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English Language Proficiency as a Predictor of Academic Performance in English-Medium Subjects: Evidence from Bhutanese Middle Secondary Students

Chencho Dorji[*] & *Sonam Chhoden*[+]

Abstract

This study investigates the extent to which English language proficiency predicts academic performance in English-medium instruction subjects among Bhutanese middle secondary students. Drawing on data from 1,352 students across two urban and two rural schools during the 2023 and 2024 academic year, multi-linear regression analyses were conducted on the overall sample as well as on subgroups based on school location and gender. The results show that English proficiency is a strong and statistically significant predictor of academic performance across all groups, with the highest predictive strength observed among urban students (β_0= 0.79, R^2 = 0.79) and female students (β_0= 0.68, R^2 = 0.72). Notably, the model explained less variance in the performance of rural students (R^2 = 0.50), suggesting that other unmeasured factors may influence academic outcomes in these contexts. These findings reinforce existing evidence on the critical role of English proficiency in education systems where English is the medium of instruction. They also underscore the need for context-sensitive policies that support language development. Such policies should aim to reduce rural-urban disparities and address unmeasured factors affecting rural students' academic outcomes through targeted interventions.

[*] Senior Lecturer, Centre for Academic Programmes, Royal Institute of Management, Thimphu, Bhutan. Email: chencho_dorji@rim.edu.bt
[+] Teacher, Samtse Higher Secondary School, Samtse.

Introduction

In an increasingly interconnected world, English has become the predominant medium of instruction (MOI) in many educational systems worldwide, particularly in contexts where it functions as a second language. In such non-native English-speaking settings, students are required to engage with a broad range of academic disciplines through English (Dearden, 2015). This context raises a crucial academic concern regarding the extent to which proficiency in English influences students' academic performance in subjects taught through the English medium. Academic performance is referred to in this study as the extent to which a student has achieved their learning objectives, often measured through grades, test scores, or GPA.

A substantial body of literature suggests that language proficiency is integral not only to communication but also to cognitive processing, comprehension, and the acquisition of subject-specific knowledge (Wilkinson & Silliman, 2008; Aina et al., 2013; Martirosyan et al., 2015; Roslan & Chen, 2023). Central to these studies is Cummins' theory of Cognitive Academic Language Proficiency (CALP), which refers to the formal decontextualized language used in academic contexts (Cummins, 1979). This framework posits that students with higher levels of English proficiency are better equipped to understand textbooks, follow classroom discussions, and articulate their knowledge in assessments whereas those with lower proficiency may face significant challenges in these areas.

Studies across non-English-speaking countries where English is the medium of instruction suggest that in disciplines such as Mathematics, Science and Social Studies, the ability to understand instructional materials, follow classroom discourse and articulate knowledge in assessments is often mediated by the learner's command of English as the two are positively correlated (Sahragard et al., 2011; Sivaraman et al., 2013; Fakeye, 2014; Kumar, 2014; Waluyo & Panmei, 2021; Ismajli & Kareva, 2024). Consequently, these studies found that students with higher levels of English proficiency demonstrate stronger academic performance whereas those with limited proficiency encounter barriers that hinder their success.

In Bhutan, English serves not only as a subject but also as the primary medium of instruction and assessment in most academic disciplines, spanning from primary to university education (CAPSD, 2005). This dual role of English highlights the critical importance of language proficiency in determining students' ability to understand and excel in subjects such as Economics, Mathematics, History, Geography, and Science, all of which are heavily influenced by their command of English.

Despite substantial literature on English proficiency and its influence on academic performance globally, a significant research gap remains in Bhutan. It is still unclear whether English proficiency serves as a reliable predictor of academic performance in English-medium subjects in Bhutan, particularly for middle secondary students. Given these considerations, it is essential to examine the extent to which English proficiency predicts academic performance in these subjects and to determine the nature of any correlation between the two within the Bhutanese context. Accordingly, this study aims to investigate the predictive value of English proficiency on students' academic achievement in English-medium subjects.

