

A Study of the Effectiveness of Bilingual Textbooks in English Language Learning in Telangana State

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Objectives of the module:

1. The study explores the implementation and impact of bilingual textbooks in English language learning and their use in non-language subjects among students in Telangana State.
2. The research evaluates the potential benefits of bilingual educational resources in terms of language acquisition, subject comprehension, cultural relevance, and student engagement.
3. The study also examines the impact of bilingual textbooks in both language and non-language subjects, focusing on their role in fostering language acquisition, enhancing subject comprehension, and improving overall engagement.

Abstract

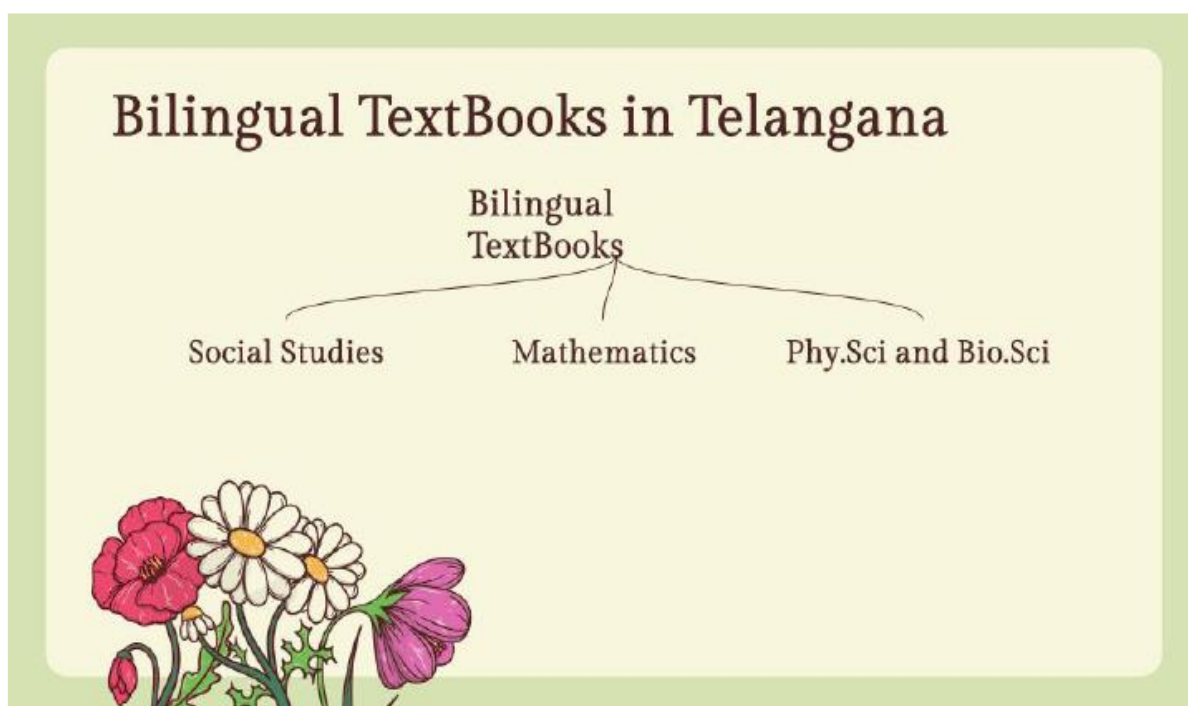
This study explores the implementation and impact of bilingual textbooks in English language learning and their use in non-language subjects among students in Telangana State. The research evaluates the potential benefits of bilingual educational resources in terms of language acquisition, subject comprehension, cultural relevance, and student engagement. Data was collected from teachers across language and non-language subjects to provide a holistic view of bilingual textbooks' effectiveness. While the findings indicate significant improvements in vocabulary acquisition, reduced fear of English, and better subject understanding, challenges such as over-reliance on the mother tongue (Telugu) and logistical issues were identified.

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1.0 Introduction

Language learning in multilingual societies presents unique challenges. Telangana, a linguistically diverse state, faces difficulties in transitioning students from their native language (Telugu) to English, especially in academic contexts. To address this, bilingual textbooks have been introduced for non-language subjects like mathematics, science, and social studies.

