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Mother Tongue Matters: A Scoping Review and Secondary-Data Synthesis of Mother-Tongue-Based Multilingual Education for Ho Tribal Children in Elementary Schools of Mayurbhanj and Keonjhar, Odisha, under NEP 2020

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Abstract

Mother-tongue-based multilingual education (MTB-MLE) is a central component of India's National Education Policy (NEP) 2020, yet evidence on its implementation and effects for particular tribal language communities remains uneven. This scoping review and secondary-data synthesis examines MTB-MLE for Ho tribal children in government elementary schools in Mayurbhanj and Keonjhar districts of Odisha. Following a PRISMA-ScR-informed approach, the review synthesizes peer-reviewed and grey literature, official policy documents, program records, and education statistics sources. The evidence indicates that Odisha's MLE program includes Ho, begins instruction in the child's mother tongue, and follows a planned transition from Ho to Odia and English. Program-level evaluations report positive associations between MLE and achievement, attendance, participation, and classroom engagement, but these findings are not Ho-specific and cannot establish causal effectiveness for Ho children. Implementation evidence identifies delayed materials, uneven teacher preparation, attendance constraints, parental attitudes, and weak monitoring as recurring barriers. A further finding is that official Ho MLE materials are reported to use the Odia script, whereas the role of Warang Chiti in formal schooling remains under-evidenced. The review concludes that policy inclusion alone does not demonstrate educational benefit; credible evaluation requires Ho-disaggregated school records, learning assessments, classroom observation, and community-participatory research.

Keywords: mother-tongue-based multilingual education; Ho language; Warang Chiti; tribal education; NEP 2020; Odisha; elementary education

1. INTRODUCTION

Language is central to the way children enter, understand, and participate in schooling. For many tribal children in India, the first years of school involve not only learning new content but also negotiating a sudden shift from a familiar home or community language to a school language that may be poorly understood. This linguistic discontinuity can affect comprehension, classroom participation, confidence, attendance, and eventual continuation in education. The National Education Policy (NEP) 2020 recommends 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, local language, or regional language (Ministry of Education, 2020). Odisha occupies an important place in India's multilingual education landscape. The state recognizes 22 tribal languages and has implemented a Mother-Tongue-Based Multilingual Education (MTB-MLE) program since 2006-07, beginning with ten tribal languages and later expanding to 21 languages across 17 districts (NITI for States, 2025). Ho was incorporated into the program in 2013-14. The program is designed to begin instruction in the child's mother tongue and to introduce Odia and English gradually, with Ho retained as a subject through Class V.

This article focuses on Ho tribal children in the Mayurbhanj and Keonjhar districts of Odisha, where Ho is among the tribal languages included in the state's MLE program. It examines the extent to which MTB-MLE has been implemented in alignment with NEP 2020, reviews evidence on its educational effects, and identifies the institutional, pedagogical, and community-related challenges that shape its sustainability. The article is a scoping review with secondary-data synthesis; it does not report new fieldwork and therefore does not claim to measure current Ho-specific classroom practice or learning outcomes directly.



Fig. 1. *One of the MLE schools in Ghatagaon Block, Kendujhar District, Odisha, India.*

The article addresses three research questions:
(1) How is MTB-MLE implemented for Ho tribal children in Odisha in alignment with NEP 2020?
(2) What evidence exists on the effects of mother-tongue instruction on learning outcomes, classroom engagement, and retention among Ho tribal children at the elementary level?
(3) What challenges do educators, administrators, and communities face in adopting and sustaining multilingual education for tribal learners?

