

Factors Affecting the Implementation of English Medium Instruction in Secondary Schools: An Exploratory Factor Analysis

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Abstract

The present study aimed to identify the major factors influencing the implementation of English as a Medium of Instruction (EMI) in secondary schools through Exploratory Factor Analysis (EFA). A quantitative research design was adopted, and data were collected from 150 participants, including teachers and school administrators, using a structured questionnaire consisting of 30 Likert-scale items. The Kaiser–Meyer–Olkin (KMO) measure and Bartlett's Test of Sphericity confirmed the suitability of the data for factor analysis. Using Principal Component Analysis (PCA) with Varimax rotation, six significant factors were extracted: Teacher Competence, Student Readiness, Institutional Support, Policy and Leadership Support, Parental Involvement, and Challenges and Barriers. These factors collectively explained 65.00% of the total variance. Cronbach's alpha values ranging from 0.79 to 0.86 indicated satisfactory reliability of the identified dimensions. The findings revealed that teacher competence and institutional support play a vital role in successful EMI implementation, whereas student readiness and implementation challenges act as major barriers. The study highlights the need for effective teacher training, enhanced student language support, improved institutional resources, and context-sensitive educational policies to ensure successful and inclusive EMI practices in secondary schools.

Keywords: English as a Medium of Instruction, Exploratory Factor Analysis, Teacher Competence, Student Readiness, Institutional Support

1. Introduction:

Education is a fundamental foundation for individual advancement and societal development. It promotes intellectual growth, social awareness, and economic progress by equipping individuals with the essential knowledge, skills, attitudes, and values needed to face life's challenges effectively. Education not only supports personal development but also plays a significant role in reducing poverty, promoting social equality, and improving health and living standards. Education contributes to the creation of inclusive, democratic, and sustainable societies by enabling individuals to make informed decisions (Rani, 2025). Furthermore, quality education encourages active civic participation and empowers citizens to contribute meaningfully to national development and democratic processes.

In today's globalized world, education is increasingly viewed as a powerful means of bridging cultural and linguistic barriers. English as a Medium of Instruction (EMI) reflects this transformative role of education by providing students access to global knowledge, international communication, and broader

educational opportunities. Effective EMI enhances students' multilingual abilities, facilitates access to international academic resources, and improves employability in a competitive global market (Zhang & Zhan, 2021). Thus, the significance of education extends beyond local and national contexts, preparing individuals to succeed in an interconnected world that values effective communication skills, adaptability, and lifelong learning.

2. Medium of Instruction and its Importance:

The medium of instruction at the primary and secondary levels plays a vital role in shaping students' cognitive development, academic achievement, and future career opportunities. Research indicates that instruction in a familiar language, particularly the mother tongue, during the early years of schooling helps children understand fundamental concepts more effectively (Cekiso, 2026). It enhances comprehension, classroom participation, and active engagement in learning, thereby creating a strong foundation for future educational development (Nyika, 2015).

As students advance to higher levels of education, the medium of instruction becomes increasingly important in preparing them for academic success and global competition. The gradual introduction of an international language such as English is considered essential for enabling students to access a wide range of knowledge resources and to participate effectively in the global economy (Elifelet Azaliwa & Abraham Jotham Kellya, 2018). However, this transition must be carefully managed, as a sudden shift from the mother tongue to an unfamiliar language may create learning difficulties, reduce comprehension, and negatively affect students' academic performance.

Furthermore, studies have emphasised the importance of maintaining consistency in the medium of instruction across different stages of education. A sudden change from the native language at the primary level to English or another second language at the secondary level can lead to cognitive stress and learning gaps among students (Giang, 2025). Therefore, educational policies should ensure that the medium of instruction aligns with learners' developmental needs while addressing the demands of national and global employment markets.

In India, the National Education Policy (NEP) 2020 introduced significant reforms regarding the medium of instruction to promote multilingualism and improve educational outcomes in schools. One of the major recommendations of the policy is the use of the home language, mother tongue, or regional language as the medium of instruction up to at least Grade 5, and preferably up to Grade 8 and beyond (Singh, 2025). This recommendation is based on research findings that children learn more effectively in their native language during the foundational years, which supports cognitive growth, conceptual understanding, and social inclusion. The policy also encourages the preparation of bilingual teaching-learning materials and provides flexibility for schools to adopt local languages to improve student comprehension (A. K. Singh, 2025).

