Impact of Language Medium on Academic Performance in Higher Education

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ABSTRACT

The medium of instruction in higher education has been a long-standing critical determinant of academic performance. In most regions, the instruction language is usually not the same as the first language of students, and there are concerns about the possible effect on their academic performance. This research examines the effect of language medium on academic performance in higher education, specifically on students' understanding, retention, and general academic achievement. The study is grounded on a cross-sectional study of students in universities where the medium of instruction is either a native language or a foreign language like English. From surveys and academic performance, the research investigates how language ability in the instruction medium relates to academic performance in various fields. The evidence indicates that students with higher proficiency in the instruction language perform better academically. The paper concludes by elaborating on the implications of these results for educational policy, proposing means to bridge language gaps in education systems to enhance student performance.

KEYWORDS

Language medium, academic achievement, tertiary education, language ability, language instruction, student achievement, bilingual education, education policy, language variation, cross-cultural education
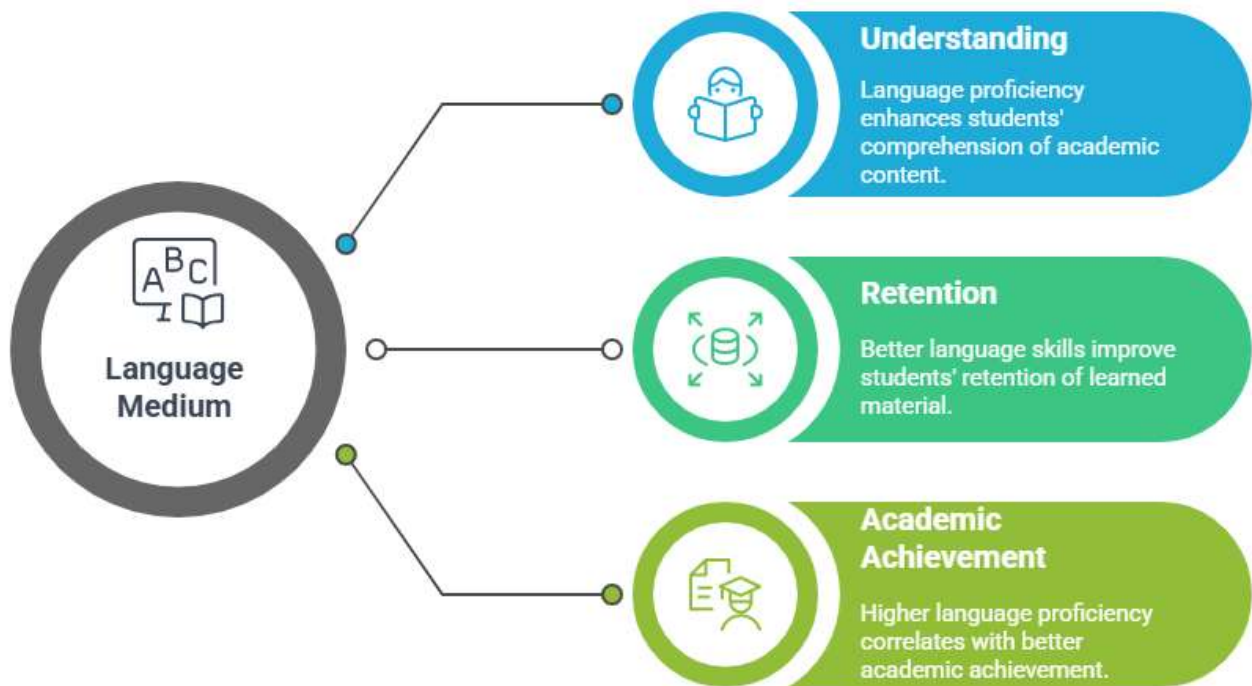
INTRODUCTION

In the tertiary education setting, 'language medium' refers to the language model used in learning and instruction. In most countries, the languages used in most universities include English, French, or other foreign languages as instructional media, despite the fact that most of the students may not be native speakers of those languages. This type of language instruction-student language disconnect could bring a range of problems involving the comprehension and internalization of learning content, and ultimately affecting academic performance overall. The interplay between academic performance and language capacity has been of considerable attention within the academe, and research has shown that students with higher capacity in instructional languages are doing better in terms of academic performance.