2. RESEARCH PROBLEM AND SIGNIFICANCE

Tribal education in Odisha has historically been shaped by unequal access, socio-economic vulnerability, geographical isolation, and a mismatch between home and school languages. Although access to schools and enrollment rates improved under programs such as the District Primary Education Programme and Sarva Shiksha Abhiyan, tribal children continued to face high dropout rates and comparatively low achievement levels (Mohanty, 2018). Odisha's MLE program was developed in response to this problem. It sought to connect schooling with children's cultural and linguistic worlds by using tribal languages as media of instruction, developing culturally relevant materials, and drawing on community knowledge (Mohanty, 2015). The program began in 2006-07 in ten tribal languages and later expanded to 21 languages across 17 districts. Despite this institutional commitment, three problems remain. First, much of the evaluation evidence concerns MLE across multiple tribal languages rather than Ho children specifically. Second, district-level evidence for Mayurbhanj and Keonjhar is limited, and comparable Ho-disaggregated indicators are not readily available in the sources reviewed. Third, the role of Warang Chiti in formal Ho-medium education remains unclear, particularly because official Ho MLE materials are reported to use the Odia script. The significance of this study lies in its effort to distinguish policy inclusion from verified educational effectiveness. A language may be named in a state MLE policy, textbooks may be developed, and teachers may be appointed; yet these facts do not by themselves demonstrate that children experience meaningful mother-tongue instruction, receive adequate materials, or achieve better educational outcomes.

3. POLICY CONTEXT

NEP 2020 places multilingualism at the centre of foundational learning. Paragraph 4.11 states that young children learn non-trivial concepts more quickly in their home language or mother tongue and recommends mother-tongue instruction at least until Grade 5, preferably until Grade 8 and beyond (Ministry of Education, 2020). The policy also encourages bilingual teaching-learning materials where children's home language differs from the school's medium of instruction (Press Information Bureau, 2025). This policy direction is consistent with India's constitutional commitment under Article 350A, which directs the state to provide adequate facilities for mother-tongue instruction at the primary stage for linguistic-minority children (Press Information Bureau, 2025). The Right of Children to Free and Compulsory Education Act, 2009 similarly provides that, as far as practicable, the medium of instruction shall be in the child's mother tongue (Press Information Bureau, 2020). Odisha's MLE program predates NEP 2020 but aligns closely with its language provisions. The program began in 2006-07 with 10 tribal languages and later expanded to 21 languages, including Ho, from 2013-14. A state MLE policy was approved in 2014-15, providing an institutional basis for MTB-MLE before NEP 2020 was announced.

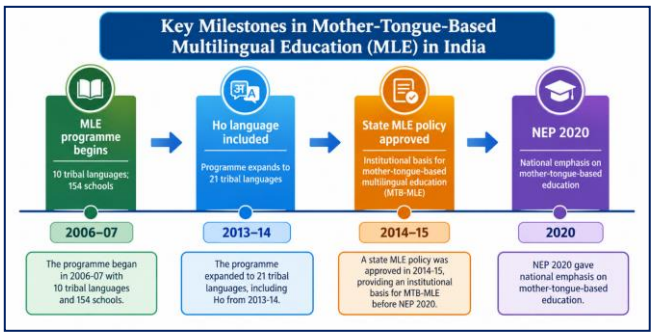


Fig. 1. *Development of Odisha's MTB-MLE program and alignment with NEP 2020. Source: Author's compilation from NITI Aayog for States (2025) and the Ministry of Education (2020).*

4. THEORETICAL AND CONCEPTUAL FRAMEWORK

The review uses three complementary perspectives. First, cumulative-affordance theory treats a child's home language as an instructional resource rather than an obstacle. In this view, Ho enables children to understand concepts, participate orally, build literacy, and then learn Odia and English more effectively. NEP 2020 reflects this logic by positioning the mother tongue as the foundation for later multilingual learning (Ministry of Education, 2020).

Second, an ecological systems perspective recognizes that educational outcomes are produced through interactions among children, families, teachers, schools, communities, district administration, and state policy. A child's ability to benefit from Ho-medium instruction depends not only on curriculum design but also on teacher availability, material supply, parental support, attendance conditions, and school governance.

Third, culturally sustaining pedagogy emphasizes that schooling should sustain children's languages, identities, and community knowledge rather than use the home language only as a temporary bridge. This perspective is particularly relevant to Warang Chiti, which has cultural and identity significance for Ho communities even where its formal curricular role remains limited (Tribal Education in Odisha, 2023).
The conceptual framework therefore links policy commitment to classroom practice through four mediating conditions: Ho-language teacher capacity,

availability of culturally relevant materials, community participation, and monitoring or supervision. These conditions, in turn, influence comprehension, engagement, attendance, learning outcomes, and retention.

