaking (M = 3.44 and 2.68, respectively), indicating that oral skills may require additional effort. Listening to English tapes to improve comprehension reflects proactive strategies adopted by students to bridge gaps in language proficiency, which suggests self-directed learning and awareness of the importance of language skills for academic success. Similarly, the average difficulty in speaking English as a second language highlights that active verbal communication remains slightly challenging for some students, potentially affecting class participation, oral presentations, and collaborative work.

These findings imply that while English proficiency does not constitute a major barrier to academic performance at UR-CE, minor language-related challenges persist, particularly in expressive and receptive oral skills. Such challenges could subtly influence students' academic engagement, confidence in classroom discussions, and overall participation in learning activities. From a pedagogical perspective, this underscores the value of providing targeted language support such as speaking and listening workshops or peer-assisted learning sessions to ensure that all students can fully engage with academic content and maximize their performance outcomes. Consequently, the neutral overall perception reflects a generally positive integration of English into the academic environment, while also signaling areas for potential intervention to enhance student learning experiences.

4.4 Academic Performance

Students' academic performance was assessed using items reflecting engagement, achievement, and interest in studies. The findings indicate a high overall performance (M = 4.33, SD = 0.51). Key items such as liking the course and being deeply involved were rated very high (M = 4.82–4.97).

Table 4.3: Students' Academic Performance

Item	Mean (M)	SD	Verbal Interpretation
I perform well because I like my option	4.82	0.71	Very High
I am deeply involved in my courses	4.97	0.30	Very High
Overall Academic Performance	4.33	0.51	High

Source: Field Results

The data on students' academic performance at UR-CE indicate a generally high level of engagement and achievement. With an overall mean score of 4.33 (SD = 0.51), students perceive

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their academic performance positively, reflecting a high degree of satisfaction with their learning outcomes. Notably, students reported very high agreement on items related to personal interest and involvement in their courses, with means of 4.82 (SD = 0.71) and 4.97 (SD = 0.30), respectively. This suggests that intrinsic motivation driven by a genuine interest in their chosen fields of study plays a critical role in shaping their academic success. Students who enjoy their programs and feel connected to their courses are likely more attentive, proactive in learning, and persistent in overcoming academic challenges, which is consistent with self-determination theory emphasizing the importance of intrinsic motivation in performance outcomes (Ryan & Deci, 2000).

The high overall performance scores also indicate that students are effectively translating their engagement into measurable academic results. The minimal standard deviation for involvement in courses (SD = 0.30) implies that this perception is broadly consistent across the student population, suggesting a strong culture of active participation and commitment within the university. This aligns with existing literature that highlights the positive relationship between student interest, course engagement, and academic achievement, particularly in higher education contexts (Schneider, 1996; Niyivuga, Otara, & Tuyishime, 2019).

Importantly, these findings illustrate that while language barrier at UR-CE are largely neutral, students' academic performance is strongly influenced by personal motivation and active engagement. This suggests that even when minor challenges in language proficiency exist, students who are deeply involved and intrinsically motivated can maintain high performance levels. From an institutional perspective, fostering environments that enhance student interest, support active learning, and provide opportunities for meaningful engagement can reinforce these positive outcomes and mitigate potential obstacles related to language or other contextual factors.

4.5 Relationship Between Language Barrier and Academic Performance

To examine the association between language proficiency and students' academic outcomes, a Spearman's rho correlation analysis was conducted.

Table 4.4: Correlation Between Language Barrier and Academic Performance

Variables	Academic Performance	Spearman's rho (r)	Significance (p)	Interpretation
Language Barrier	Academic Performance	0.558	0.001	Large Positive Correlation

Source: Field Results

The results indicate a large positive correlation between language barrier and academic performance ($r = 0.558$, $p < 0.01$), suggesting that students who experience fewer difficulties with English tend to achieve higher academic performance. This finding underscores the significant role of language proficiency as a determinant of academic success in higher learning institutions where English is the medium of instruction.

Students who can comprehend lectures, engage in discussions, and effectively express their ideas in English are better positioned to understand course content, complete assignments accurately, and actively participate in learning activities. Conversely, even minor challenges in language can affect note-taking, class participation, and comprehension of complex concepts, which may hinder overall performance. This aligns with global research emphasizing that mastery of the language of instruction is crucial for cognitive processing, knowledge retention, and academic achievement (Andala & Ng'umbi, 2016; Ryan & Deci, 2000). While the overall perception of language barrier was neutral, the statistical analysis confirms that even moderate improvements in English proficiency could lead to meaningful gains in students' academic performance at UR-CE.

5. Discussion of Findings

The findings of this study provide insightful evidence on the relationship between language barriers and academic performance among undergraduate students at UR-CE. By comparing, contrasting, and integrating the results with previous studies, a clearer understanding emerges of how English proficiency impacts learning outcomes in Rwandan higher learning institutions. The demographic analysis revealed that most respondents were aged 21–25 years (64.6%), with males slightly outnumbering females (52.8% vs. 47.2%). This aligns with the typical undergraduate profile reported by MINEDUC (2015) and is consistent with enrollment patterns observed in other Rwandan HLIs. The concentration of students in level three (47.2%) is reflective of the academic calendar at the time of data collection, while the higher representation of science students (55.8%) corresponds with Rwanda's policy emphasis on STEM education. These demographic characteristics contextualize the study, indicating that most respondents were at a critical stage of undergraduate education where academic performance becomes increasingly influenced by language mastery and learning strategies.