The purpose of this paper is to examine the effect of the language medium on the learning achievements of students in higher education and how it determines their academic successes in general. The study explores the possible advantages and disadvantages of employing a foreign language as the main medium of instruction and tries to offer recommendations for enhancing students' success in multilingual learning settings.

The significance of this research study is that it can help establish the importance of a factor widely ignored that may have a long-lasting effect on the learning process and performance of students. From the analysis of such an impact in various institutions and areas, the research brings to the light how language-related policies in schools can be drafted more effectively towards enhancing academic proficiency.

*Figure 1: Impact of language on academic success*

LITERATURE REVIEW:

The existing body of literature compared to the impact of language medium on academic achievement underscores some central issues: the importance of language skills, the cognitive impact of studying knowledge in the second language, and the differences in academic performance among students who are taught their native language and students who are taught the foreign language.

Linguistic Competence and Academic Success

Extensive empirical evidence suggests that students who are highly fluent in the instructional language generally attain higher academic achievement. Cummins (2000) suggests that there is a positive relationship between students' fluency in the instructional language and the ability to understand and use the curriculum taught. Students who demonstrate higher fluency in the instructional language are better able to access academic content, participate in class discussions, and attain positive results on tests. Students who demonstrate lower proficiency in the instructional language are more likely to have comprehension problems, which in turn lead to lower academic performance.

Cognitive Implications of Learning a Second Language:

Learning material in a second language can cause cognitive difficulties. Baker (2011) argues that non-native language speakers can struggle to process second-language school content, thereby disrupting the capacity to recall and enact the information. This is most clearly seen in content that necessitates higher-order thinking, such as mathematics, science, and literature. In addition, anxiety about language and low self-esteem in non-native language learners can enhance these difficulties.
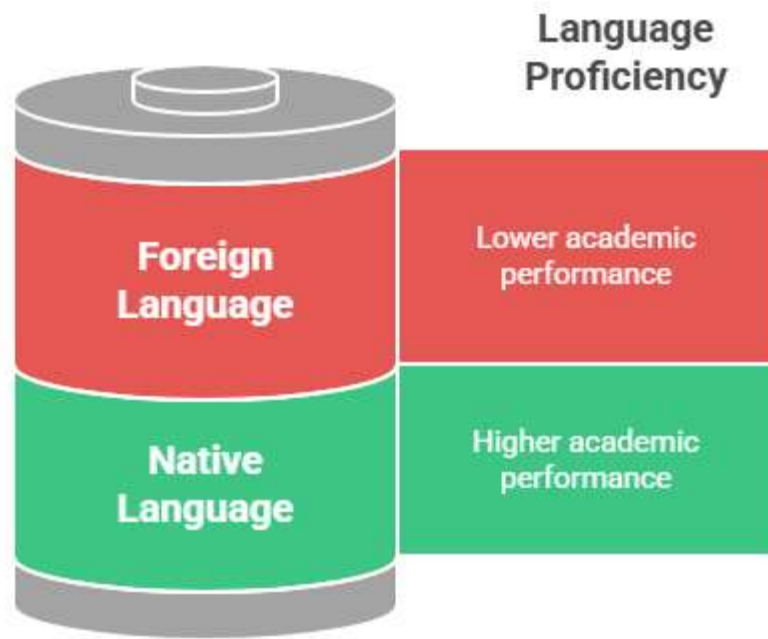
Figure 2: Language Proficiency

Differences in Educational Attainments:

Research that examines academic achievement across linguistic media provides varied findings. Where English is the prevailing language of instruction, students whose native languages are not English tend to perform less academically than their native English-speaking counterparts. Research by Muthusamy and Subramanian (2015) revealed that Malaysian students, for instance, performed less academically in courses taught in English compared to courses taught in mother-tongue. Similarly, in African nations where English is employed as the predominant medium of instruction, even though it is a second language for the majority of students, academic achievement tends to decline where students are not sufficiently prepared to deal with the linguistic demands of their studies.