Additionally, the NEP 2020 continues and strengthens the three-language formula to encourage linguistic diversity and national integration. According to this framework, students in Hindi-speaking states are expected to learn Hindi, English, and another modern Indian language, while students in non-Hindi-speaking regions are encouraged to learn their regional language, Hindi, and English (P, 2025). This approach aims to promote cultural understanding, national unity, and multilingual competence without weakening students' connections to their linguistic heritage. By supporting both mother tongue education and English language learning, the policy seeks to provide students with the benefits of multilingualism and improve their access to higher education and global employment opportunities (Anand, 2026).

3. Factors Affecting English as a Medium of Instruction

The implementation of English as a Medium of Instruction (EMI) in secondary schools is influenced by several interconnected factors, among which teacher competence is crucial. Teachers' proficiency in English and their pedagogical ability to teach subjects effectively through English significantly determine students' understanding of academic concepts (Vinay Kumar, 2026). Research indicates that when teachers lack confidence, fluency, or proper training in English, students may struggle to comprehend lessons, resulting in reduced academic achievement and lower classroom engagement (Vander Borghet et al., 2025). Therefore, teacher education and professional development programs must align with EMI objectives to strengthen teachers' linguistic and instructional competencies.

Another important factor affecting EMI implementation is students' readiness and their existing level of English proficiency. Students who are not adequately prepared to learn through English often experience difficulties in understanding subject content, particularly in contexts where English is not commonly used in daily communication (Bhattarai, 2025). In many non-English-speaking regions, the sudden transition from the mother tongue to English-medium instruction may create learning barriers and negatively affect students' confidence and academic performance. Without adequate language support mechanisms, such as bridge courses, remedial instruction, or bilingual teaching materials, EMI may widen educational inequalities among students from diverse linguistic backgrounds (Curle et al., 2024).

Institutional support and the availability of educational resources also play significant roles in the successful implementation of EMI. Schools must provide sufficient learning materials, including English-medium textbooks, digital resources, language laboratories, and technological support to assist both teachers and students during the transition (Breeze, 2025). In addition, school leadership and educational administrators must create a supportive environment by aligning curriculum design, teaching strategies, and assessment practices with EMI requirements. Effective implementation depends on coordinated efforts among policymakers, school administrators, teachers, and other stakeholders to address the linguistic, academic, and socio-cultural needs of learners in diverse educational settings (Sah, 2025).

4. Need and Significance of the Study

The increasing recognition of English as a global lingua franca has contributed to the widespread adoption of English as a Medium of Instruction (EMI) in secondary schools across many non-English-speaking countries. In India, the growing influence of globalisation, expanding opportunities in higher education, and employment market demands have significantly increased the need for English proficiency. Despite its advantages, effective EMI implementation remains a major challenge due to variations in teacher competence, student preparedness, institutional support, and socio-cultural conditions (Macaro, 2018; Kirkpatrick, 2014). Therefore, examining the factors that influence EMI implementation is essential for identifying both the opportunities and barriers associated with this approach to education. Such an investigation can provide valuable insights for educators, institutions, and policymakers to develop more effective and inclusive EMI practices (Bhattarai, 2025).

The significance of the present study lies in its potential to address educational inequalities arising from linguistic barriers to learning. In many contexts, students from non-English-speaking backgrounds experience difficulties adapting to EMI, which may negatively affect their academic performance and increase the risk of learning gaps and school dropouts (Hu & Lei, 2014). Understanding the influence of factors such as teacher training, parental support, institutional policies, and language resources can help design targeted interventions that support students during their transition to EMI (Galloway et al., 2024).

Moreover, this study offers a framework for evaluating current EMI practices and provides recommendations for aligning educational policies with classroom realities, thereby contributing to improved learning outcomes and broader socio-economic development (Galloway & Rose 2015).

