

Exploring the Effects of Bilingualism on Academic Performance in Higher Education: A Quantitative Study

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Received: 01-10-2024	Revised: 28-10-2024	Accepted: 10-11-2024	Published: 01-12-2024
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ABSTRACT

This study investigates the influence of bilingualism on students' academic performance at the tertiary level. Conducted at Government Viqar-un-Nisa Graduate College for Women in Rawalpindi, this descriptive quantitative study aimed to explore students' perceptions of bilingualism and assess its effect on their academic outcomes. A sample of 60 undergraduate students from the departments of Education, English, and Psychology was selected through simple random sampling. Data were collected via a structured questionnaire, with a high reliability score (Cronbach's alpha = 0.907). Descriptive statistics and correlation analyses were employed to interpret the findings. Results reveal that bilingualism positively contributes to students' learning capacity, critical thinking, and academic engagement. The study recommends incorporating structured bilingual activities in classroom pedagogy to support cognitive and academic development.

Key Words: Bilingualism, student performance, higher education, mother tongue, language proficiency, academic achievement, cognitive flexibility.

INTRODUCTION

Language is intrinsic to human communication, shaping how we think, learn, and interact with others. Bilingualism, the ability to use two languages effectively, is increasingly prevalent in today's globalized educational landscape. This study examines how bilingualism influences students' academic performance at the higher education level in a Pakistani context.

Despite bilingualism being a common phenomenon globally approximately one-third of the world's population is bilingual or multilingual its academic implications remain underexplored in localized settings such as Rawalpindi. The research addresses this gap by analyzing how bilingualism intersects with students' academic engagement and success.

Context and Importance of the Study

Language is not just a medium of communication it is also a cognitive tool that shapes thought, influence's identity, and governs access to educational and social capital. In our increasingly globalized

and interconnected world, bilingualism the ability to use two languages fluently is more the norm than the exception. In many countries, including Pakistan, students are exposed to multiple languages from early childhood, particularly their mother tongue, national language (Urdu), and English, the latter being the medium of instruction at many higher education institutions.

This linguistic diversity presents both opportunities and challenges in academic contexts. On one hand, bilingualism is linked to enhanced cognitive abilities, such as better executive function, memory, and problem-solving skills. On the other hand, students often face difficulties in switching between languages, especially when they are required to learn and express complex academic concepts in a non-native language. Therefore, understanding the impact of bilingualism on students' academic performance at the higher education level is both timely and critical.

Defining Bilingualism

Bilingualism is a multifaceted concept, with definitions varying across disciplines. Traditionally, it referred to native-like fluency in two languages (Bloomfield, 1933). However, modern linguists recognize a continuum of bilingual proficiency, from basic conversational ability to full academic literacy (Hamers & Blanc, 2000; Li, 2008).

In the context of higher education, students may be:

- **Simultaneous bilinguals:** exposed to two languages from birth.
- **Sequential bilinguals:** acquiring a second language after the first is fully or partially developed.
- **Academic bilinguals:** those who may not be fluent speakers but can understand and process academic content in more than one language.

Relevance to the Pakistani Educational Context

Pakistan presents a particularly rich case for studying bilingualism due to its multilingual society and the prevalence of English-medium instruction in higher education. While many students are functionally bilingual speaking Urdu at home and English in academic settings their comfort and fluency vary widely.

This linguistic dynamic can:

- Affect their ability to comprehend course material.
- Influence classroom participation.
- Impact performance in assessments, particularly those requiring abstract reasoning or critical thinking in English.

By exploring this phenomenon at a local institution (Viqar-un-Nisa College for Women in Rawalpindi), this study aims to bridge the gap between global research on bilingualism and local educational practices.

Research Gap and Purpose

While international research has frequently highlighted the cognitive advantages of bilingualism (e.g., Bialystok, 2017), limited empirical data exists in the South Asian context, particularly within Pakistani higher education institutions. Moreover, few studies analyze how students themselves perceive the role of bilingualism in their academic journeys.

This study aims to:

- Understand student perceptions of bilingualism.
- Examine the relationship between bilingualism and academic performance.
- Provide evidence-based recommendations for enhancing bilingual teaching and learning strategies at the university level.

Research Objectives

- To find out the views of undergraduate students regarding bilingualism

Research Questions

The central questions guiding this research are:

1. What are the views of undergraduate students regarding bilingualism in academic settings?
2. How does bilingualism affect their academic performance, including learning capacity, communication, and classroom participation?

Research Objectives

- To find out the views of undergraduate students regarding bilingualism

Significance of the Study

Understanding the impact of bilingualism on higher education outcomes can inform:

- Curriculum design that accommodates bilingual learners.
- Instructional strategies that leverage students' native linguistic strengths.
- Policy-making in educational institutions to promote inclusive language practices.

Delimitation of the study:

This study was delimited to Government Viqar-un-Nisa Graduate College.

