

Language Barriers and Learning Outcomes in Multilingual Classroom Settings in India

Dr. Akanksha Singh

Swami Vivekanand Subharti University,
Meerut, India

ORCID id - <https://orcid.org/0009-0008-0732-9905>

Abstract— India's extraordinary linguistic diversity, encompassing twenty-two constitutionally recognised languages and several hundred additional spoken languages, presents a persistent structural challenge for its education system: the frequent mismatch between the language a child speaks at home and the language in which classroom instruction and assessment are conducted. This paper examines the relationship between language barriers and learning outcomes in multilingual classroom settings in India, drawing on nationally representative household survey data from the Annual Status of Education Report, a rigorous quasi-experimental evaluation of Odisha's Multilingual Education pilot programme, and recent peer-reviewed research on mother tongue instruction and reading development among Indian primary school children. The paper situates these empirical findings within the evolving policy framework governing language of instruction in India, from the historical three-language formula to the more recent mother-tongue emphasis articulated in the National Education Policy 2020, and critically assesses the gap between policy ambition and classroom-level implementation. The paper concludes that while a substantial body of empirical evidence supports the cognitive and literacy benefits of mother tongue-based instruction, particularly for children from linguistic minority and low socioeconomic backgrounds, implementation of multilingual education in India remains uneven, under-resourced, and complicated by competing social demand for early English-medium instruction.

Keywords— multilingual education, mother tongue instruction, language barriers, learning outcomes, NEP 2020, ASER, literacy, India

INTRODUCTION

India is among the most linguistically diverse nations in the world, with the Constitution recognising twenty-two scheduled languages and linguists estimating the total number of languages spoken across the country at several hundred. This diversity poses a fundamental structural challenge for the country's education system, since the language of classroom instruction frequently does not correspond to the language a child speaks at home, a mismatch that research across multiple

national contexts has consistently associated with diminished comprehension, weaker early literacy development, and lower overall learning outcomes. In India, this challenge is compounded by strong social demand for English-medium education, driven by its perceived association with economic opportunity, alongside significant variation across states in the availability of mother tongue or regional language instruction, particularly for children belonging to linguistic minority or tribal communities whose home language differs from the dominant regional language used in most public schooling.



The scale of India's learning outcomes challenge has been extensively documented through nationally representative household surveys, most notably the Annual Status of Education Report, conducted annually by the Pratham Education Foundation since 2005, which has consistently found that a substantial proportion of Indian children, even after several years of schooling, are unable to read text or perform arithmetic operations expected at their grade level. While multiple factors contribute to this persistent learning outcomes gap, including teacher shortages, infrastructural deficits, and socioeconomic disadvantage, a growing body of empirical research has specifically examined the role of language, both the language of home and the language of instruction, as a distinct and quantifiable contributor to learning outcomes disparities. This paper synthesises this research literature to assess the relationship between language barriers and learning outcomes in Indian multilingual classrooms, and to evaluate the adequacy of current policy responses, particularly the mother

tongue emphasis articulated in the National Education Policy 2020.

OBJECTIVES OF THE STUDY

This study seeks to achieve the following objectives:

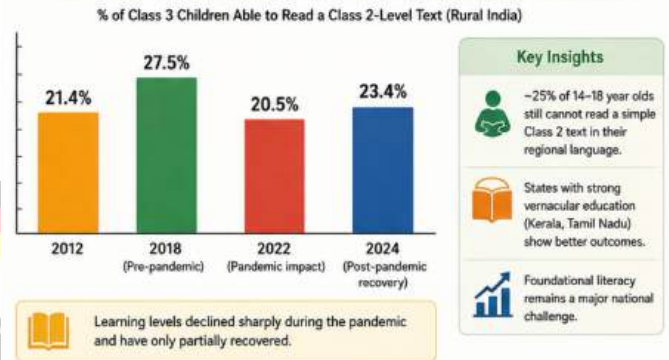
- To document the scale and persistence of learning outcomes gaps in Indian primary education, drawing on nationally representative survey data from the Annual Status of Education Report.
- To examine the empirical evidence linking language of instruction, and the alignment or mismatch between home language and school language, to literacy and learning outcomes among Indian schoolchildren.
- To assess rigorous evaluation evidence on the effectiveness of mother tongue-based multilingual education interventions in the Indian context, with particular reference to the Odisha Multilingual Education pilot programme.
- To trace the evolution of India's language-in-education policy framework, from the historical three-language formula to the mother tongue emphasis articulated in the National Education Policy 2020.
- To critically assess the gap between multilingual education policy ambition and classroom-level implementation across India's diverse state and linguistic contexts.
- To identify directions for strengthening the evidence base and implementation of multilingual pedagogy to improve learning outcomes for linguistically diverse student populations.