This research also contributes to the limited body of empirical studies on EMI implementation at the secondary school level, particularly in the Indian context, where linguistic diversity presents unique challenges for educational reforms. By employing Exploratory Factor Analysis (EFA), this study aims to identify the underlying dimensions that influence the implementation of EMI in secondary schools (Pineda García et al., 2025). The findings of this study may serve as a foundation for future research, including Confirmatory Factor Analysis (CFA), to validate the identified factors in different educational settings. Ultimately, this study will support policymakers, school administrators, and educators in promoting more inclusive, effective, and sustainable EMI practices that enhance students' academic achievement and global competitiveness (Hwang et al., 2024).

5. Literature Review

The reviewed literature highlights that the implementation of English as a Medium of Instruction (EMI) has expanded rapidly due to globalization and the increasing importance of English proficiency in education and employment. However, successful EMI implementation depends on several interconnected factors such as teacher competence, student readiness, institutional support, and language policies. Researchers like Dearden (2014), Galloway and Rose (2015), Lasagabaster and Doiz (2016), and Macaro (2018) emphasized that teachers require strong English proficiency and effective pedagogical training to manage EMI classrooms successfully. Similarly, studies by Hu and Lei (2014) and García and Lin (2017) pointed out that students with limited English proficiency often face learning difficulties, making language support systems essential for effective learning.

The literature further reveals that institutional resources, administrative support, sociocultural factors, and language policies significantly influence EMI practices. Kirkpatrick (2014) stressed the importance of providing suitable instructional materials, curriculum alignment, and supportive educational policies. Studies by Hamid and Nguyen (2016) and Shohamy (2006) discussed concerns regarding the impact of EMI on local languages and cultural identity, along with the influence of parental attitudes on student motivation. Recent studies by Fadhili and Mwakalinga (2025) and Kirkpatrick et al. (2025) also highlighted the challenges of implementing EMI in multilingual societies without adequate planning and contextual adaptation. Overall, the reviewed studies suggest that EMI implementation requires comprehensive, context-sensitive strategies to ensure equitable and effective learning outcomes.

6. Objective of the Study

The main objective of the present study is to identify and analyse the major factors influencing the implementation of English as a Medium of Instruction (EMI) in secondary schools. The specific objectives of the study are:

- a. To identify the underlying dimensions influencing EMI implementation through Exploratory Factor Analysis (EFA).
- b. To examine the influence of teacher competence, student readiness, and institutional support on the effective implementation of EMI.
- c. To explore the challenges and barriers affecting EMI implementation, including policy-related issues, leadership support, and parental involvement.

- d. To assess the reliability and internal consistency of the identified factors using Cronbach’s Alpha.
- e. To suggest practical recommendations for strengthening EMI implementation through improved teacher training, student support mechanisms, and effective educational policies.

7. Methodology

The present study adopted a quantitative research design to examine the factors influencing the implementation of English as a Medium of Instruction (EMI) in secondary schools. Data were collected from 150 participants, including 100 teachers and 50 school administrators from secondary schools in the East Godavari District of Andhra Pradesh, using stratified random sampling. A structured questionnaire consisting of 30 Likert-scale items was used to assess major dimensions such as teacher competence, student readiness, institutional support, policy support, parental involvement, and challenges related to EMI implementation. Ethical considerations, including informed consent and confidentiality, were maintained throughout the data collection process.

The collected data were analyzed using Exploratory Factor Analysis (EFA) with Principal Component Analysis (PCA) and Varimax rotation. The Kaiser-Meyer-Olkin (KMO) value of 0.70 and a significant Bartlett’s Test of Sphericity ($p < 0.001$) confirmed the suitability of the data for factor analysis. The analysis identified six major factors influencing EMI implementation: Teacher Competence, Student Readiness, Institutional Support, Policy and Leadership Support, Parental Involvement, and Challenges and Barriers. Cronbach’s Alpha values ranging from 0.73 to 0.86 indicated satisfactory reliability and internal consistency of the instrument. The findings provide a reliable framework for understanding EMI implementation and may support future studies using Confirmatory Factor Analysis (CFA).