The rationale behind bilingual textbooks in non-language subjects is to provide students with conceptual clarity in their mother tongue while gradually improving their proficiency in English. This study examines the impact of bilingual textbooks in both language and non-language subjects, focusing on their role in fostering language acquisition, enhancing subject comprehension, and improving overall engagement. Telangana is a linguistically diverse state where multiple languages, including Telugu, Kannada, Tamil, Hindi, and Urdu, are spoken. This diversity is largely due to significant migration from other states, particularly to Hyderabad and other districts, driven by business opportunities. As a result, schools in Hyderabad have a linguistically diverse student population. To enhance student engagement and participation in classroom activities, teachers must adopt a multilingual approach that respects and incorporates students' native languages.



Key Research Questions:

1. How effective are bilingual textbooks in improving English proficiency?
2. Do bilingual textbooks enhance subject understanding in non-language subjects?
3. What challenges are faced by teachers and students when using bilingual textbooks?

2. The Need for Bilingual Textbooks in Non-Language Subjects

The shift to English-medium education presents a dual challenge for students, requiring them to learn a new language while simultaneously mastering subject content. This challenge is particularly evident in Telangana, especially in non-language subjects like science and mathematics, where abstract concepts become difficult to understand without a strong grasp of the language of instruction. Although students are introduced to English from Class 1, their comprehension skills often remain underdeveloped due to various factors. While some students have studied in English medium from the beginning, many still struggle with understanding and applying the language effectively in academic subjects. Role of Bilingual Textbooks in Non-Language Subjects:

- **Conceptual Clarity:** Presenting content in both English and Telugu ensures that students can understand complex concepts without language barriers.
- **Language Integration:** Exposure to English terminology in non-language subjects familiarizes students with academic vocabulary, aiding overall language acquisition.
- **Reduced Cognitive Load:** Bilingual resources allow students to focus on learning subject content without being hindered by language comprehension issues.

3. Methodology

The study employed a mixed-methods approach, incorporating surveys, classroom observations, and informal interviews with teachers from language and non-language subjects.

Sample Size and Distribution:

The study involved 36 teachers, including 20 who taught non-language subjects and 16 who specialized in language subjects. A total of 36 schools from more than

eight districts were included in the research. To assess the effectiveness of bilingual textbooks, data was collected through multiple methods. Surveys were conducted with teachers to evaluate their experiences and perspectives on bilingual instruction. Classroom observations were carried out to record student interactions with bilingual materials, providing insights into their engagement and learning process. Additionally, informal interviews with educators offered qualitative insights into the challenges and benefits of using bilingual resources in the classroom.

4. Data Analysis:

- **Quantitative Analysis:** Surveys and test results were statistically analyzed.
- **Qualitative Analysis:** Observations and interviews were categorized thematically.

Figure: 4.1 Number of District Involved

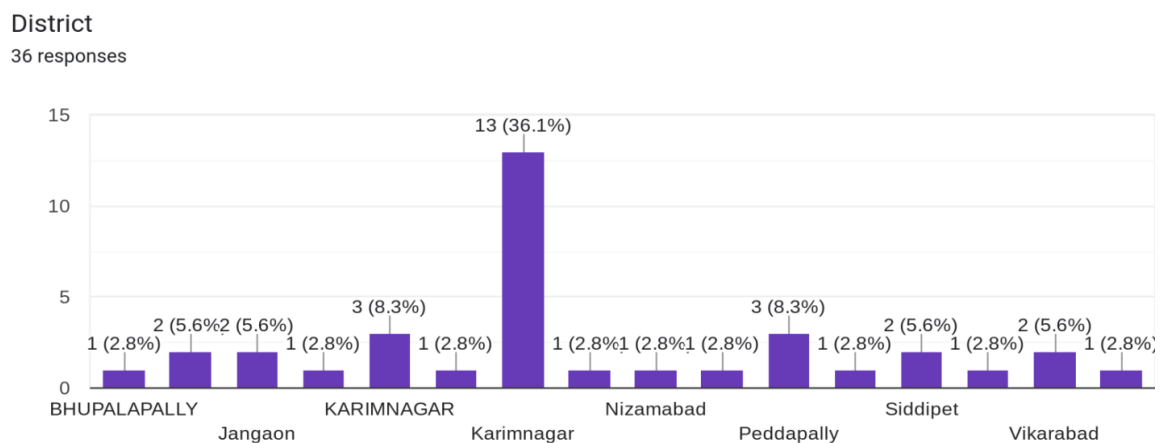
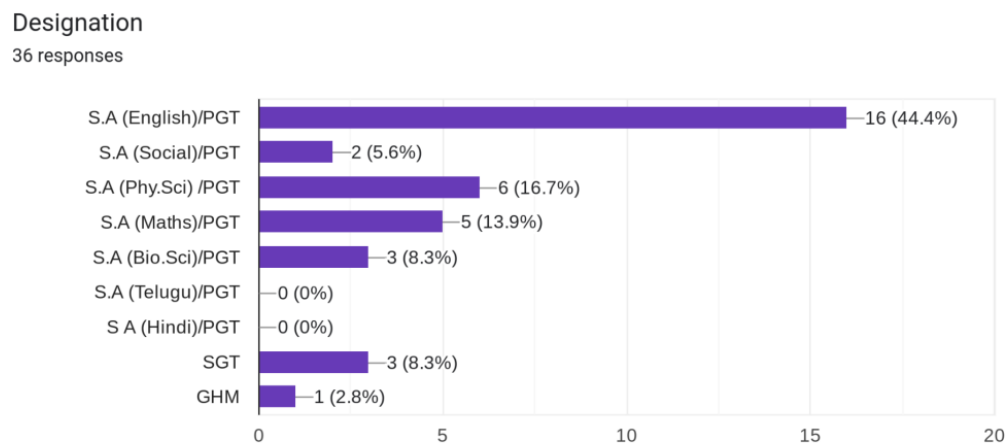


