



THE MARGINALIZATION OF REGIONAL MEDIUMS: A SYSTEMATIC ANALYSIS OF THE CAUSES BEHIND THE ATTRITION OF ODISIA AS A MEDIUM OF INSTRUCTION AND ITS SOCIO-COGNITIVE EFFECTS ON STUDENTS

***Dr. Nirupama Nayak ** Dr. Saroj Kumar Nayak**

** Asst Professor in Odia, Mpc Autonomous College, Baripada Odisha*

Email: Nirupamasaroj@Gmail.Com

*** Asst Professor in Chemistry, Mpc Autonomous College, Baripada Odisha*

Email: Sarojniru@Gmail.Com ,

Paper Received On: 21 FEBRUARY 2026

Peer Reviewed On: 25 MARCH 2026

Published On: 01 APRIL 2026

Abstract

In the contemporary landscape of Indian education, regional languages increasingly battle institutional, socio-economic, and structural marginalization. Despite being recognized as the sixth classical language of India with a rich literary history, Odia faces systemic attrition as a primary medium of instruction (MoI) within school curricula. This study provides a systematic analysis of the socio-economic, political, and institutional dynamics triggering this displacement, while evaluating its deep-seated socio-cognitive effects on young learners. Drawing from educational statistics, empirical research within the framework of the PASS (Planning, Attention, Simultaneous, and Successive) cognitive model, and linguistic policy outcomes, this paper demonstrates a stark paradox: while societal aspirations drive a structural pivot toward English-medium institutions, the displacement of the mother tongue (L_1) creates significant cognitive dissonance, fractured concept formulation, structural processing load, and socio-cultural alienation among regional-medium students. The paper concludes with actionable policy recommendations aligned with the National Education Policy (NEP) 2020 to remediate this expanding educational disparity.

Keywords: *Medium of Instruction, Odia Language Attrition, Socio-Cognitive Development, PASS Model, Linguistic Hegemony, Regional Medium Marginalization, Learning Poverty.*

1. Introduction

Language is not merely a passive tool for functional communication; it is an active repository of cultural epistemologies and the structural framework through which the human mind codes, stores, and decodes reality. In multi-lingual landscapes like India, the choice of the Medium of Instruction (MoI) in formal schooling plays a critical role in determining academic efficacy, classroom equity, and psychological development. When a child enters formal education, the linguistic medium through which they encounter structural concepts determines whether schooling becomes an empowering cognitive extension of their home environment or an alienating linguistic barrier. Historically, the state of Odisha reinforced Odia as its official administrative and educational language post-independence, recognizing that cultural and economic development must be grounded in native literacy. Landmark national frameworks,

including the National Policy on Education (NPE) 1986 and the Right to Education (RTE) Act 2009, strongly advocated for primary education in the child's mother tongue (L_1). These policies were backed by decades of psycholinguistic research proving that early childhood concepts are most resiliently formed when the language of instruction matches the language of internal thought. Yet, contemporary educational metrics highlight a stark, systemic shift. The prestige and operational domain of Odia-medium education are shrinking, overshadowed by an accelerated turn toward English-medium (L_2) private and budget institutions. This transition is not merely statistical; it reflects a deep shift in social aspirations, economic pressures, and institutional resource allocation.

This paper explores this phenomenon through a dual analytical lens:

1. **The Macro-Structural Causes:** Identifying why Odia is undergoing pedagogical attrition as a MoI, looking at political economy, state policy choices, and resource distribution.
2. **The Micro-Cognitive Outcomes:** Analyzing how this linguistic displacement affects structural concept formation, cognitive processing agility, and socio-emotional identity among students, particularly in transition phases.

2. Theoretical Framework and Literature Review

The intersection of language, education, and cognitive development has been analyzed through various sociolinguistic and psychological lenses. To understand the marginalization of regional mediums like Odia, we must combine sociolinguistic theories of "linguistic capital" with cognitive psychological models of information processing.