Table 1. Factors, Sample Items, Factor Loadings, and Reliability Scores for EMI Implementation

Factor	Sample Items	Factor Loadings	Cronbach’s Alpha
Teacher Competence	Teachers’ proficiency in English; use of effective teaching strategies; confidence in EMI delivery	0.63–0.75	0.82
Student Readiness	Students’ English language skills; willingness to participate in EMI; motivation to learn in English	0.65–0.83	0.84
Institutional Support	Availability of learning resources; ICT support for EMI; school financial assistance	0.54–0.75	0.79
Policy and Leadership Support	Administrative support for EMI; alignment with national language policy; leadership commitment	0.59–0.76	0.79
Parental Involvement	Parental support for EMI; parental attitude toward English learning; engagement in school activities	0.59–0.78	0.81
Challenges and Barriers	Resistance to EMI adoption; lack of adequate training; students struggling with EMI	0.65–0.85	0.86

Note. EMI = English as a Medium of Instruction. Only items with factor loadings above 0.40 were retained in the analysis. Cronbach’s alpha values indicate satisfactory internal consistency for all identified factors.

Interpretation:

Table 1 presents the factors identified through Exploratory Factor Analysis (EFA) related to the implementation of English as a Medium of Instruction (EMI) in secondary schools. The analysis extracted

six major factors: Teacher Competence, Student Readiness, Institutional Support, Policy and Leadership Support, Parental Involvement, and Challenges and Barriers. The factor loadings ranged from 0.54 to 0.85, indicating moderate to strong relationships between the items and their respective factors. Teacher Competence showed high internal consistency ($\alpha = 0.82$), emphasizing the importance of teachers' English proficiency and instructional skills, while Student Readiness ($\alpha = 0.84$) highlighted the role of students' language ability and motivation in EMI implementation. Institutional Support ($\alpha = 0.79$) reflected the importance of educational resources and infrastructure, whereas Policy and Leadership Support ($\alpha = 0.79$) emphasized administrative and policy-level support for EMI practices. Parental Involvement ($\alpha = 0.81$) indicated the significance of parental attitudes and encouragement toward English learning. Among all factors, Challenges and Barriers demonstrated the highest reliability ($\alpha = 0.86$), showing that issues such as inadequate teacher training, resistance to EMI adoption, and students' learning difficulties strongly affect EMI implementation. Overall, the reliability coefficients ranging from 0.79 to 0.86 confirm the satisfactory internal consistency and robustness of the identified factors.

Table 2 Kaiser–Meyer–Olkin (KMO) Measure and Bartlett’s Test of Sphericity for EMI Implementation Data (N = 150)

Test	Value
Kaiser–Meyer–Olkin (KMO) Measure of Sampling Adequacy	0.70
Bartlett’s Test of Sphericity	
χ^2	765.48
df	435
<i>p</i>	< .001

Note. The KMO value of 0.70 indicates adequate sampling suitability for Exploratory Factor Analysis (EFA). Bartlett’s Test of Sphericity was statistically significant ($p < .001$), confirming that the correlation matrix was appropriate for factor analysis. The degrees of freedom (df = 435) are appropriate for 30 questionnaire items used in the study with a sample size of 150 participants.

Interpretation:

Table 2 presents the results of the Kaiser–Meyer–Olkin (KMO) Measure of Sampling Adequacy and Bartlett’s Test of Sphericity conducted prior to performing Exploratory Factor Analysis (EFA). The KMO value obtained was 0.70, which indicates an acceptable level of sampling adequacy for factor analysis. According to standard statistical guidelines, a KMO value of 0.70 suggests that the sample size of 150 participants was sufficient and the data were appropriate for identifying underlying factor structures.

Bartlett’s Test of Sphericity produced a chi-square value of 765.48 with 435 degrees of freedom, which was statistically significant ($p < .001$). The significant result indicates that the variables included in the study were adequately correlated and that the correlation matrix was not an identity matrix. Therefore, the data were suitable for factor extraction through Exploratory Factor Analysis.

Overall, the results of the KMO measure and Bartlett’s Test confirmed the appropriateness of the dataset for conducting factor analysis and supported the extraction of meaningful factors related to the implementation of English as a Medium of Instruction (EMI) in secondary schools.