Investigating such a relationship is therefore both vital and significant for policymakers, curriculum designers, and educators in Bhutan, as it will provide insights into the role of the English language in shaping academic performance. Prior studies in comparable settings have found a positive correlation between students' English language proficiency and their academic performance (Sahragard et al.,2011; Fakeye, 2014 &; Martirosyan et al.,2015). Furthermore, it will guide curriculum development and instructional strategies, offering evidence that may support targeted interventions aimed at enhancing learners' outcomes and promoting equity in academic achievement. Finally, the study will contribute to theoretical frameworks by validating CALP within Bhutan's bilingual education context. The potential beneficiaries of this research include school educators, curriculum developers, policymakers, and students.

In light of the identified gap and context, this study aims to achieve the following objectives:

- To analyse the relationship between English language proficiency and academic performance in subjects delivered in English.
- To examine differences in the relationship between gender and students in urban and rural settings.

In order to comprehensively investigate this relationship, this study is guided by the following three key research questions:

- Does the English score significantly predict achievement in English-medium subjects (e.g., Mathematics, Science, Social Studies) for middle secondary students?
- How does the significance of this relationship differ in location and gender?

Literature Review

Theoretical Framework

CALP refers to the formal, decontextualized language used in academic settings, encompassing comprehension of complex texts, academic vocabulary, reasoning, and structured expression (Cummins, 1979). According to Cummins (1979), it is distinct from everyday conversational fluency, commonly known as BICS (Basic Interpersonal Communication Skills), which is context-rich and cognitively undemanding. CALP typically requires a significantly longer period to develop than BICS, which takes around 5 to 7 years even for learners fluent in everyday conversation. Cummins (1979) argues that CALP is not only an advanced form of language but also the language of learning, highlighting that it enables students to manipulate abstract concepts, engage with academic texts, solve problems, and express higher-order thinking. Cummins' (1979) Threshold Hypothesis suggests that learners must attain a certain level of CALP before reaping academic benefits and warns of educational risks if students only reach BICS or remain in a semi-linguistic state. This underscores that only students who surpass the CALP threshold may effectively navigate English-medium academic content.

Since CALP represents the language structures necessary for academic thinking and understanding, higher levels of CALP should logically correlate with stronger performance across these subjects.

CALP becomes particularly crucial in contexts where students' English exam scores are used to predict success in English-medium subjects such as Mathematics, Science, and Social Studies. A high score is likely to reflect a student's ability to comprehend and produce academic language, indicating the capacity to engage with cognitively demanding subject matter.

English Language Proficiency as a Predictor of Academic Performance

Language proficiency refers to the ability to comprehend and communicate accurately and appropriately in oral and written forms across various settings, including academic, social, and everyday contexts (Council of Europe, 2001). According to the Council of Europe (2001) framework, an individual's level of proficiency can be measured through standardized tests, which serve as benchmarks for language assessments and qualifications worldwide. Academic performance refers to students' achievement across various subjects, typically assessed through grades, test scores, and overall Grade Point Average (GPA) (Ballotpedia, n.d.).

English proficiency consistently emerges as a strong driver of academic success, particularly for non-native English speakers. Several studies have examined whether students' grades in academic English courses correlate with their overall academic achievement. For instance, in Iran, Sahragard et al. (2011) found that students who scored higher on English language proficiency tests achieved better GPA scores. Similarly, studies in higher education institutions in Nigeria and India revealed a direct relationship between English proficiency and academic performance (Aina et al., 2013; Kumar, 2014). These findings align with research conducted on EFL students in Nigeria, indicating a significant correlation between English proficiency and academic achievement in subjects delivered in English (Fakeye, 2014). Likewise, Martirosyan et al. (2015) found that high levels of English proficiency are directly associated with better academic performance among international students. Collectively, these studies highlight a strong link between English language proficiency and academic performance.

Evidence from studies worldwide further indicates that students often face significant academic disadvantages when their English proficiency is limited, adversely affecting their performance in schools, colleges, and universities. For example, Aina et al. (2013) reported that Nigerian students with limited English proficiency performed poorly in science and technical disciplines suggesting that English proficiency serves as a foundational gateway to academic comprehension. In Oman, limited English proficiency negatively impacted the performance of engineering students (Sivaraman et al., 2013). Similarly, Martirosyan et al. (2015) observed that non-native English speakers struggle to comprehend and interpret reading texts thus hindering their academic progress. Further, Ismajli and Kareva (2024) emphasized that language barriers and cultural differences can lead to isolation and stress highlighting that English proficiency has meaningful predictive value for broader academic outcomes.