Figure: 4.2 Teachers from Different Subjects



Key Areas of Focus:

1. Student Engagement: Evaluating the extent to which students interact with bilingual materials across subjects.
2. Subject Comprehension: Measuring the impact of bilingual textbooks on understanding concepts in non-language subjects.
3. Language Acquisition: Assessing the improvement in English proficiency through the use of bilingual textbooks.
4. Teacher Feedback: Understanding the challenges and benefits of using bilingual resources in both contexts.

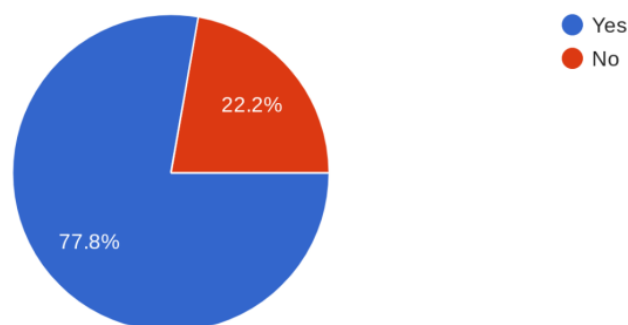
5. Data Interpretation and Results

5.1 Students' Engagement with Bilingual Textbooks

Across both language and non-language subjects, bilingual textbooks significantly enhanced student engagement.

Figure: 4.3 Areas of Engagement

Do you notice an increase in student participation and engagement when using multilingual textbooks
36 responses



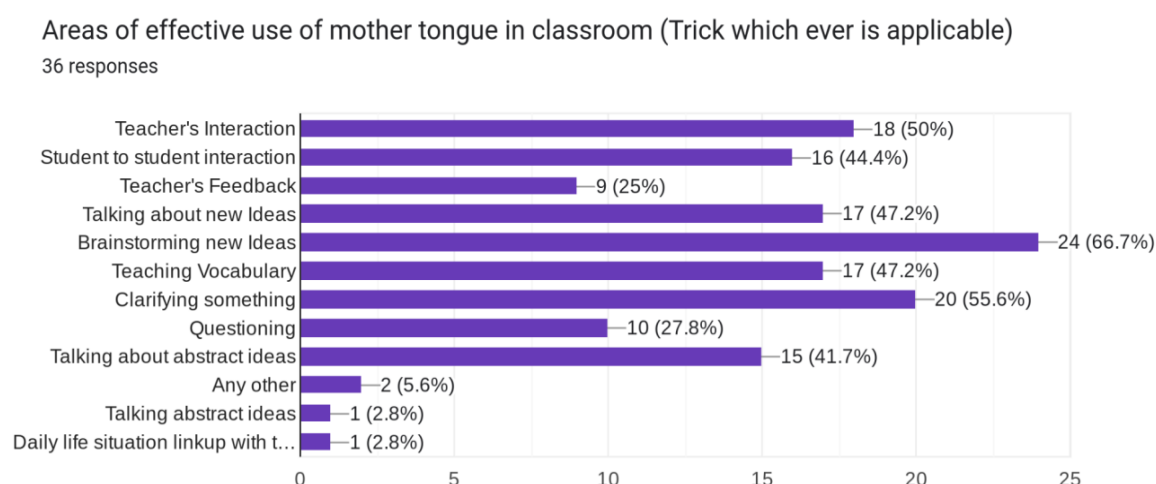
After using bilingual textbooks, 77.8% of teachers agreed that student participation and engagement increased.