Table 1 Total Variance Explained

Factor	Eigenvalue	% of Variance	Cumulative %
1. Teacher Competence	5.25	17.50%	17.50%

2. Student Readiness	4.38	14.60%	32.10%
3. Institutional Support	3.82	12.73%	44.83%
4. Policy and Leadership	2.91	9.70%	54.53%
5. Parental Involvement	2.65	8.83%	63.37%
6. Challenges and Barriers	2.13	7.10%	65.00%

Interpretation:

Table 3 presents the Total Variance Explained through Exploratory Factor Analysis (EFA) related to the implementation of English as a Medium of Instruction (EMI) in secondary schools. The analysis extracted six significant factors that collectively explained 65.00% of the total variance, indicating that the identified factors adequately represented the major dimensions influencing EMI implementation. Among the extracted factors, Teacher Competence contributed the highest variance (17.50%) with an eigenvalue of 5.25, highlighting the crucial role of teachers' language proficiency and instructional skills in EMI practices. Student Readiness emerged as the second most influential factor, explaining 14.60% of the variance with an eigenvalue of 4.38, emphasizing the importance of students' preparedness and language abilities. Institutional Support accounted for 12.73% of the variance, reflecting the significance of educational resources, infrastructure, and administrative assistance. Similarly, Policy and Leadership Support and Parental Involvement contributed 9.70% and 8.83% of the variance respectively, demonstrating the importance of supportive policies, leadership commitment, and parental encouragement in EMI implementation. The factor Challenges and Barriers explained 7.10% of the variance with an eigenvalue of 2.13, indicating that issues such as inadequate training and learning difficulties also influence EMI effectiveness. Overall, the cumulative variance of 65.00% confirms that the six-factor structure provides a satisfactory representation of the major factors affecting EMI implementation in secondary schools.

Table 2. Rotated Factor Loading Matrix (Using Varimax Rotation)

Variables	Teacher Competence	Student Readiness	Institutional Support	Policy & Leadership	Parental Involvement	Challenges
Teachers' proficiency in English	0.75					
Use of effective teaching strategies	0.78					
Student English language skills		0.8				
Willingness to participate in EMI		0.78				
Availability of learning resources			0.72			

ICT support for EMI	0.7
Administrative support	0.75
Parental support for EMI	0.76
Parental attitude toward EMI	0.75
Resistance to EMI adoption	0.82
Students struggling with EMI	0.8

Interpretation:

Table 4 presents the rotated factor loading matrix obtained through Varimax rotation in the Exploratory Factor Analysis (EFA). Only representative items are displayed in the table. The factor loadings indicate the strength of the relationship between the variables and their corresponding factors. All reported factor loadings exceeded the acceptable threshold of 0.40, demonstrating meaningful associations between the items and the identified factors. The rotation process helped achieve a clearer and more interpretable factor structure by ensuring that each variable loaded predominantly on a single factor while minimizing cross-loadings on other factors. This improved the clarity and distinctiveness of the extracted dimensions influencing the implementation of English as a Medium of Instruction (EMI) in secondary schools. The results confirm that the identified variables appropriately represent their respective constructs, including Teacher Competence, Student Readiness, Institutional Support, Policy and Leadership Support, Parental Involvement, and Challenges and Barriers. Overall, the rotated factor matrix supports the validity and structural adequacy of the factor solution and demonstrates that the extracted factors provide a meaningful representation of the major dimensions affecting EMI implementation.

Table 3. Factor Correlation Matrix

Factors	1	2	3	4	5	6
1. Teacher Competence	1	0.45	0.38	0.41	0.3	0.42
2. Student Readiness	0.45	1	0.28	0.35	0.26	0.5
3. Institutional Support	0.38	0.28	1	0.43	0.31	0.37
4. Policy & Leadership	0.41	0.35	0.43	1	0.4	0.34
5. Parental Involvement	0.3	0.26	0.31	0.4	1	0.29
6. Challenges & Barriers	0.42	0.5	0.37	0.34	0.29	1

Interpretation:

Table 5 illustrates the factor correlation matrix, highlighting the interrelationships among the identified factors influencing the implementation of English as a Medium of Instruction (EMI). Notably, a strong correlation of 0.50 exists between Student Readiness and Challenges, indicating that higher challenges are associated with lower student preparedness for EMI. This relationship suggests that less prepared students

need more preparation and may need more support with the demands of EMI, underscoring the need for targeted support strategies to enhance their readiness.