Studies in Science and technical education also demonstrate that English proficiency is strongly associated with academic performance when English is the medium of instruction. In the domains of Mathematics and English, Roslan and Chen (2023) found that students' performance in English strongly predicts achievement in Mathematics indicating an interrelated performance dynamic between language and other academic areas. Broader research across multiple countries including Nigeria (Aina et al., 2013), Tanzania (Wilson & Komba, 2012), and Iran (Sahragard et al., 2011), demonstrates a positive relationship between English proficiency and success in STEM subjects evidencing the global applicability of this pattern.

The level of proficiency in the language of instruction, particularly English, determines students' achievement in school as highlighted in a study by Wilkinson and Silliman (2008). Their study underscores academic language proficiency as a vital element for literacy development and academic success. Similarly, in Tanzanian secondary school, Wilson and Komba (2012) found that students who were more proficient in English performed better across academic subjects.

Reinforcing this link, recent studies in non-native English-speaking countries indicate a consistent positive correlation between English proficiency and academic success. For instance, in Thailand,

a study of 2,150 university students across multiple English courses found a significant correlation, illustrating that English scores strongly predict cumulative GPA, particularly where English is the medium of instruction (Waluyo & Panmei, 2021). A study by Devi (2023) in Indonesia revealed a significant positive linear correlation between TOEFL scores and GPA for postgraduate students, indicating that higher English proficiency aligns with higher academic achievement. Similarly, Shu et al. (2023) observed a significant positive correlation between English proficiency and academic success in a UK–China transnational education context. These findings suggest a vital relationship between English language proficiency and academic performance of English Medium instructed subjects.

Bhutan-Specific Context

Since the introduction of the modern education system in the early 1960s, English has served as the medium of instruction in Bhutan for subjects taught in the schools (CAPSD, 2005). All school subjects, including Science, History, Geography, and Economics, are text, taught, and assessed in English, with the exception of the national language, Dzongkha. Consequently, English proficiency is essential for academic success across subjects taught in English.

Teachers and students in Bhutan recognize the importance of English for academic success and future prospects, yet they face challenges arising from varied pedagogical methods, grammar instruction practices, and resource availability (Dendup, 2020). Wangmo and Wangmo (2023) observed notable disparities between rural and urban students in middle secondary schools concerning spoken English competency. Rural students were found to receive less encouragement to speak English compared to their urban peers. This was associated with the lack of strict classroom language-use policies and fewer opportunities to practice spoken English. Similarly, despite instructional reforms promoting child-centred learning, students continue to struggle with spoken English (Biswa, 2025).

While existing studies provide valuable insights into the correlation between English proficiency and academic achievement globally, as well as the prevailing levels of English competency in

Bhutan, there remains a notable research gap within Bhutan to establish this relationship. Bhutan's National Education Assessment (NEA, 2021) highlighted performance disparities in English between urban and rural students. However, its primary focus was limited to assessing minimum proficiency levels and did not explore the specific impact of English proficiency on academic performance across subjects. Several Bhutanese studies have examined prevailing English competency and associated challenges (Dendup, 2020; Wangmo & Wangmo, 2023; Biswa, 2025). These findings underscore the need for further research to comprehensively understand how English proficiency influences academic performance in Bhutan. As suggested by Biswa (2025), such research could inform targeted interventions and strategies to enhance English language education, thereby positively impacting academic outcomes in the country.

Methodology

Research Design

A quantitative correlational design was used for the study as the study aims to investigate whether English scores significantly predict academic success in English-medium subjects using regression analysis and correlation statistics. These quantitative methods enabled the measurement of relationships and the predictive power with numerical precision hereby matching the research objectives.

Research Setting and Context

This study was conducted in Thimphu Throm and Samtse whereby two urban middle secondary schools from Thimphu and two rural middle secondary schools from Samtse were selected for the study. These schools represent a typical academic environment representing urban and rural settings where English proficiency is likely to play a key role in subject learning outcomes in English medium subjects.