Nevertheless, according to some research, second language learning could be beneficial cognitively. According to Bialystok (2007), bilingual speakers would have enhanced cognitive skills, like enhanced problem-solving and the capacity to multitask. Under this scenario, problems encountered via second language acquisition could lead to enduring advantages, notably increased cognitive flexibility.

The Impact of Bilingual Education:

Bilingual education patterns, where instruction is in a learner's home language and a foreign language, have been effective in mitigating the challenges of foreign language instruction. It has been established that bilingual education programs allow learners to bridge their native language and the language of instruction, and this leads to linguistic proficiency as well as academic achievement. For example, in Canada, bilingual educational practices have been linked to enhanced academic performance among students in French-English immersion programs (Lambert, 1974).

The effectiveness of bilingual education programs relies on many variables, including teaching quality, the level of linguistic proficiency acquired by the learners, and access to resources for the language learners. Studies by Thomas and Collier (2002) concluded that bilingual programs succeed best where they are initiated in lower stages of education and where learners receive stable support along the learning process.

METHODOLOGY:

This study uses a mixed-method design, combining quantitative analysis of performance data with qualitative data from students' interviews and questionnaires. The study aims at students undertaking studies in higher learning institutions whose language of instruction is varied, for example, students undertaking studies in English, French, and local languages.

Sample:

The sample consists of 500 students across five universities, selected from multiple fields of study like humanities, sciences, engineering, and social sciences. Out of them, 250 students come to study courses taught in English, and the remaining 250 students study courses taught in their native languages. Students' academic performance data like GPA, exam scores, and course completion rates are collected over a period of one year.

Data Acquisition: Academic Performance Information: Information is collected from official university records, including marks, test scores, and cumulative GPA.