RESEARCH METHODOLOGY

This paper adopts a descriptive-analytical research methodology, drawing on peer-reviewed empirical research published in journals including *TESOL Quarterly* and the *International Journal of Educational Development*, working papers presented at recognised economics conferences, nationally representative survey reports from the ASER Centre and Pratham Education Foundation, and government policy documentation on the National Education Policy 2020. Particular weight is given to studies employing rigorous quantitative methodologies, including instrumental variable and difference-in-differences approaches, to assess causal relationships between language of instruction and learning outcomes, alongside large-sample empirical studies of reading skills among Indian primary schoolchildren. The study does not involve new primary data collection; it synthesises existing empirical and policy literature into an evidence-based account

of language barriers and learning outcomes in Indian multilingual classrooms.

THE SCALE OF INDIA'S LEARNING CHALLENGE (ASER SURVEYS)



LITERATURE REVIEW

The literature on language barriers and learning outcomes in Indian multilingual classrooms converges around several interconnected themes: the documented scale of India's foundational learning crisis, empirical evidence on the relationship between home language, language of instruction, and literacy outcomes, rigorous evaluation evidence on multilingual education interventions, and the policy framework, both historical and current, governing language of instruction in Indian schools.

The foundational empirical backdrop for this literature is provided by the Annual Status of Education Report, a nationwide, citizen-led household survey conducted annually since 2005 by the Pratham Education Foundation, covering rural districts across India and assessing the reading and arithmetic abilities of hundreds of thousands of children through direct, in-home assessment rather than school-based testing. Reporting on the ASER 2022 survey documents that only 20.5 percent of Class 3 children in rural government and private schools combined could read a Class 2-level text, a decline of nearly seven percentage points from the 27.5 percent recorded in the pre-pandemic ASER 2018 survey, a decline widely attributed to pandemic-related school closures. Subsequent ASER 2023 findings, as reported by IndiaTomorrow and SleepyClasses' UPSC-focused analysis, documented that approximately 25 percent of children aged 14 to 18 remained unable to read a simple Class 2-level text in their own regional language, with only 57.3 percent demonstrating the ability to read simple English sentences and even fewer demonstrating comprehension of what they read. The most recent ASER 2024 survey, covering, according to Drishti IAS's reporting, 17,997 villages across 605 rural districts and reaching over 649,000 children, documented a measure of post-

pandemic recovery, with the proportion of Class 3 government school students able to read a Class 2-level text rising from 16.3 percent in 2022 to 23.4 percent in 2024, though this figure remained below pre-pandemic 2018 levels in absolute terms. Notably, state-level analysis within ASER 2024, as summarised by iDreamEducation, specifically attributes strong relative performance in certain states to language-related factors, with Kerala's leadership in rural foundational literacy attributed in part to consistent vernacular medium education in Malayalam, and Tamil Nadu's educational gains attributed specifically to its emphasis on mother-tongue instruction.