Participants and Sampling

The targeted population for the study is Grade 10 students from middle secondary schools located in Samtse and Thimphu for the academic year 2023 and 2024. A purposive sampling method was

executed based on the availability of data from schools in Thimphu Throm and Samtse. This was done with the intention to ensure that both urban and rural schools are represented in this study. For the study, a practical sample size of 1,352 students from academic year 2023 and 2024 were used. Such samples representing rural and urban schools were used to strengthen generalizability and accuracy.

Data Collection Methods

English proficiency is captured via standardized test scores (Bhutan Certificate Secondary Examination (BCSE). The scores in English subject and academic performance are measured using grades or scores from English-medium subjects (Mathematics, Science, Economics, ICT, History & Geography) and Dzongkha scores from the same exam. Secondary data from BCSE 2023 and 2024 were collected from school records and officially administered assessments.

Data Analysis Procedure

Data analysis was performed using SPSS. Descriptive statistics was used to measure the English language proficiency of Middle Secondary school students in the study location. Pearson's correlation was employed to assess the strength and nature of relationships between English proficiency and English-medium subject performance. Multiple-linear regressions analysis were used to test whether exam scores in English significantly predict academic success in English-medium subjects. In this method, the English exam scores serve as the independent variables while the Dzongkha exam score is included as a control variable (covariate) to account for general language ability. This is being done as Cummins, (1979) suggests that literacy and language skills developed in a first language can transfer to second language learning. Having Dzongkha as a control variable helped to isolate the unique effect of English proficiency on subject outcomes. The dependent variable is the average or mean scores obtained in English-medium subjects (Mathematics, Science, Economics, ICT, History & Geography). The regression model used can be represented as follows:

$$Y_i = \beta_0 + \beta_1(\text{English Score})_i + \beta_2(\text{Dzongkha Score})_i + \varepsilon_i$$

Where:

Yi = Average score across English-medium subjects for student i

B0 = Intercept term

B1 = Regression coefficient estimating the effect of English proficiency

B2 = Regression coefficient controlling for control variable Dzongkha proficiency

ε i = Error term capturing unexplained variance

This model allowed us to examine the predictive power of English proficiency while statistically holding constant the influence of Dzongkha proficiency. It followed the standard notation and methodology for multiple linear regression, as described in quantitative research methodology.

Results

Descriptive Statistics

Table 1, Panel A provides descriptive statistics for the study sample. The data comprises 1,352 student observations collected from two urban and two rural middle secondary schools across 2023 and 2024 academic years. Across the sample, the mean score for English was 68.14, with a SD = 10.82 and the scores ranging from 7 to 94. Students scored higher in English, when compared to Dzongkha (M = 64.13, SD = 9.85) and English-medium subjects (M=59, D = 10.60). The median for English-medium subject performance was 58.

When disaggregated by subgroups, some differences emerged. Urban students generally scored higher in English, English-medium subjects and Dzongkha compared to their rural counterparts, suggesting that urban students perform better academically. Gender-based comparisons revealed that female students outperform male students in English and Dzongkha whereas performance in English and English-medium subjects was relatively comparable across genders. These differences provide a foundation for further analysis

of how English proficiency predicts academic success by accounting for location and gender.

Table 1
Descriptive Statistics of language Proficiency and Subject Performance by Urban-Rural and Gender Sub-group.

Panel A: Description of sample					
Variables	Mean	Std. Dev.	Min	Median	Max
Total sample: (N=1352)					
English-medium subjects	59	10.60	11	58	93
English	68.13	10.82	14	57	89
Dzongkha	64.12	9.84	7	64	96
Sub group: Urban Schools (N=672)					
English-medium subjects	63	10.98	12	62	93
English	70.349	10.66	7	71.5	94
Dzongkha	66.694	10.35	14	67	89
Sub-group: Rural Schools (N=680)					
English-medium subjects	56	8.60	32	54	86
English	65.95	8.43	28	66	88
Dzongkha	61.59	10.68	22	62	88
Sub-group: Female (N=723)					
English-medium subjects	59	10.90	11	58	93
English	69.03	10.32	7	69	94
Dzongkha	66.23	10.43	14	66	89
Sub-group: Male (N= 629)					
English-medium subjects	59	10.25	28	58	89
English	67.10	9.18	27	68	89
Dzongkha	61.69	10.43	28	62	87

Table 2, Panel B presents the Pearson correlation coefficients sample for the study sample of 1,352 students.