5. METHODOLOGY

5.1 Review design

This article uses a scoping review with secondary-data synthesis. A scoping review is appropriate because the evidence base is heterogeneous, includes peer-reviewed and grey literature, and does not yet permit a focused systematic review or meta-analysis of Ho-specific outcomes. The review follows PRISMA-ScR principles by documenting the search strategy, eligibility criteria, screening process, data-charting approach, and evidence limitations.

5.2 Search strategy

We searched publicly accessible academic and government sources, including Google Scholar, Semantic Scholar, Open Alex, ERIC, government portals, UDISE+ publications, NITI for States, and Odisha government documents. The core search string combined terms for mother-tongue-based multilingual education, the Ho language, Warang Chiti, tribal/Adivasi/indigenous populations, Odisha/Mayurbhanj/Keonjhar, and elementary education. A supplementary search addressed NEP 2020, UDISE+, enrollment, dropout, retention, and learning outcomes.

5.3 Specifications

We included studies that addressed MTB-MLE, mother-tongue instruction, tribal-language schooling, Ho language, Warang Chiti, or Odisha's tribal MLE program; focused on elementary education or foundational learning; and were published as peer-reviewed research, official policy or evaluation reports, credible grey literature, or doctoral research. We excluded sources that were unreviewed opinion pieces, duplicates, or claims without verifiable methods or data.

5.4 Data extraction and synthesis

Data were extracted into a matrix covering author or source, year, context, objectives, methodology, sample or data, findings, limitations, and relevance to the present study. We retained quantitative indicators only when we could identify their source, reference period, unit of analysis, and geographical coverage. Qualitative and program evidence were synthesized thematically under implementation, outcomes, barriers, and community participation. Because the included studies differ in design, population, language focus, and outcome measures, no meta-analysis was conducted.

6. FINDINGS

6.1 Implementation of Ho-medium MLE

Odisha's MLE program provides the principal institutional structure for Ho-medium elementary education. The program began in 2006-07 with ten tribal languages and expanded to 21 languages across 17 districts; Ho was added in 2013-14. The program operates in Mayurbhanj and Keonjhar, both of which are included among the 17 MLE districts.

The program's stated model covers Classes I-V. In Class I, Ho is used as the full medium of instruction, with oral and written introductions of Odia. By Class III, mathematics and environmental studies continue in Ho, while Odia becomes a language subject and English is introduced orally and in writing. By Class V, Ho remains a subject, mathematics is taught in Odia, and environmental studies are taught in Odia.

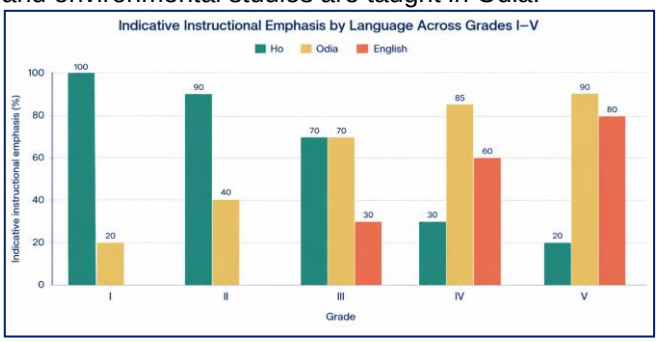


Fig. 2. *Odisha MLE language-transition model, Classes I-V. Source: Author's visualization based on NITI for States (2025).*

This staged model is broadly consistent with NEP 2020, which recommends mother-tongue instruction at least until Grade 5 and preferably longer (Ministry of Education, 2020). Importantly, the Odisha model does not treat Ho only as a transitional bridge: Ho remains a curricular subject through Class V. Official documentation reports that Class I-III textbooks were developed for Phase II languages, including Ho, and that supplementary materials were developed for Classes I-II in 21 tribal languages. However, the documentation does not provide current Ho-specific school counts, teacher deployment, or textbook-distribution data for Mayurbhanj and Keonjhar.