Regarding language barrier, the respondents' perceptions were generally neutral ($M = 2.59$, $SD = 0.77$), suggesting that English, as the medium of instruction since 1995, does not constitute a major obstacle for most students. This is consistent with the findings of Niyivuga, Otara, and Tuyishime (2019), who noted that the majority of Rwandan university students are proficient in English, benefiting from continuous exposure throughout primary, secondary, and tertiary education. Nevertheless, some respondents reported minor difficulties in speaking and comprehension, which may hinder full engagement in class activities, as indicated by their average scores in listening and speaking tasks. This nuanced challenge echoes global studies that emphasize how even moderate language difficulties can impede participation, critical thinking, and academic integration (Andala & Ng'umbi, 2016; Ryan & Deci, 2000).

The study further confirmed a strong positive relationship between language proficiency and academic performance ($r = 0.558$, $p < 0.01$). Students with fewer language difficulties demonstrated higher levels of academic engagement and achievement, including course involvement ($M = 4.97$) and performance motivated by personal interest ($M = 4.82$). These findings support the assertion that language proficiency is not only a medium of communication but also a cognitive tool that facilitates comprehension, critical analysis, and application of knowledge (Cummins, 2000; Swain, 2005). The results of the present study are consistent with prior research in African and global contexts that highlight language competence as a significant predictor of academic success, particularly in environments where English is a second language (Bamgbose, 2021; Oyelade, 2020).

Contrastingly, while students reported only minor language challenges, the statistical correlation demonstrates that even subtle language barrier significantly influence academic performance. This suggests that quantitative measures may reveal impacts that subjective perceptions alone might underestimate. Therefore, while the general sentiment among students is that English is manageable, actual performance is still sensitive to differences in language ability. This highlights the importance of targeted interventions such as language support programs, academic writing workshops, and listening comprehension exercises, particularly for students at lower proficiency levels. The study's results both concur with and extend previous research, emphasizing that even in contexts with widespread English exposure, language remains a significant determinant of academic success.

6 Conclusions, and Recommendations

6.1 Conclusions

This study examined the relationship between language barriers and academic performance among undergraduate students at UR-CE. The findings suggest that while English proficiency is generally sufficient for most students, even moderate difficulties in speaking, listening, and comprehension can significantly influence academic outcomes. The demographic profile indicated that most participants were young adults (21–25 years), predominantly male, and largely enrolled in science programs, reflecting Rwanda's broader STEM prioritization. These factors contextualize the study and highlight that students at intermediate academic levels are particularly sensitive to language-related challenges due to increased course complexity.

The study established a statistically significant positive correlation ($r = 0.558$, $p < 0.01$) between language proficiency and academic performance. Students who reported fewer language difficulties demonstrated higher levels of engagement, deeper involvement in their courses, and better overall academic achievement. This finding confirms that language proficiency is not merely a medium of communication but a critical cognitive tool for comprehension, analysis, and application of knowledge. Despite students' perception of language as a moderate barrier, the quantitative analysis revealed its substantial impact on performance, suggesting that even subtle language limitations can constrain learning outcomes.

In general, the study concludes that English language proficiency remains a pivotal determinant of academic success in Rwandan higher learning institutions. While the majority of students manage adequately, targeted support for those experiencing language challenges is necessary to optimize engagement and performance.

6.2 Recommendations of the Study

6.2.1 Recommendations for Practice

(i) Recommendations for the Authorities for Implementation

University management and faculty should improve structured English language support programs to ameliorate students' academic performance. This could include remedial courses, academic writing workshops, listening comprehension sessions, and interactive tutorials. Faculty members should also adopt inclusive teaching strategies, such as bilingual explanations, visual aids, and

collaborative exercises, to accommodate students with varying levels of English proficiency. Regular monitoring of students' language development should be conducted to identify and support those who face challenges, ensuring that academic success is not hindered by language barriers.

(ii) Recommendations for Service Users / Beneficiaries

Students should actively participate in available language development initiatives, including peer mentorship programs, study groups, and language labs. Engaging in self-directed learning practices, such as listening to English audio materials, reading academic texts, and practicing academic writing, can further improve language skills. Students are encouraged to proactively seek help from faculty or peers whenever they encounter comprehension or communication difficulties to enhance their learning outcomes.

(iii) Recommendations for Other Stakeholders

Other stakeholders, including student associations, non-governmental organizations, and private educational institutions, should support initiatives that enhance English proficiency among university students. This can involve providing additional learning resources, organizing workshops, and facilitating mentorship programs. Collaboration between stakeholders can create a holistic support system that improves academic engagement and performance for students facing language challenges.

6.2.2 Recommendations for Policy

Policymakers should prioritize and support initiatives aimed at improving English proficiency within higher education institutions. This may include updating national guidelines for language support programs, providing funding for faculty training, and incentivizing universities to implement evidence-based language interventions. Policy frameworks should ensure that language development is recognized as a fundamental component of academic success, particularly in STEM and other English-medium programs.

6.3 Recommendations for Further Research in this Field of Study

Future research should explore the longitudinal effects of language proficiency on academic performance across multiple academic years to understand its evolving impact. Qualitative studies, such as interviews or focus groups, could provide insights into students' experiences and coping strategies regarding language challenges. Comparative studies between STEM and non-STEM programs, or across different universities, could highlight contextual differences in the influence of language barriers. Additionally, research evaluating the effectiveness of specific interventions or teaching strategies on improving students' English proficiency and academic outcomes would provide evidence for best practices in higher education.

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