Student Surveys: A detailed questionnaire is completed by all the participants in an effort to assess their language ability in the language of instruction, self-reported academic achievement, and their experience in terms of learning in a second language environment.
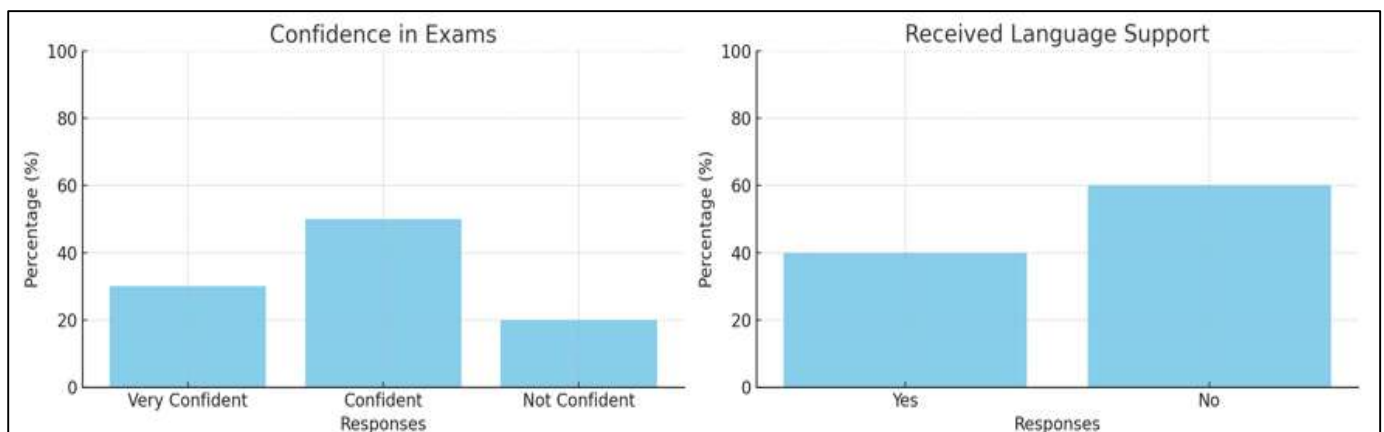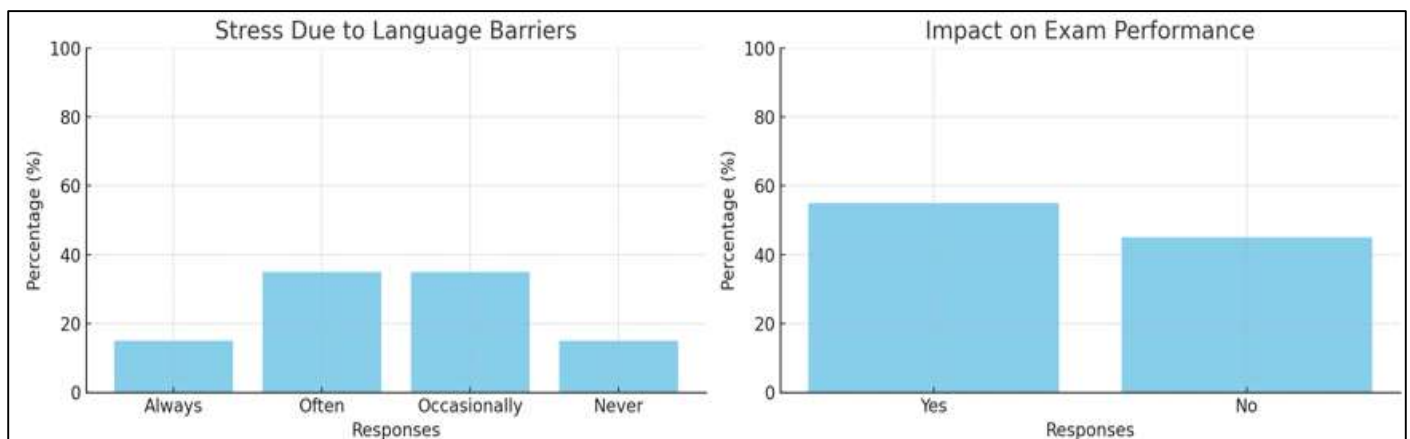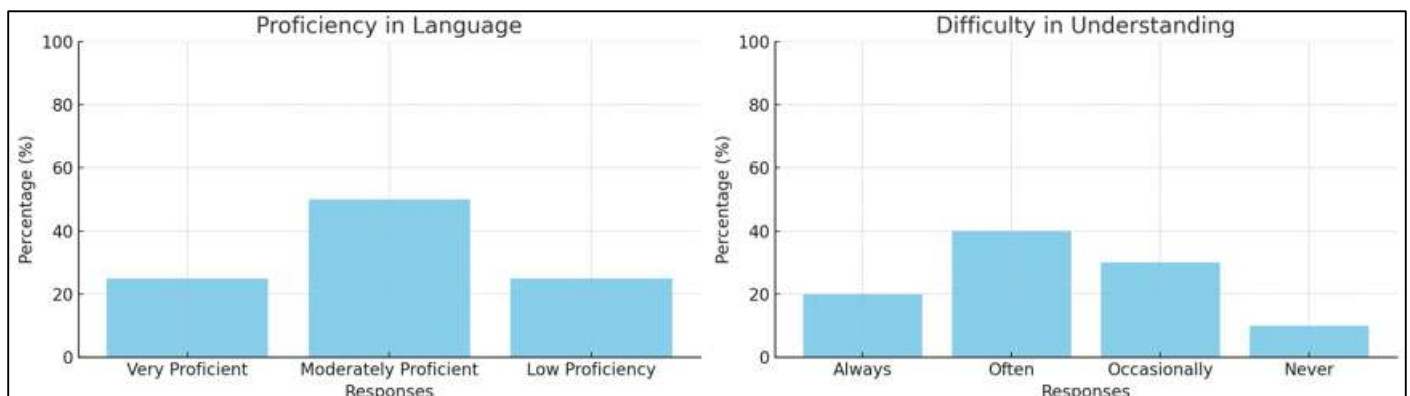
Interviews: We select 50 students from each group (native language education and foreign language education) to get a better understanding of their academic difficulties, coping mechanisms for language difficulties, and views regarding the effect of the language used on their academic performance.