6.2 Learning outcomes, engagement, and retention

The strongest available outcome evidence comes from programme-level evaluations of Odisha's MLE programme. Panda, Mohanty, Nag, and Biswabandan's longitudinal study of MLE in Andhra Pradesh and Odisha reported positive effects on classroom achievement, attendance, participation, and teacher and community attitudes (Panda et al., 2011). A separate NCERT evaluation of MLE in Odisha also reported positive findings. Program documentation summarizes these evaluations as showing better achievement among MLE-school children than non-MLE-school children in language and mathematics, including oral, written, and total test scores. The same documentation reports increased attendance, retention, engagement, confidence, and classroom participation in MLE classrooms.

These findings are important because they suggest that mother-tongue instruction may support not only

language learning but also broader academic and participatory outcomes. However, they cannot be treated as evidence specific to Ho. The evaluations covered multiple tribal languages and program sites, and the retrieved summaries do not isolate Ho children in Mayurbhanj or Keonjhar.

A district-level study in Harichandanpur and Ghatagaon blocks of Kendujhar, and Kusumi and Jashipur in Mayurbhanj, provides a more cautious local picture. Based on 170 students in 12 schools, including 10 MLE and 2 non-MLE schools, the study found positive perceptions of MLE among teachers and students but no statistically significant difference in achievement between MLE and non-MLE students. The study also identified delayed materials, training constraints, attendance problems, and parental attitudes as implementation challenges. Taken together, the evidence supports a moderate claim: MLE is associated with favourable program-level outcomes in some evaluations, but Ho-specific effectiveness in Mayurbhanj and Keonjhar remains unestablished.

6.3 Teacher capacity, materials, and classroom practice

Teacher capacity and material availability emerge as decisive conditions for implementation. The MTELP+ evaluation, although focused on early-childhood settings rather than elementary classrooms, found that training, classroom processes, child-friendly environments, and use of the mother tongue improved when teachers received structured support. It recommended refresher training, contextual teaching-learning materials, mentoring, and stronger parental engagement (Jamia Millia Islamia, 2019).

The Mayurbhanj study similarly identifies delayed receipt of materials and inadequate teacher preparation as barriers to effective MLE. Program documentation reports efforts to recruit language teachers, including engaging 3,400 Shiksha Sahayaks across 20 languages and 15 districts, as well as 242 language instructors in position. However, these figures are program-wide and do not reflect Ho-specific staffing levels. This implies that Ho-medium education depends on more than curriculum documents. Schools require Ho-proficient teachers, timely Ho materials, academic mentoring, and realistic support for classrooms where children may vary in language proficiency.

6.4 Warang Chiti and cultural sustainability

Ho is associated with Warang Chiti, a script of cultural and linguistic importance to Ho communities. Ho-focused education literature recommends scaling Ho-language materials, recruiting Ho-speaking teachers, institutionalizing Warang Chiti where appropriate, and strengthening Ho representation in School Management Committees.

A significant finding of this review, however, is that official Odisha MLE documentation reports that Ho textbooks and transaction materials use the Odia script, whereas Santali materials use Ol Chiki. This means that, based on the available evidence, Warang Chiti cannot currently be described as the script of Odisha's formal Ho MLE textbooks.

This does not diminish the cultural importance of Warang Chiti. Rather, it identifies a precise empirical gap: future research should examine whether Warang Chiti is used in community literacy, supplementary materials, or classroom practice, and whether its use affects children's literacy development, identity, and engagement.

6.5 Community participation and institutional support

Odisha's MLE program includes several mechanisms intended to connect schools with tribal communities. These include a Tribal Education Coordinator in each district SSA office, DIET-based academic support, District Resource Groups comprising community members and language experts, and the Srujan program.

Srujan connects local stories, music, crafts, games, festivals, and village projects with schooling. Program documentation describes it as a means of promoting enrollment and retention by making education culturally meaningful. Nevertheless, the available evidence describes these structures rather than evaluates their functioning.