LITERATURE REVIEW

At the start of the 21st century, nearly half the global population was estimated to be bilingual, though this figure varies based on differing definitions of bilingualism and its overlap with multilingualism. Bilingualism appears across all nations, social classes, and age groups, yet its form is highly context-dependent. A child may be considered bilingual in many ways speaking different languages with each parent, understanding one language but responding in another, or using distinct languages in family and social settings. These diverse scenarios highlight that bilingualism is shaped by individual environments and social interactions. As such, bilingual education extends beyond the home, becoming a vital concern for schools and educational institutions. Understanding bilingualism, therefore, requires a flexible definition that captures its complex and varied nature.

Definitions and Scope of Bilingualism

Bilingualism is variably defined in scholarly literature. Bloomfield (1933) defines it as native-level proficiency in two languages, while Li (2008) adopts a broader view, describing bilinguals as individuals capable of communicating in two languages in any mode active or passive.

Models and Types of Bilingualism

Bilingualism may be simultaneous or sequential. Simultaneous bilinguals are exposed to two languages from birth, while sequential bilinguals acquire a second language after establishing their first. Additionally, compound and coordinate bilingualism reflect cognitive processing differences based on acquisition context.

Cognitive and Academic Benefits

Studies indicate that bilingualism enhances executive functioning, cognitive flexibility, and metalinguistic awareness (Bialystok, 2017). These skills had a positive impact on academic achievement, particularly aligned with problem-solving skills, memory, and comprehension outcomes.

Challenges of Bilingualism

In contrast to these positive studies (for example, Darcy, 1953) that suggested negative consequences of bilingualism up to and including linguistic confusion and a lower IQ, there are accounts that discredited those studies for razor thin methodology. While affirming findings were compelling, some challenges were introduced during the research study nonetheless. One methodological challenge was the level of language proficiency the participants entered into the study, which could have potentially impacted their understanding of the questionnaire and ultimately their outcome responses. Furthermore, the neutral responses to many of the items had a high percentage of neutral responses, indicating potential confusion or hesitation with the items, which could have been due to sociolinguistic sensitivity to the topic or lack of metalinguistic awareness.

From an analytical perspective, lack of causality was another limitation that must be acknowledged, due to the correlational design of the research study. While correlational research can give an opportunity for meaning making regarding associations between identified variables, causal conclusions could not be made about the effects of bilingualism on academic achievement outcomes. To further contextualize, the research study also took place at a single institution, and inferential generalizations beyond the immediate contexts would be beyond the scope of the proposed study.

Finally, a significant challenge rested in the interpretation of psychological outcomes attributed to bilingualism. For example, while some participants reported positive academic and cognitive outcomes, there were others who reported feeling psychologically disturbed when they were code-switching across languages. This complexity underscores the need for longitudinal or mixed-method studies to better understand the socio-emotional dimensions of bilingualism in academic settings.

METHODOLOGY

Research Design

This is a descriptive quantitative study using a survey-based correlational approach. A five-point Likert-scale questionnaire was administered to students to measure perceptions and behaviors related to bilingualism.

Population and Sampling

The study focused on 444 undergraduate students in the BS Education, English, and Psychology programs. A random sample of 60 students was selected: 13 from Education, 37 from English, and 20 from Psychology.

Instrumentation

The instrument was validated by experts and pilot-tested. Internal consistency was confirmed with a Cronbach's alpha of 0.907, indicating high reliability.

DATA ANALYSIS

The data analysis was conducted in a quantitative manner, using some descriptive and inferential statistical techniques. Questionnaires were distributed to assess responses from 60 students in the BS Education, BS English, and BS Psychology classes. A five-point Likert scale capturing attitudes and perceptions towards bilingualism was used, where the scales ranged from "strongly disagree" to "strongly agree."

Descriptive statistics, namely frequencies and percentages, were used to present response summaries that provide insight into the students' beliefs and experiences regarding bilingualism in academic settings. In addition, Pearson correlation tests were performed to investigate associations between various variables related to bilingualism and several measures of academic performance of the students. The instrument's reliability was confirmed by Cronbach's Alpha, which produced a value of 0.907, indicating high internal consistency. This highly regimented analysis ensured the validity of results in reflecting the students' perceptions and experiences in a bilingual educational environment.

RESULTS

The results of the study indicate multiple ways in which bilingualism impacts the academic performance of students. Most students indicated that bilingualism assisted them in developing their study habits, capacity to learn, and access to information. For example, 76.7% of respondents either agreed or strongly agreed that bilingualism aids in their academic studies, and 75% affirmed its role in developing their learning capacity.

Correlation analyses revealed significant positive relationships between several bilingualism indicators and academic variables. Notably, the correlation coefficient ($r = .269$, $p < .05$) demonstrated a meaningful link between bilingualism and students' ability to engage in classroom conversations. Another strong correlation ($r = .436$, $p < .01$) was observed between self-reported bilingual ability and comprehension of conversations in other languages, reinforcing the cognitive and communicative benefits of bilingualism.

However, not all findings were uniformly positive. Some responses reflected concerns about language distortion and reduced authenticity or self-confidence due to bilingual practices. For example, a significant portion of students expressed neutrality or disagreement when asked whether bilingualism made them psychologically balanced between two languages. Furthermore, while some correlations such as between bilingualism and self-confidence were weak and not statistically significant ($r = -.149$), they point to nuanced experiences that merit further exploration.