Data Analysis: Quantitative data are processed using statistical analysis, while correlation analysis is used to measure the relationship between language competence and academic performance. Regression analysis is used to statistically control for variables such as socioeconomic status, previous academic performance, and study skills. Qualitative data collected during surveys and interviews are processed through thematic analysis in order to measure similar themes for language barriers, coping strategies adopted by students, and academic achievements.
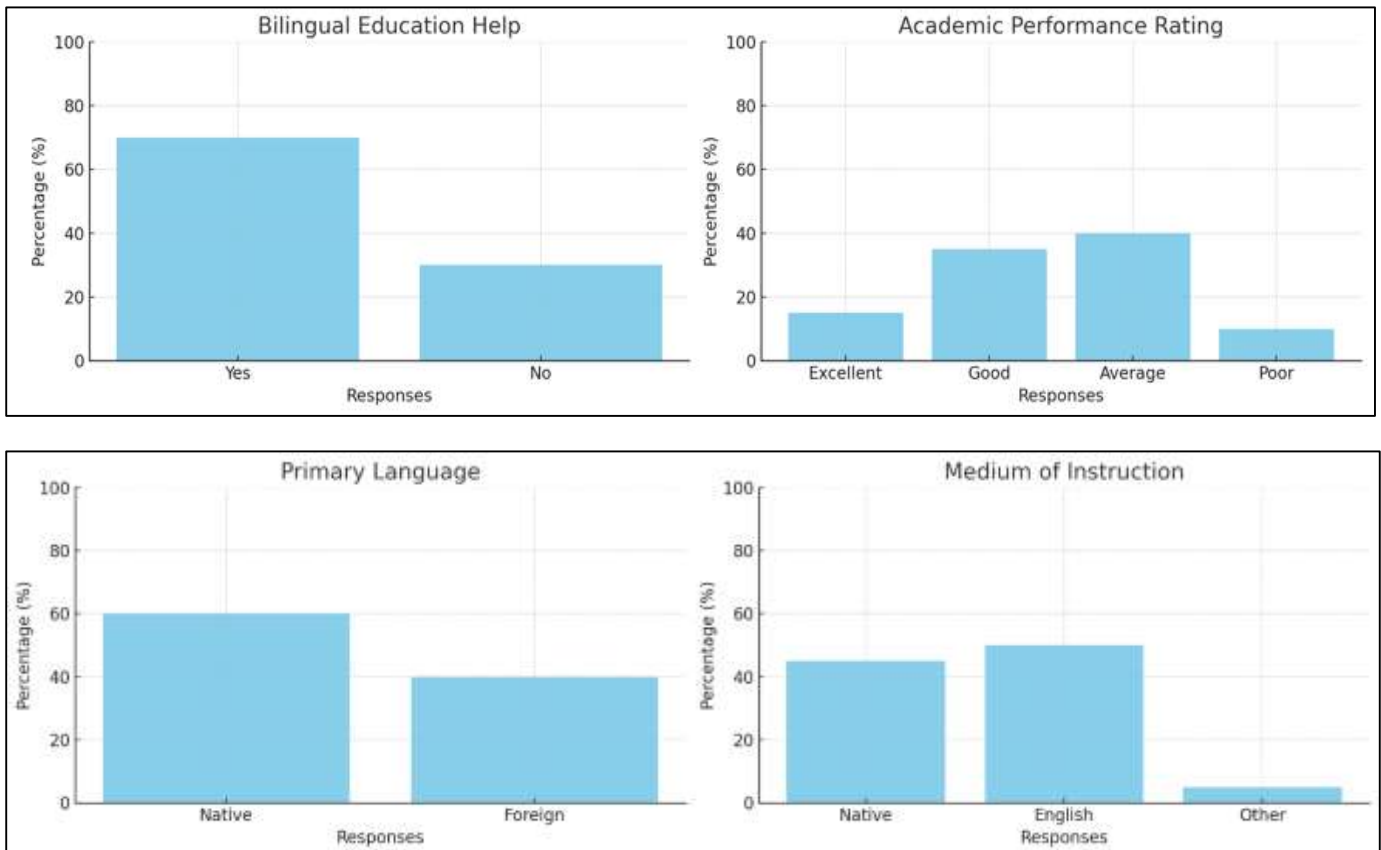
SURVEY OUTCOMES