Building on this descriptive survey evidence, a substantial body of more targeted empirical research has examined the specific relationship between language of instruction, home language background, and literacy outcomes among Indian schoolchildren. A study published in *TESOL Quarterly* by Vogelzang, Tsimpli, Balasubramanian, Panda, Alladi, Reddy, Mukhopadhyay, Treffers-Daller, and Marinis examined reading skills and reading comprehension among 1,272 Indian primary schoolchildren from low socioeconomic status households, administering the ASER literacy assessment task in both the children's regional majority language and in English. The study's key finding, corroborated across its published version in *TESOL Quarterly* and its preprint archived through the University of Reading's CentAUR repository, was that minority language speakers from monolingual households, who do not receive instruction in their mother tongue, significantly underperform relative to majority language speakers when reading in the majority regional language, while children growing up in multilingual households showed improved performance specifically when reading in English, suggesting a differentiated and language-context-dependent relationship between multilingualism, mother tongue instruction, and literacy outcomes rather than a uniform advantage or disadvantage. The study situates its findings within a broader body of international research, including work by Babayigit and Shapiro, Ball, and Ouane and Glanz, consistently documenting lower learning outcomes among children not educated in a familiar or home language, while noting that the specific empirical relationship between mother tongue education and literacy development had, prior to this study, remained largely unexamined within the Indian population specifically.

The most methodologically rigorous evidence on the causal impact of mother tongue-based multilingual education in the Indian context comes from a working paper presented at the Annual Conference on Economic Growth and Development, examining the impact of mother tongue instruction on academic performance using nationally representative ASER data within an instrumental variable framework, complemented by a detailed case study of Odisha's Multilingual Education programme. This programme, as documented in the study, was

implemented by the Odisha state government in a phased manner across seventeen tribal districts between 2008 and 2013, introducing mother tongue-based instruction for tribal-language-speaking children in the early years of schooling. The study exploits this phased, staggered implementation using a difference-in-differences methodology, comparing academic performance data from the 2007 and 2014 rounds of the ASER survey between districts that received the mother tongue programme earlier versus later in the phased rollout, a quasi-experimental design that allows for stronger causal inference than simple cross-sectional comparison. This combination of nationally representative instrumental variable estimation and a state-level natural experiment represents a methodologically distinctive contribution to the Indian language-in-education literature, moving beyond descriptive association toward more rigorous causal assessment of mother tongue instruction's impact on measured learning outcomes.

A further significant strand of the literature examines the specific policy framework through which India has sought to address its linguistic diversity in education, tracing developments from the historically established three-language formula, under which, as documented in the ISID working paper's policy background, students in Hindi-speaking states were recommended to learn Hindi, English, and a modern language, preferably a South Indian language, while the formula envisioned a parallel structure for non-Hindi-speaking states, through to the substantially reinforced mother tongue emphasis articulated in the National Education Policy 2020. Analysis published in a 2025 article in the SAGE journal examining the policy-to-practice trajectory of NEP 2020's multilingual education provisions documents that the policy advocates for instruction in the mother tongue or local language until at least Grade 5, with the explicit aim of improving educational outcomes and promoting inclusivity, but finds that implementation "has been slow and uneven due to logistical challenges, resource limitations, and societal preferences for English as the primary medium of instruction." This finding is substantially corroborated by a study published in the *African Journal of Biomedical Research* examining the role of multilingual education in enhancing learning outcomes within the NEP 2020 framework, which, drawing on secondary analysis of government reports and academic studies, found that multilingual education, and specifically mother tongue instruction during the early years of schooling, is associated with enhanced student comprehension and retention in the Indian context, while simultaneously identifying inadequate teacher training and resource limitations as significant barriers constraining the policy's effective implementation on the ground.

Taken together, this literature demonstrates a broadly consistent empirical pattern: language of instruction and its alignment

with a child's home language is a measurable and, in the case of the Odisha Multilingual Education programme, causally evidenced contributor to learning outcomes in Indian classrooms, with particularly pronounced effects for children from linguistic minority and tribal backgrounds. At the same time, the literature consistently identifies a substantial and persistent gap between the mother tongue-oriented policy framework now articulated at the national level through NEP 2020 and the practical realities of classroom-level implementation, shaped by resource constraints, teacher preparedness, and continuing social demand for early English-medium instruction.

The Scale of India's Learning Outcomes Challenge

Table 1 summarises key ASER survey findings on foundational reading ability among Indian schoolchildren across recent survey rounds, illustrating both the persistence of the learning outcomes gap and recent signs of partial recovery.