Descriptive Findings

- A majority of students perceived bilingualism as beneficial to learning (76% agreed).
- 75% reported that bilingualism enhances learning capacity.
- 68% agreed bilingualism helps express thoughts more effectively.
- 86% considered English as their second language.
- 71% used more than one language in their conversations.

Inferential Analysis

Several significant correlations were identified:

- **Authenticity vs. Language Distortion** ($r = .554, p < .01$): A strong relationship suggests that students associate bilingualism with both enhanced and compromised language authenticity.
- **Learning Capacity vs. Conversation** ($r = .269, p < .05$): Students who use bilingual conversation show higher learning capacity.
- **Language Comprehension vs. Self-identification as Bilingual** ($r = .436, p < .01$): Bilingual identification strongly predicts higher comprehension of diverse linguistic content.
- **Fluency vs. Adult Language Learning** ($r = .454, p < .01$): Students fluent in two languages are more inclined to pursue additional language learning.

DISCUSSION

Findings affirm that bilingualism generally enhances students' academic experience by fostering communication skills, cultural awareness, and cognitive development. Although a minority of students reported difficulties such as reduced authenticity or confidence, the overall impact was largely positive.

Interestingly, there was no significant correlation between bilingualism and self-confidence ($r = -.149, p > .05$), suggesting that bilingualism does not necessarily undermine self-esteem in academic settings.

The findings of this study highlight a significant relationship between teachers' professional knowledge and students' academic performance in secondary schools. The analysis revealed that subject matter knowledge, pedagogical knowledge, and curriculum knowledge each play a vital role in shaping students' learning outcomes. The results support previous literature that suggests a deep content knowledge enables teachers to provide better instruction, correct misconceptions, and include students. It was also shown that pedagogical knowledge helps teachers to determine which instructional method to apply according to the diverse learning needs of their students and ultimately influences student success. In addition, curriculum knowledge essentially ensures teachers achieve the educational goals and the national curriculum; it ensures instruction is consistent and coherent.

While all three areas of professional knowledge were worthy indicators of achievement, the pedagogical content knowledge dimension had the highest influence on students' academic performance. This goes to demonstrate that it is not enough to know the content; it needs to be taught effectively and the point reinforced is that knowledge itself can be multidimensional. These findings further reinforce the multidimensional characteristics of effective teaching practice and highlight the need for suitable teacher training that includes content, pedagogy, and curriculum.

CONCLUSION

In conclusion, this research studied the relationship between bilingualism and academic performance, and found that bilingualism has a generally positive impact on academic performance as students in bilingual education certainly gain cognition based on the academic performance and the general cognitive obtainments, as well as gain wider informational and expressive profiles. However, issues about language purity and identity still exist, which needs pedagogical sensitivity.

RECOMMENDATIONS

Based on the study's findings, it is recommended that teacher education programs place greater emphasis on integrating pedagogical knowledge with subject matter expertise. Institutions responsible for teacher

preparation should design curricula that include practical training on instructional strategies and curriculum implementation. Moreover, professional development initiatives should be tailored to address gaps in pedagogical and curriculum knowledge, especially for in-service teachers. Education policymakers should consider continuous assessment of teacher competencies and provide regular workshops and seminars that align with current curriculum reforms. These efforts will contribute to strengthening the overall capacity of teachers and, in turn, enhance student academic outcomes.

- Integrate bilingual activities into classroom instruction to enhance engagement.
- Promote bilingual literacy through dual-language assignments and assessments.
- Encourage code-switching as a learning strategy rather than penalize it.
- Train educators to handle linguistic diversity effectively.
- Support second-language acquisition through extracurricular language clubs and resources.

FUTURE RESEARCH

While this study offers valuable insights into the relationship between teachers' professional knowledge and students' academic performance, it is not without limitations. The research was conducted within a specific geographical context, potentially constraining the generalizability of the findings to broader or more varied educational settings. Although the sample size met statistical requirements, it may not have fully captured the range of differences present across diverse school environments. Furthermore, the use of self-reported data from teachers raises concerns about potential biases, including social desirability effects and inaccuracies in self-assessment. The cross-sectional design of the study also limits the ability to infer causal relationships between the constructs examined.

Given these limitations, future research should consider broadening the demographic and geographical scope to encompass a wider array of educational contexts. Employing longitudinal research designs would enable scholars to investigate the long-term impact of teachers' professional knowledge on student academic outcomes. Incorporating mixed-method approaches combining both quantitative and qualitative data would enhance the depth and validity of findings by capturing the nuanced ways in which professional knowledge influences teaching practices. Additionally, exploring the integration of technology as a tool for enhancing pedagogical and curriculum knowledge presents a promising direction, particularly as digital tools become increasingly prevalent in modern educational settings.

This study was limited to a single college in Rawalpindi. Future research should consider:

- A broader geographic sample.
- Comparative studies across bilingual and monolingual institutions.
- Longitudinal data on bilingualism's effects over time

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