● Non-Language Subjects:

The survey on the effectiveness of bilingual text in Telangana revealed several positive outcomes. Students frequently referred to both languages simultaneously, actively searching for meanings in Telugu to aid comprehension. They were able to express their ideas more easily and demonstrated improved reading and understanding

in both languages. Many students responded in their mother tongue (MT), checked difficult words in Telugu, and felt more confident, overcoming their fear of English. The use of bilingual text also increased their interest and engagement, enabling them to respond quickly. Notably, even passive learners began participating in discussions when using their MT. Additionally, students found it easier to solve math problems by reading in their mother tongue, further reinforcing the benefits of a bilingual approach in education.

Figure 4.4 Areas of engagements:



The data collected from 36 teachers in Telangana highlights how the use of bilingual textbooks has influenced student engagement in the classroom. **Teacher-led interactions** saw notable activity, with **Teacher's Interaction (50%)** and **Teacher's Feedback (25%)**, suggesting that bilingual textbooks helped teachers communicate more effectively with students. Additionally, **Questioning (27.8%)** and **Talking about Abstract Ideas (41.7%)** indicate that students were able to engage in deeper discussions, likely due to better comprehension in their native language.

However, **Student-to-Student Interaction (44.4%)** remained relatively lower, suggesting that while students were more engaged with teachers, peer discussions still need improvement. **Idea generation activities**, such as **Talking about New Ideas (47.2%)** and **Brainstorming New Ideas (66.7%)**, showed some challenges, implying that students may still be developing confidence in expressing their thoughts bilingually.

In terms of **concept understanding**, **Teaching Vocabulary (47.2%)** and **Clarifying Concepts (55.6%)** were prominent, highlighting that bilingual textbooks

played a role in enhancing comprehension. However, **Daily Life Situation Linkup (2.8%)** was minimal, indicating that further efforts are needed to make learning more relatable to students' experiences.

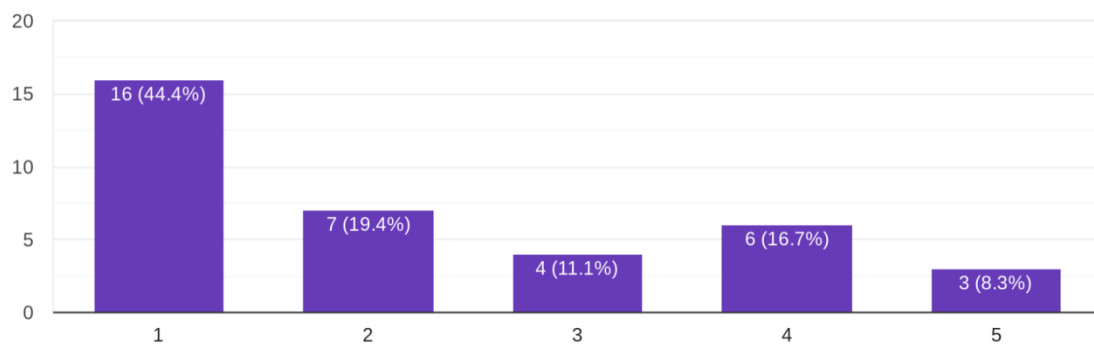
Overall, the findings suggest that bilingual textbooks have positively impacted student engagement by improving comprehension and teacher-student interaction. However, to maximize their effectiveness, there is a need to encourage more peer discussions and real-life application of concepts.

5.2. Teachers' Feedback Across Subjects

Figure: 4.5 Teacher Satisfaction rating scale 1 (Very useful) to 5 (Not Useful)

Overall, how satisfied are you with the use of multilingual textbooks in your classroom?