Table 1: ASER Survey Findings on Class 3 Reading Ability (Percentage Able to Read a Class 2-Level Text, Rural India)

Survey Year	Class 3 Reading Ability (%)	Notable Context
2012	21.4	Baseline pre-decline level
2018	27.5	Pre-pandemic peak
2022	20.5	Sharp decline attributed to pandemic school closures
2024	23.4 (govt. schools)	Partial post-pandemic recovery, still below 2018 level

Source: compiled from ASER Centre/Pratham Foundation reports as summarised in Careers360 (2023) and Insights on India (2025) reporting on ASER 2022 and ASER 2024.

Language of Instruction and Literacy Outcomes: Empirical Evidence

Table 2 summarises the principal empirical findings from the peer-reviewed and working-paper literature reviewed above regarding the relationship between language background, mother tongue instruction, and measured learning outcomes among Indian schoolchildren.

Table 2: Summary of Key Empirical Findings on Language and Learning Outcomes in India

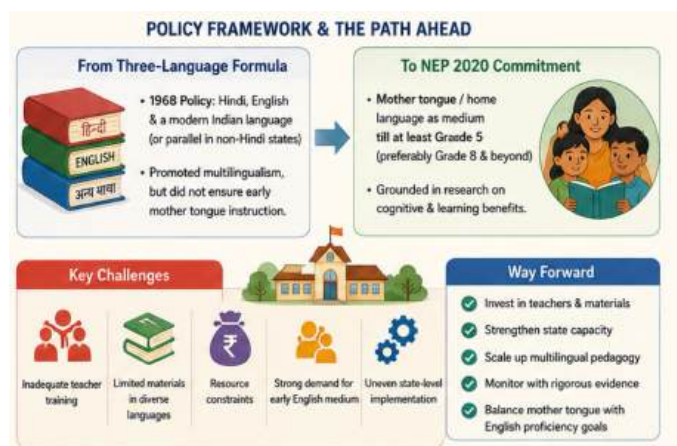
Study	Method	Key Finding
Vogelzang et al. (2025), TESOL Quarterly	Large-sample reading assessment (n=1,272), low-SES households	Minority language speakers without mother tongue education underperform majority language speakers when reading in the majority language; multilingual

		household background improves English reading performance
Odisha MLE evaluation (ISID working paper)	Difference-in-differences using phased 2008–2013 rollout across 17 tribal districts; instrumental variable analysis on national ASER data	Mother tongue instruction associated with measurable improvement in academic performance among tribal-language-speaking children
African Journal of Biomedical Research (2024)	Secondary analysis of government reports and academic studies within NEP 2020 framework	Mother tongue instruction in early years linked to enhanced comprehension and retention; implementation constrained by teacher training and resource gaps
SAGE journal, Singh (2025)	Policy analysis of NEP 2020 implementation	Mother tongue policy emphasis undermined by slow, uneven implementation and societal preference for English medium

Source: compiled by the author from the literature reviewed in this paper.

Policy Framework: From the Three-Language Formula to NEP 2020

India's language-in-education policy has historically been structured around the three-language formula, first articulated in the 1968 National Policy on Education, under which students in Hindi-speaking states were expected to study Hindi, English, and a modern Indian language, typically a South Indian language, while students in non-Hindi-speaking states were expected to study their regional language, Hindi, and English. This framework, while nominally promoting multilingual competence, did not specifically mandate mother tongue instruction in the early years of schooling for children whose home language differed from the dominant regional or state language, a gap of particular consequence for tribal and linguistic minority communities. The National Education Policy 2020 substantially strengthens this earlier framework by explicitly advocating that, wherever possible, the medium of instruction until at least Grade 5, and preferably until Grade 8 and beyond, should be the child's home language, mother tongue, or local or regional language, a provision explicitly grounded, according to the policy's own text as summarised in prior government documentation, in research evidence regarding the cognitive and learning benefits of early instruction in a familiar language.



DISCUSSION AND ANALYSIS

The evidence reviewed in this paper reveals a clear and empirically substantiated relationship between language barriers and learning outcomes in Indian classrooms, with the strongest causal evidence, drawn from the Odisha Multilingual Education programme's phased, quasi-experimental rollout, supporting the effectiveness of mother tongue-based instruction specifically for children from tribal and linguistic minority backgrounds whose home language differs from the dominant language of regional schooling. The large-sample reading assessment evidence reviewed further nuances this picture, indicating that the relationship between multilingualism and literacy outcomes is not uniformly positive or negative but depends on the specific alignment, or misalignment, between a child's home language environment and the language in which literacy is being assessed, with minority language speakers from monolingual households facing particular disadvantage in the absence of mother tongue instructional support.