Table 2
Panel B: Pearson correlation coefficients for regression variables

Variables	English-medium Subjects	English	Dzongkha
Total Sample: (N=1,352)			
English Medium Subjects	1		
English	0.81	1	
Dzongkha	0.66	0.68	1
Sub-group: Urban (N=672)			
English Medium Subjects	1		
English	0.88	1	
Dzongkha	0.71	0.71	1
Sub-group: Rural (N=680)			
English Medium Subjects	1		
English	0.68	1	
Dzongkha	0.57	0.62	1
Sub-group: Female (N=723)			
English Medium Subjects	1		
English	0.83	1	
Dzongkha	0.71	0.69	1
Sub-group: Male (N=629)			
English Medium Subjects	1		
English	0.80	1	
Dzongkha	0.63	0.66	1

As shown in Table 2, Panel B, across the sample, English proficiency is strongly and positively correlated with performance in English-medium subjects ($r = .81$, $p < .001$), suggesting that students with

higher English scores tend to perform significantly better in English-medium subjects. Dzongkha scores also show a moderate positive correlation with English-medium subject performance ($r = .66$, $p < .001$), indicating that language skills may contribute to overall academic achievement. Furthermore, English and Dzongkha are moderately correlated ($r = .68$, $p < .001$), implying that students who excel in one language subject tend to do well in the other.

Preliminary comparisons by location and gender revealed similar findings except for rural students. The strength of the correlation between English and English-medium subject performance appears marginally higher among urban students compared to rural students which may reflect differences in language exposure. Similarly, the correlation between English and English-medium subject scores tends to be stronger among female students, consistent with their generally higher performance in language-related subjects observed in Panel A. These subgroup differences highlight the importance of considering contextual factors such as school location and gender when interpreting the predictive role of English proficiency in academic performance.

Multicollinearity Analysis

The result of the Pearson correlation coefficients reveals a positive correlation between the predictive variables (English and Dzongkha) and the dependent variable (English-medium Subjects). Hence, some issues are commonly related to the behaviour between endogenous variables. Therefore, a further check of collinearity is required. We used a robustness check by conducting the test for multicollinearity using the variance inflation factor (VIF) and tolerance through $\text{VIF} = \frac{1}{1-R^2}$. The VIF values for both English and Dzongkha were 1.85, which is well below the threshold of 5. This indicates that multicellularity is not a concern in the regression model hence both predictors can be reliably included in the analysis.

Regression to test the Predictive power of English to Academic Success in English-Medium Subjects.

Multilinear regressions were conducted to examine the effect of English scores on the English-medium subjects' scores while

controlling for Dzongkha scores. The results of the regression analyses are presented in Table 3, 4, and 5 showing findings for the overall sample for urban–rural subgroups and gender subgroups respectively.

Table 3
Regression Analysis Predicting Overall Performance in English-Medium Subjects (N = 1,352)

$Y_i = \beta_0 + \beta_1(\text{English Score})_i + \beta_2(\text{Dzongkha Score})_i + \varepsilon_i$

Predictor	Co-efficient (β_0)	Standard Error (ε_i)	t	p	Lower 99%	Upper 99%
Intercept	-2.85	1.18	-2.42	0.016	-5.16	-0.54
English	0.73	0.02	31.92	< .001	0.68	0.77
Dzongkha	0.2	0.02	9.44	< .001	0.15	0.24

Table 3 presents the overall sample of students and it examines the extent to which English scores predict students' performance in English-medium subjects. Across the sample, the overall model was statistically significant, $F(2, 1351) = 1417.67$, $p < .001$, and explained approximately 68% of the variance in performance ($R^2 = .68$, Adjusted $R^2 = .68$), demonstrating a strong predictive relationship. English proficiency had a strong positive association with English-medium subject performance ($\beta_0 = 0.73$, Standard Error (ε_i) = 0.02, $t = 31.92$, $p < .001$), indicating that for each one-point increase in English score, the average subject performance increased by 0.73 points, holding Dzongkha constant. Similarly, Dzongkha scores also positively predicted performance but to a lesser degree ($\beta_0 = 0.20$, Standard Error (ε_i) = 0.02, $t = 9.44$, $p < .001$). The intercept was negative and significant ($\beta_0 = -2.85$ Standard Error (ε_i) =1.18, $t = -2.42$, $p = .016$), which in this context reflects the predictive performance when both English and Dzongkha is zero.