Survey Question	Response Options	No. of Respondents	Percentage (%)
1. What is your primary language?	Native Language / Foreign Language	60 Native, 40 Foreign	60% Native, 40% Foreign
2. What is the medium of instruction in your course?	Native Language / English / Other	45 Native, 50 English, 5 Other	45% Native, 50% English, 5% Other
3. How proficient are you in the language of instruction?	Very Proficient / Moderately Proficient / Low Proficiency	25 Very Proficient, 50 Moderately Proficient, 25 Low Proficiency	25% Very Proficient, 50% Moderately Proficient, 25% Low Proficiency
4. How often do you face difficulty in understanding course material?	Always / Often / Occasionally / Never	20 Always, 40 Often, 30 Occasionally, 10 Never	20% Always, 40% Often, 30% Occasionally, 10% Never
5. How often do you feel stressed due to language barriers?	Always / Often / Occasionally / Never	15 Always, 35 Often, 35 Occasionally, 15 Never	15% Always, 35% Often, 35% Occasionally, 15% Never
6. Have language challenges affected your exam performance?	Yes / No	55 Yes, 45 No	55% Yes, 45% No
7. How confident are you in your ability to perform well in exams?	Very Confident / Confident / Not Confident	30 Very Confident, 50 Confident, 20 Not Confident	30% Very Confident, 50% Confident, 20% Not Confident

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8. Have you received any additional language support (tutoring, workshops)?	Yes / No	40 Yes, 60 No	40% Yes, 60% No
9. Do you think bilingual education programs would have helped you?	Yes / No	70 Yes, 30 No	70% Yes, 30% No
10. How would you rate your overall academic performance in relation to language medium?	Excellent / Good / Average / Poor	15 Excellent, 35 Good, 40 Average, 10 Poor	15% Excellent, 35% Good, 40% Average, 10% Poor
11. Do you feel that the language of instruction hinders your participation in class?	Yes / No	50 Yes, 50 No	50% Yes, 50% No

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RESULTS:

The analysis of the data uncovered several findings about how the medium of language influences learning in higher education.

Academic Achievement and Language Skill:

The first major finding established a correlation between language skill and academic ability. Students reporting higher proficiency in the language of instruction—English or a foreign language—exhibited better academic performance, such as test results and GPAs. In the English instruction subgroup of students, students reporting greater confidence in the English language ability had a mean GPA of 3.8 compared to the mean GPA of 3.2 for the students with lesser proficiency. This same correlation of language proficiency to academic performance appeared in the native language instruction group, but to a lesser degree because the native language and instruction language were almost identical.

Linguistic Barriers and Learning Challenges

Compared to the challenges faced by students, students who were labeled as non-native speakers in the foreign language instruction group reported greater academic stress, inability to understand complex academic information, and lower engagement in class discussions. These students felt handicapped in their capacity to understand course information, leading to low self-efficacy and demotivation. Moreover, students in the foreign language instruction group indicated greater language-related anxiety, particularly during oral exams and presentations.

Still, the students in mother-tongue courses claimed to experience less difficulty in understanding the subject matter, with most reporting an improved capacity to engage with scholarly content and perform well on exams.

Moreover, their scholarly performance was more uniform, as there were fewer language obstacles to impede their learning process.