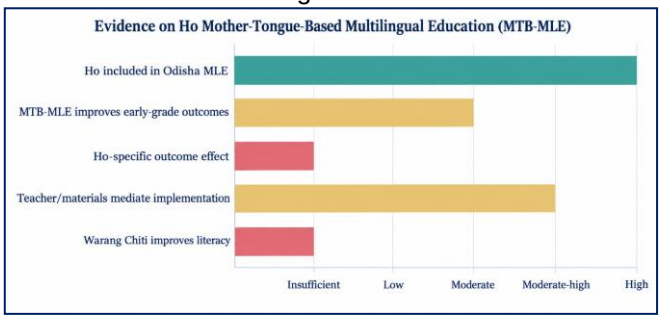


Fig. 3. *Evidence-certainty assessment for key claims. Source: Author's assessment based on the reviewed literature and program documentation.*

7. DISCUSSION

The findings support a nuanced interpretation of MTB-MLE for Ho children. At the policy level, Odisha's program aligns well with NEP 2020: it uses the child's mother tongue as the initial medium of instruction, gradually introduces additional languages, and retains Ho as a subject through Class V. This alignment matters because it provides an institutional foundation for linguistically responsive elementary education.

At the evidence level, however, the review finds a clear distinction between policy inclusion and demonstrated effectiveness. Programme-level evaluations report positive effects on achievement, attendance, participation, and engagement, but these results are not Ho-specific. The Mayurbhanj block study, while geographically relevant, found no

significant achievement difference in its small sample. Therefore, the most defensible conclusion is that MLE is promising but not yet proven effective for Ho children in the two study districts. The barriers identified across sources are consistent: delayed or inadequate materials, uneven teacher preparation, attendance constraints, parental attitudes, and weak monitoring. These barriers suggest that the critical implementation question is not simply whether Ho appears in policy, but whether Ho-medium classrooms receive the human and material resources needed to function well.

The *Warang Chiti* finding is especially important. If official Ho materials use the Odia script, then claims that Warang Chiti is already embedded in formal MLE provision would be unsupported. At the same time, the cultural significance of *Warang Chiti* means that its exclusion from formal materials should not be interpreted as cultural irrelevance. Instead, it highlights the need for community-led decisions about script use, orthography, materials development, and assessment.

8. IMPLICATIONS

8.1 Policy implications

First, Odisha should publish current, district-wise, and preferably school-level data on Ho-medium MLE schools, teachers, materials, and enrollment. Second, teacher-development systems should prioritize Ho language proficiency, multilingual pedagogy, and continuous mentoring. Third, material supply should be monitored as an implementation indicator. Fourth, decisions about Warang Chiti should be made through consultation with Ho language experts, teachers, parents, and community institutions.

8.2 Research implications

Future research should move beyond general tribal MLE evaluations toward Ho-disaggregated designs. Priority studies include longitudinal tracking of Ho children's attendance and progression; classroom observation of language use; assessment of Ho, Odia, and mathematics learning; and qualitative research with teachers, parents, and community members.

9. LIMITATIONS

This review has several limitations. First, it relies on publicly accessible sources; proprietary databases and some government records may contain additional evidence. Second, the retrieved MLE program document is undated, so its school, teacher, and material figures should be treated as historical program snapshots unless confirmed against a dated original.

Third, we accessed the NCERT evaluation and Panda et al. study through summaries and secondary references rather than the full original reports; therefore, Ho-specific results, instruments, and effect sizes require verification before publication. Fourth, this review extracted no current Ho-specific UDISE+ indicators, so it makes no claims about current Ho enrollment, attendance, or retention in the two districts.

Finally, because this is a review rather than fieldwork, it cannot assess current classroom practice, teacher language proficiency, material availability, or community perceptions in Ho-speaking schools.

10. CONCLUSION

Mother tongue matters for Ho tribal children because it shapes whether schooling begins in a language children understand and whether education affirms their linguistic and cultural identity. Odisha's MLE program provides a credible institutional foundation for Ho-medium elementary education, and its staged transition model is broadly consistent with NEP 2020. However, the available evidence does not yet demonstrate that Ho-medium MLE improves learning outcomes, engagement, or retention for Ho children in Mayurbhanj and Keonjhar. Programme-level evaluations are encouraging, but they are not Ho-specific; local evidence from Mayurbhanj is cautious and limited in scale. The most important next step is therefore not further repetition of general claims about MLE but rigorous, Ho-disaggregated, community-engaged research on implementation and outcomes.

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