Separate regression analyses were conducted within each subgroup to explore whether the predictive relationship between English proficiency scores and performance in English-medium

subjects differed by gender and location (urban vs. rural) while controlling for Dzongkha scores.

Table 4
Regression Analysis Predicting Performance in English-Medium Subjects (N=1352)

Sub-group: Urban (N=672)						
Predictor	Co-efficient (β0)	Standard Error (εi))	t	p	Lower 99.0%	Upper 99.0%
Intercept	-3.84	1.37896	-2.79	0.005	-7.40	-0.28
English	0.79	0.025851	30.69	< .001	0.73	0.86
Dzongkha	0.17	0.026593	6.31	< .001	0.10	0.24
Sub-group: Rural (N=680)						
Predictor	Co-efficient (β0)	Standard Error (εi)	t	p	Lower 99.0%	Upper 99.0%
Intercept	8.04	1.87	4.31	< .001	3.22	12.86
English	0.54	0.04	15.33	< .001	0.45	0.63
Sub-group: Rural (N=680)						
Dzongkha	0.19	0.03	6.95	< .001	0.12	0.27

Separate multiple linear regressions were conducted for both urban and rural students to examine whether the predictive power of English scores on English-medium subjects differs across locations while controlling for Dzongkha. Both the models were significant. When comparing urban and rural students, the regression coefficients for English proficiency were higher in urban schools ($\beta 0=0.79$, $p < .001$) than in rural schools ($B = 0.54$, $p < .001$), suggesting English proficiency has a somewhat stronger effect on academic success in urban settings. Dzongkha's effect was slightly more pronounced in rural students ($\beta_0 = 0.19$, $p < .001$) than urban students ($\beta_0 = 0.17$, $p < .001$). Similarly, the overall model fit was comparatively higher for

urban students (adjusted $R^2 = 0.79$) than to rural students (adjusted $R^2 = 0.50$), suggesting that language proficiency explains a greater of the variance in academic performance in urban schools. While Dzongkha's contribution was significant in both groups, it is slightly more pronounced in rural students **(**$\beta_0 = 0.19$**)** than in urban students (B = 0.17).

These findings suggest that while English proficiency is a strong predictor of academic success for both the urban and rural students, its effect is more pronounced in urban students. The lower explanatory power of the model in rural students may suggest other unmeasured factors such as resource disparities, limited ability to use English, teacher quality or home language use influencing academic performance.

Table 4
Regression Analysis Predicting Performance in English-Medium Subjects (N = 1,352)

Sub-group: Female (N=723)						
Predictor	Co-efficient (β_0)	Standard Error (ε_i))	*t*	p	*Lower 99.0%*	*Upper 99.0%*
Intercept	-5.83	1.52	-3.84	0.00	-9.76	-1.91
English	0.68	0.03	23.82	0.00	0.61	0.76
Dzongkha	0.27	0.03	9.60	0.00	0.19	0.34
Sub-group: Male (N=629)						
Intercept	-2.521	1.811	-1.392	0.164	-7.200	2.159
English	0.751	0.035	21.379	0.000	0.660	0.842
Dzongkha	0.184	0.031	5.955	0.000	0.104	0.264

Separate multiple regression analyses were conducted for female (N = 723) and male students (N = 629) to examine whether the predictive relationship between language proficiency and academic performance varies by gender. Likewise, English scores were used as predictors of academic achievement in English-medium subjects, while controlling for Dzongkha.

Both English and Dzongkha proficiency remain a significant predictor of academic achievement in English-medium subjects across gender groups. English scores were the strongest predictor for both male and female students. For female students, English proficiency remained a strong predictor of performance ($\beta_0 = 0.68$, $p < .001$), while Dzongkha showed a moderate but significant effect ($\beta_0 = 0.27$, $p < .001$). The intercept was negative and statistically significant ($\beta_0 = –5.83$, $p < .001$), though its practical interpretation is limited. Among male students, the influence of English proficiency was slightly stronger ($\beta_0 = 0.75$, $p < .001$). Dzongkha was also significant, though with a slightly lower effect ($\beta0 = 0.18$, $p < .001$), than female students ($\beta0 = 0.27$, $p < .001$). The intercept was also negative but not statistically significant ($\beta0 = –2.52$, $p = .16$), unlike the female students.