36 responses



Teachers in both language and non-language subjects noted the benefits of bilingual textbooks, including enhanced participation and reduced anxiety among students. However, specific challenges emerged:

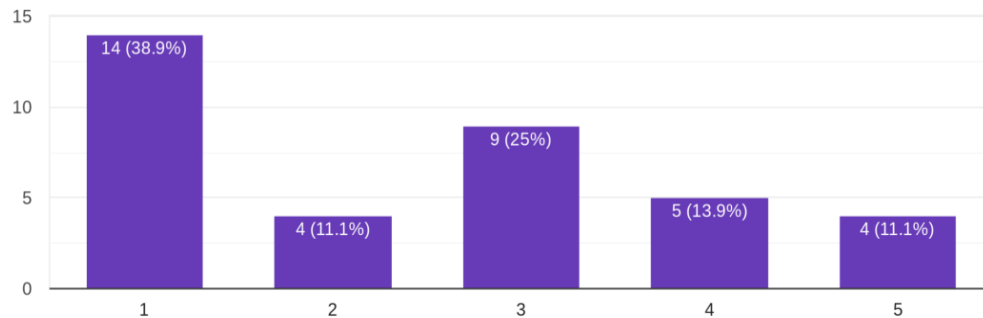
- **Language Subjects:** Over-reliance on Telugu limited English language immersion.
- **Non-Language Subjects:** Translating technical terms accurately in Telugu was a challenge, leading to confusion in some cases.

5.3. Effectiveness in Language Acquisition

Figure: 4.2 Subject Comprehensions in Non-Language Subjects

Multilingual language (Use of mother tongue) and Textbooks are useful for effective learning/acquiring of a English language

36 responses



Bilingual Textbooks are useful for effective learning/acquiring of a English language

Number of Responses: 36

Data Points (Rating Scale 1(Effective) -5(Ineffective):

- * Rating 1: 14 responses (38.9%)
- * Rating 2: 4 responses (11.1%)
- * Rating 3: 9 responses (25%)
- * Rating 4: 5 responses (13.9%)
- * Rating 5: 4 responses (11.1%)

Key Observation:

The highest number of responses (14, representing 38.9%) is for Rating 1. This suggests that a significant portion of the respondents strongly agree that bilingual textbooks are useful for effective learning/acquiring of English in non-language subjects.

The survey revealed positive outcomes for language acquisition, even in non-language subjects. Exposure to English terminology in science and mathematics reinforced academic vocabulary, while bilingual narratives in social studies improved overall language comprehension.

Key Statistics:

- Vocabulary improvement: 65% of students.
- Reduction in English phobia: 70%.
- Better conceptual understanding (non-language subjects): 75%.

6. Challenges

Inconsistent Translations in Non-Language Subjects

One of the major challenges observed in the study was the inconsistency in translations, particularly in non-language subjects. Technical terms were often inadequately translated into Telugu, causing confusion among students. This lack of clarity hindered their ability to fully grasp subject-specific concepts, affecting their overall learning experience.

Over-Reliance on Telugu

Another challenge was the tendency of students, especially in non-language subjects, to rely heavily on Telugu explanations while neglecting English content. This over-dependence limited their exposure to English terminology and comprehension, which could potentially hinder their bilingual proficiency in the long run.

Proficiency Gaps in Telugu

While bilingual resources were beneficial, not all students had strong literacy skills in Telugu. Those with weaker proficiency struggled to understand the Telugu content, reducing the effectiveness of the bilingual approach. This gap in literacy skills highlighted the need for additional support in developing students' competence in their mother tongue.

Logistical Issues

The study also identified several logistical challenges associated with bilingual education. Dual-language textbooks were often bulkier and more cumbersome to navigate, making it difficult for students to efficiently access the required information. Additionally, teachers found it challenging to manage bilingual content within limited class periods, balancing between both languages while ensuring effective learning outcomes.

7. Suggestions for Effective Use of Bilingual Textbooks

At the School Level

Strategic Integration of Bilingual Resources

Teachers should adopt a balanced approach by strategically integrating bilingual resources in the classroom. While leveraging students' mother tongue for better comprehension, they should also encourage active engagement with English content to develop bilingual proficiency.

Regular Teacher Training

To effectively implement bilingual instruction, teachers require ongoing professional development. Regular training sessions should focus on innovative bilingual teaching methods, strategies for seamless language integration, and techniques to address students' linguistic challenges.

Monitoring Student Progress

Formative assessments should be used to track student progress in both languages. These assessments will help educators identify learning gaps, adjust teaching strategies accordingly, and ensure that students develop proficiency in both Telugu and English.