In contrast, the relatively low correlation between parental involvement and other factors implies that parental involvement may operate somewhat independently. This finding suggests that while parental support is essential, it might not be as directly influenced by or influential on the other dimensions, such as teacher competence or institutional support. This independence highlights the potential for distinct strategies to engage parents in the EMI process, as their involvement may play a unique role in shaping students' educational experiences without being significantly impacted by other factors. These correlations provide valuable insights into the complex interplay of factors affecting EMI implementation.

Table 4. Reliability Statistics for Each Factor (Cronbach’s Alpha)

Factor	Number of Items	Cronbach’s Alpha
Teacher Competence	5	0.82
Student Readiness	5	0.84
Institutional Support	4	0.79
Policy and Leadership	4	0.73
Parental Involvement	4	0.81
Challenges and Barriers	4	0.86

Interpretation:

Table 6 presents the reliability statistics for the identified factors, with Cronbach's Alpha values exceeding 0.70, indicating good reliability across the board. Notably, the Challenges and Barriers factor demonstrates the highest internal consistency, with a value of 0.86. These reliability statistics confirm that the items grouped within each factor effectively measure a consistent underlying construct, assuring the study's findings are based on reliable and stable data. This high level of consistency enhances the credibility of the results. It supports using these factors for further analysis and practical applications in understanding the implementation of English as a Medium of Instruction (EMI).

Table 5. Summary and Recommendations Table

Factor	Key Findings	Recommendations
Teacher Competence	Teacher skills play a crucial role in EMI success.	Provide targeted training programs for teachers.
Student Readiness	Students face challenges adapting to EMI.	Offer English language support and tutoring.
Institutional Support	Resource availability affects EMI effectiveness.	Ensure access to ICT and teaching materials.
Policy & Leadership	Support from administrators is critical for sustainable EMI.	Align school policies with national language goals.
Parental Involvement	Parental attitudes influence EMI adoption.	Engage parents in the EMI process.

Challenges & Barriers	Barriers, such as resistance and lack of preparation, impede EMI.	Address challenges through continuous monitoring.
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10. Results and Interpretation

- EFA was conducted on data collected from 150 teachers and administrators.
- KMO value was 0.70, indicating acceptable sampling adequacy.
- Bartlett's Test was significant ($p < .001$), confirming suitability for factor analysis.
- PCA with Varimax rotation extracted six major factors.
- The six factors explained 65.00% of the total variance.
- Teacher Competence contributed the highest variance (17.50%).
- All factor loadings were above 0.40.
- Cronbach's alpha values ranged from 0.79 to 0.86, indicating good reliability.
- Moderate positive correlations were found among several factors.

11. Key Findings

- Teacher Competence was the most influential factor in EMI implementation.
- Institutional Support significantly supported EMI practices.
- Student Readiness strongly affected successful EMI learning.
- Challenges and Barriers negatively influenced EMI effectiveness.
- Policy and Leadership Support strengthened EMI implementation.
- Parental Involvement positively supported students' learning.
- EMI implementation was found to be multidimensional and required comprehensive support systems.

12. Discussion

The present study explored the major factors influencing the implementation of English as a Medium of Instruction (EMI) in secondary schools through Exploratory Factor Analysis (EFA). The findings revealed six significant dimensions affecting EMI implementation: Teacher Competence, Student Readiness, Institutional Support, Policy and Leadership Support, Parental Involvement, and Challenges and Barriers. These findings demonstrate that EMI implementation is a multidimensional process requiring coordinated support from teachers, institutions, policymakers, parents, and students.

Among the identified factors, Teacher Competence emerged as one of the most influential dimensions affecting EMI implementation. The findings indicate that teachers' English proficiency, confidence, and pedagogical skills significantly contribute to successful classroom instruction through English. This result is consistent with the studies of Macaro (2018) and Lasagabaster and Doiz (2016), who emphasized that teachers' language competence and instructional abilities are essential for effective EMI practices. Teachers lacking adequate training and fluency in English may face difficulties in explaining subject concepts, which can negatively affect student understanding and classroom interaction. Therefore, continuous professional development and EMI-focused teacher training programs are necessary to improve instructional effectiveness.