At the same time, the persistent learning outcomes gaps documented across successive ASER survey rounds, notwithstanding the substantial mother tongue policy commitment articulated in NEP 2020, indicate that language-of-instruction policy alone cannot resolve India's foundational learning crisis without corresponding investment in teacher training, instructional materials in diverse languages, and sustained implementation support. The literature's consistent identification of "societal preferences for English as the primary medium of instruction" as a significant barrier to mother tongue policy implementation further points to a tension between the empirically evidenced pedagogical benefits of early mother tongue instruction and parental and community demand for early English exposure, driven by its perceived economic value, a tension that policy implementation will need to navigate carefully rather than resolve through top-down mandate alone. State-level variation, exemplified by the relatively strong

literacy outcomes documented in Kerala and Tamil Nadu, both states with sustained institutional commitment to vernacular or mother tongue instruction, alongside continued underperformance in other states, suggests that sustained state-level institutional commitment, rather than national policy pronouncement alone, is likely to be decisive in determining whether India's mother tongue education ambitions translate into measurable improvements in learning outcomes at scale.

CONCLUSION

Language barriers constitute a significant and empirically documented contributor to learning outcomes disparities in Indian multilingual classrooms, particularly affecting children from tribal and linguistic minority backgrounds whose home language differs from the language of school instruction. The most rigorous available evidence, drawn from Odisha's phased Multilingual Education programme, supports the effectiveness of mother tongue-based instruction in improving measured academic performance, a finding consistent with the broader international research literature on language and early literacy development. India's National Education Policy 2020 represents a substantial national-level policy commitment to mother tongue instruction in the early years of schooling, building on the historical three-language formula, yet the available evidence indicates that implementation of this commitment remains slow, uneven, and constrained by resource limitations, teacher preparedness gaps, and continuing social demand for early English-medium education. Closing the persistent learning outcomes gap documented across successive ASER survey rounds will likely require not only continued policy commitment to mother tongue instruction, but substantial, sustained investment in teacher training, multilingual instructional materials, and state-level implementation capacity, informed by the kind of rigorous, causally grounded evaluation evidence that studies such as the Odisha Multilingual Education programme assessment have begun to provide.

REFERENCES

- [1] Vogelzang, M., Tsimpli, I.M., Balasubramanian, A., Panda, M., Alladi, S., Reddy, A., Mukhopadhyay, L., Treffers-Daller, J., and Marinis, T., "Effects of Mother Tongue Education and Multilingualism on Reading Skills in the Regional Language and English in India," *TESOL Quarterly*, 59 (2025): 448-485.
- [2] Holla, Chinmaya, et al., "Impact of Mother Tongue Instruction on Academic Performance," Working Paper, Annual Conference on Economic Growth and Development (ACEGD), Indian Statistical Institute Delhi, isid.ac.in.
- [3] Singh, Akhil Kumar, "From Policy to Practice: Challenges and Pathway for Advancing Multilingual Education Through India's National Education Policy 2020," SAGE journal article, 2025.
- [4] Acharya, Raghav, et al., "The Role of Multilingual Education in Enhancing Learning Outcomes," *African Journal of Biomedical Research*, 27(4s) (2024).

- [5] ASER Centre and Pratham Education Foundation, Annual Status of Education Report (ASER) 2022, 2023, and 2024, asercentre.org.
- [6] Drishti IAS, "ASER 2024 and Elementary Education," drishtiiias.com.
- [7] Ministry of Education, Government of India, National Education Policy 2020, approved by the Union Cabinet, 29 July 2020.
- [8] Alcott, B., and Rose, P., "Learning in India's Primary Schools: How Do Disparities Widen Across the Grades?," *International Journal of Educational Development*, 56 (2017): 42–51.
- [9] Careers360, "ASER Report 2022: Only 20.5% of Class 3 Children Can Read a Class 2 Textbook in Rural Areas," news.careers360.com, 2023.