At the System Level

Accurate and Consistent Translations

Curriculum designers must prioritize the accuracy and consistency of translations in bilingual textbooks. Ensuring precise terminology in non-language subjects will reduce confusion and enhance students' understanding of complex concepts.

Development of Digital Learning Aids

Incorporating digital bilingual learning tools, such as interactive e-books, mobile applications, and audiovisual content, can enhance students' engagement and provide additional support outside the classroom. These resources will help bridge language gaps and reinforce bilingual learning.

Policy-Level Support

A structured and well-planned implementation of bilingual education requires strong policy-level backing. Educational authorities should establish clear guidelines,

allocate resources, and ensure proper execution of bilingual programs to maximize their effectiveness and long-term impact.

To optimize the use of bilingual textbooks in non-language subjects, the following recommendations are proposed:

Enhanced Translation Quality

To improve the effectiveness of bilingual education, subject-specific glossaries should be developed with accurate translations and clear explanations for technical terms. This will help ensure consistency across textbooks and minimize confusion among students when learning complex concepts in non-language subjects.

Contextual Usage of Telugu

Rather than relying heavily on Telugu, its usage should be strategically limited to key concepts, summaries, and explanations. This approach will allow students to grasp essential ideas in their mother tongue while still engaging with English content, ultimately strengthening their bilingual proficiency.

Training for Non-Language Subject Teachers

Teachers of subjects like science, mathematics, and social studies need specialized training to effectively incorporate bilingual materials into their instruction. Professional development programs should equip them with strategies to balance both languages in the classroom, ensuring students benefit from bilingual learning without over-reliance on their mother tongue.

Supplementary Resources

To enhance bilingual learning in non-language subjects, supplementary resources such as audio-visual aids and digital tools should be developed. Interactive videos, educational apps, and online platforms can provide additional support, making complex topics more accessible and engaging for students.

Streamlined Textbook Design

Bilingual textbooks should be designed in a compact and well-organized manner to minimize logistical challenges for both students and teachers. A clear layout, structured content, and easy navigation between languages will improve usability and efficiency, making learning more effective.

8. Role of teachers in the effective use of bilingual textbooks based on research findings

It emphasizes the importance of teachers in the effective use of bilingual textbooks. The research findings suggest that teachers should:

- Adopt a balanced approach by strategically integrating bilingual resources in the classroom.
- While leveraging students' mother tongue for better comprehension, they should also encourage active engagement with English content to develop English proficiency.
- Require ongoing professional development to effectively implement bilingual instruction.
- Regular training sessions should focus on innovative bilingual teaching methods, strategies for seamless language integration, and techniques to address students' linguistic challenges.
- Use formative assessments to track student progress in both languages.
- These assessments will help educators identify learning gaps, adjust teaching strategies accordingly, and ensure that students develop proficiency in both Telugu and English.
- Teachers in both language and non-language subjects noted the benefits of bilingual textbooks, including enhanced participation and reduced anxiety among students.

8.1. The Headmaster should encourage the teachers to take up the following.

- Conduct workshops for teachers on effective strategies for integrating bilingual textbooks into their teaching practices.
- Develop subject-specific glossaries with accurate translations and clear explanations for technical terms.
- Create digital bilingual learning tools, such as interactive e-books and mobile applications, to enhance student engagement.
- Establish a system for monitoring and evaluating the ongoing effectiveness of bilingual textbooks in schools.

9. Conclusion

Bilingual textbooks have proven effective in enhancing English proficiency and improving subject comprehension across both language and non-language subjects. While they reduce learning barriers and foster engagement, challenges such as over-reliance on Telugu and inconsistent translations need to be addressed. The study highlights the importance of tailoring bilingual materials to meet the specific needs of non-language subjects. Teacher training, improved translations, and the integration of Digital tools are critical to ensuring the success of bilingual education in Telangana. Future research should focus on developing refined bilingual resources and exploring innovative teaching strategies to maximize their impact.

Acknowledgments

I express gratitude to teachers from both language and non-language subjects who participated in this study. Their insights and feedback were invaluable in understanding the multifaceted impact of bilingual textbooks.

10. Evaluative Questions:

- How has the use of bilingual textbooks impacted students' confidence in using English?
- To what extent has the implementation of bilingual textbooks improved students' academic performance in non-language subjects?
- What are the main challenges teachers' faces in using bilingual textbooks, and what support do they need to overcome these challenges?
- How can the design and content of bilingual textbooks be further improved to enhance their effectiveness?