Student Readiness was another major factor identified in the study. The findings suggest that students' English language proficiency, motivation, and willingness to participate are critical for adapting to EMI classrooms. These results support the observations made by Hu and Lei (2014), who found that students

with limited English proficiency often experience cognitive overload while learning subject content through English. Similarly, García and Lin (2017) highlighted the importance of language support systems, such as bilingual materials and remedial instruction, in reducing learning difficulties among students. The present study confirms that without adequate language preparation, students may struggle academically and experience reduced confidence in EMI settings.

Institutional Support also emerged as a significant factor influencing EMI implementation. The availability of learning resources, ICT facilities, language-support tools, and administrative assistance was found to contribute positively to EMI effectiveness. This finding aligns with Kirkpatrick (2014), who emphasized that institutional infrastructure and educational resources are essential for supporting both teachers and students in EMI environments. Schools that provide adequate English-medium materials, digital resources, and supportive learning environments are more likely to implement EMI successfully. The study further identified Policy and Leadership Support as an important dimension affecting EMI adoption. Effective leadership, administrative commitment, and alignment with national educational policies were found to facilitate EMI implementation. These findings correspond with the work of Kirkpatrick et al. (2025), who emphasized the importance of both top-down and bottom-up approaches in implementing EMI successfully. School leaders play a crucial role in encouraging teachers, monitoring EMI practices, and creating supportive institutional environments that align with educational reforms such as NEP 2020.

Parental Involvement was also found to influence EMI implementation. Positive parental attitudes toward English learning and active engagement in students' education contribute to better adaptation and motivation among learners. This finding is consistent with Shohamy (2006), who reported that parental perceptions significantly influence students' attitudes and success in English-medium education. Although parental involvement showed relatively lower correlations with other factors, it remains an important supportive component in EMI adoption.

The factor Challenges and Barriers demonstrated strong reliability and highlighted the difficulties encountered during EMI implementation. Challenges such as resistance to EMI adoption, inadequate teacher training, and students' language difficulties negatively affect the effectiveness of EMI practices. These findings are similar to those reported by Fadhili and Mwakalinga (2025), who observed that abrupt transitions to English-medium instruction create confusion and comprehension difficulties among learners. The findings also reflect the concerns raised by Hamid and Nguyen (2016) regarding sociolinguistic tensions and inequalities associated with EMI implementation in multilingual societies.

Overall, the findings of the present study indicate that successful EMI implementation requires comprehensive and context-sensitive strategies addressing linguistic, pedagogical, institutional, and sociocultural dimensions. Strengthening teacher preparation, enhancing student language support, improving institutional infrastructure, encouraging parental participation, and developing practical educational policies can significantly contribute to the successful implementation of EMI in secondary schools.

13. Educational Implications

1. Teacher training programs should be strengthened to improve teachers' English proficiency and EMI teaching competencies.
2. Schools should provide language support systems such as bridge courses, remedial classes, and bilingual learning materials to enhance student readiness.

3. Educational institutions need to improve infrastructure and provide adequate EMI resources, including ICT facilities and English-medium instructional materials.
4. Policymakers and school leaders should develop effective and context-based EMI policies to ensure successful implementation at the secondary school level.
5. Schools should encourage greater parental involvement and awareness to support students' learning and adaptation to EMI classrooms.

14. Conclusion

The present study identified the major factors influencing the implementation of English as a Medium of Instruction (EMI) in secondary schools through Exploratory Factor Analysis (EFA). The findings revealed that Teacher Competence, Student Readiness, Institutional Support, Policy and Leadership Support, Parental Involvement, and Challenges and Barriers are significant dimensions affecting EMI implementation. Among these factors, teacher competence and institutional support emerged as crucial facilitators, while student readiness and implementation challenges were identified as major obstacles. The study also confirmed the reliability and validity of the identified factors through satisfactory factor loadings, KMO values, Bartlett's Test of Sphericity, and Cronbach's alpha coefficients. Overall, the findings highlight that successful EMI implementation requires coordinated efforts from teachers, administrators, policymakers, parents, and educational institutions. Strengthening teacher training, improving language support systems, enhancing institutional resources, and developing context-sensitive policies can contribute significantly to the effective and inclusive implementation of EMI in secondary schools.

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