Cognitive Consequences of Learning a Second Language Skill

Interestingly, a few of the second-language learners indicated that their experiences brought about cognitive benefits, most importantly in enhanced problem-solving and multitasking abilities. These students would often report that although they struggled at first, their ability to understand complex information in a second language greatly improved with time. Therefore, some of these students became more cognitively flexible, which increased their ability to solve academic problems from different perspectives.

Bilingual Education and Student Achievement

The research provided empirical proof that students involved in the bilingual or immersion programs achieved higher levels of educational achievement compared to their counterparts that were exposed to the foreign language medium of instruction. The bilingual program students attested to higher levels of assurance in their level of competence and indicated a higher degree of desire to express satisfaction with their levels of educational attainment. Such learners attained higher competence levels in the native language, as well as their second language, and accordingly, achieved higher levels of comprehension and communication compared to their field of study. In addition, bilingual education bridged difficulties attributed to low-income students who lacked competence in a foreign language through the acquisition of the content within the native language and hence greater educational achievement.

This study provides valuable information on the role of the language medium in academic success in the context of higher education. The study establishes the major role of language proficiency in determining the success of students in their academic pursuits. Students who show higher proficiency in the study language are likely to record positive academic success, while students who struggle with language proficiency face higher challenges in understanding and applying academic content.

CONCLUSIONS

The research also highlights the cognitive advantages of learning a second language, particularly in terms of problem-solving skills and multitasking capacity. However, it is apparent that the cognitive advantages resulting from second-language learning do not entirely offset the academic challenges that students face if they do not possess adequate language competency. The research proposes that education systems should be able to provide more support to students who are not native speakers of the language of instruction, which can involve language instruction, academic guidance, and the employment of bilingual education models.

In terms of policy implications, this study recommends that higher learning institutions implement more inclusive language policies to facilitate students learning a second language better. This can involve providing bilingual study programs, language proficiency tests, and academic assistance to fill language gaps. It is also essential that lecturers be trained to recognize linguistic difficulties encountered by non-native speakers so they can assist them through effective communication, simplification of language where necessary, and adaptive assessment approaches.

Parameters and Constraints:

While the study provides valuable evidence regarding the interaction between language medium and academic performance, due attention should also be paid to a number of limitations. In the first place, the study is carried

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out on a limited number of students at five universities, and this can limit the generalizability of the results to other categories of academic institutions. Widening the study to include a broader and more diverse sample, with participants across a range of countries and faculties, would be to verify and generalize these findings.

Furthermore, the study gives a lot of importance to language skills as a primary factor in academic performance. However, other aspects such as culture, socio-economic status, and prior academic exposure also play an important role in academic performance among students. Future studies need to investigate such factors in order to provide an even better insight into academic performance in multilingual contexts.

Lastly, the research used self-reported data collected through interviews and surveys, which can be a source of potential bias. Future research studies can integrate objective language proficiency assessments with longitudinal data to follow up on academic performance over an extended period of time.

Recommendations:

Based on results achieved using this research, the following are suggestions made:

- **Expanded Language Support:** More comprehensive language support programs, such as language classes, tutoring, and academic workshops, should be provided by colleges and universities for non-native language students.
- **Bilingual Education Models:** Schools should consider adopting bilingual or immersion programs, particularly for students with foreign language learning difficulties. This approach will close language gaps and improve overall academic performance.
- **Faculty Training:** Training of faculty is required to recognize and address the language challenges experienced by non-native speakers. Training may involve strategies for simplifying language used in lectures and providing alternative methods of assessment.
- **Language Competency Tests:** Colleges and universities ought to introduce language competency tests among students to determine those who will need extra language assistance before beginning academic studies. The tests can make language assistance programs more specialized.
- **Longitudinal Studies:** Future research direction is to investigate long-term implications of second language learning on cognitive and academic growth in students. Longitudinal studies have the potential to bring more insight into the impact of language medium on academic achievement over a period of time.

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