Although English had a slightly stronger coefficient for male students, but the model explained a greater proportion of the variance for female students ($R^2 = 0.72$) than males ($R^2 = 0.65$). Similarly, the impact of Dzongkha was more pronounced among female students. These findings suggest a more stable or consistent relationship between language proficiency and academic outcomes among females. These findings underscore the importance of supporting language development in both English and Dzongkha and suggest potential gender-related differences in how students leverage their language skills to perform academically.

Discussion & Conclusion

This study examined the extent to which English language proficiency predicts students' academic performance in English-medium subjects among middle secondary students in Bhutan while controlling for Dzongkha language proficiency. The findings of this study

consistently demonstrate that language proficiency, particularly in English is a significant and strong predictor of academic success.

Across the overall sample, both English and Dzongkha scores significantly predicted academic performance with English showing a stronger influence with the model explaining approximately 68% of the variance in academic performance. This finding indicates a robust relationship between language proficiency and academic achievement as Cummings, (1979)'s assertion that a high score in English is likely to reflect a student's ability to comprehend and produce academic language, indicating the capacity to engage with cognitively demanding subject matter.

Further subgroup analyses showed notable differences between urban and rural students. Among urban students, the model explained 79% of the variance in performance ($R^2 = 0.79$). English scores had a very strong predictive value ($\beta_0 = 0.79$), while Dzongkha remained a significant but smaller contributor ($\beta_0 = 0.17$). In contrast, the rural student model explained only 50% of the variance, with weaker coefficients for English ($\beta_0 = 0.54$) as compared to urban students. Dzongkha had a slightly stronger effect in rural settings ($\beta_0 = 0.19$), potentially reflecting its greater relevance in local communication and classroom contexts.

These results demonstrate that while English proficiency predicts academic outcomes across urban-rural students, its effect is significantly stronger in urban areas. The lower explanatory power of the model in rural students may suggest other unmeasured factors such as resource disparities, limited ability to use English, teacher quality, or home language practices thereby impacting academic performance.

The gender-based regression models also showed distinct patterns. Among female students, the model explained 72% of the variance with strong predictive value for both English ($\beta_0 = 0.68$) and Dzongkha ($\beta_0 = 0.27$). However, for male students, the model explained a slightly lower 65% of the variance but higher coefficient for English ($\beta_0 = 0.75$) and a lower one for Dzongkha ($\beta_0 = 0.18$). These results demonstrate that while English proficiency remains a dominant predictor of academic success for both genders, overall, the

relationship appears more stable and consistent among female students.

In summary, the findings confirm the critical role of English language proficiency in determining students' academic performance in English-medium subjects. This aligns with Cummings, (1979)'s framework of CALP. As CALP represents the language skills necessary for academic thinking and understanding, high CALP should logically correlate with higher performance across these subjects. A high score likely reflects students' ability to comprehend and produce academic language suggesting a capacity to handle cognitively demanding subject matter. The strong predictive relationship observed in this study suggests that proficiency in academic English enables students to better comprehend subject content and engage with cognitively demanding tasks. These results also affirm the widely held view that language proficiency directly influences academic performance as supported by Martirosyan et al. (2015).

The regression analyses highlighted the critical role of English language proficiency in determining students' academic performance in English-medium subjects, with notable differences across gender and location. These findings underscore the need for targeted interventions in language education, resource allocation, and teaching strategies. Based on these insights, the following recommendations are proposed for policy and practice such as strengthening English instruction in rural schools; integrate language support across the curriculum; enhance teachers' English proficiency and implement gender-sensitive teaching strategies. This study was limited to the analysis of the relationship between English proficiency and academic performance. So, future studies may investigate unmeasured factors in rural contexts. Such future studies may investigate variables such as home language environment, socioeconomic status, parental education, school resources, and classroom practices that may influence rural students' performance in English.

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