2.1 Bourdieu's Theory of Linguistic Capital and Language Hegemony

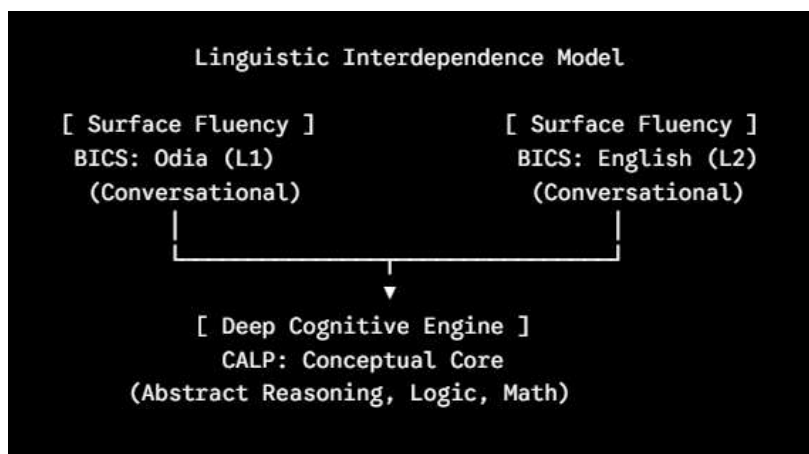
Pierre Bourdieu's concept of *linguistic capital* provides an essential framework for understanding the structural decline of regional languages. Bourdieu argues that language is not just a method of communication but an instrument of power. In any given society, certain languages or dialects are endowed with higher market value than others. In post-colonial India, English has successfully retained and expanded its status as the ultimate form of linguistic capital. It serves as the primary gateway to elite employment, technical expertise, international commerce, and higher education. Conversely, regional languages, regardless of their literary history or classical designation, have been localized and associated with lower economic returns. This economic hierarchy shapes educational preferences, turning the choice of medium of instruction into a competitive class strategy rather than an optimal pedagogical choice.

2.2 Cummins' Interdependence Hypothesis and Threshold Theory

Jim Cummins introduced two critical concepts that explain the cognitive mechanics of learning in a first versus a second language:

- **BICS (Basic Interpersonal Communicative Skills):** The surface-level conversational fluency required for everyday social interactions.
- **CALP (Cognitive Academic Language Proficiency):** The deep, structural linguistic capacity required to understand abstract, complex academic concepts.

Linguistic Interdependence Model



Cummins' **Interdependence Hypothesis** suggests that a student's sub-surface cognitive academic proficiency can transfer from one language to another, provided that the foundational language (L_1) is sufficiently developed. If a child does not reach an initial threshold of CALP in their native language before being thrust into an unfamiliar L_2 instruction model, they experience a form of academic arrest. They are forced to grapple with complex scientific or mathematical abstractions using a language in which they have not yet developed basic cognitive scaffolding.

2.3 The PASS Theory of Cognitive Processing

To evaluate the micro-level mental operations affected by this linguistic transition, this study employs the **PASS (Planning, Attention, Simultaneous, and Successive) Cognitive Model** developed by J.P. Das, John Naglieri, and Kirby.

- **Planning:** The executive function responsible for setting goals, selecting strategies, monitoring performance, and self-correction.
- **Attention:** The capacity to selectively focus on specific stimuli while inhibiting distracting or irrelevant inputs.
- **Simultaneous Processing:** The ability to integrate discrete pieces of information into a cohesive, interrelated whole or spatial pattern (critical for geometry, reading comprehension, and overarching scientific frameworks).
- **Successive Processing:** The faculty required to handle information presented in a strict serial or chronological sequence (essential for syntax, arithmetic operations, and phonological decoding).

By analyzing how language processing interacts with these four core cognitive pillars, we can objectively evaluate the hidden processing costs that regional-medium attrition imposes on young learners.

3. Macro-Structural Causes behind the Attrition of Odia as a MoI

The systematic marginalization of Odia-medium education is not an accidental cultural shift; it is driven by overlapping structural, economic, and institutional policy forces that systematically disincentivize regional-medium institutions.

3.1 The Political Economy of Marketable Language Capital

The primary structural driver of the shift away from regional mediums is the sharp divide in economic returns in the modern job market. English operates as the global *lingua franca* of technology, corporate employment, aviation, hospitality, and higher technical education.

In India, national-level competitive examinations for prestigious professional streams—such as the Joint Entrance Examination (JEE) for engineering and the National Eligibility cum Entrance Test (NEET) for medicine—are heavily centered on English text matrices. Even when these exams are offered in regional languages, the foundational study materials, coaching modules, and subsequent higher education textbooks are almost exclusively available in English. Consequently, middle-class and aspirational working-class parents view early English immersion not as a cultural choice, but as a critical economic survival strategy. This creates a highly competitive environment where Odia-medium institutions are implicitly associated with limited upward social mobility, causing enrolment numbers to drop.

3.2 Institutional Policies and the "Rationalization" of Government Schools

State-driven administrative policies have inadvertently hastened the decline of the regional-medium ecosystem. Under national optimization initiatives like the Sustainable Action for Transforming Human Capital in Education (SATH-E), public educational systems across several states have undergone structural consolidation. In Odisha, this manifested as the policy of school mergers and rationalization.

- **The Closure Cycle:** Public primary schools with low student enrollment numbers (often below 15 or 20 students) were systematically closed, and their student bodies were merged with larger, centrally located regional clusters. While intended to optimize resources, this policy ignored the underlying cause of low enrollment: the rapid growth of private English-medium budget schools or localized alternatives like *Saraswati Shishu Mandirs*.
- **Geographical and Social Dislocation:** These mergers disproportionately impacted rural, tribal, and marginalized communities. When a localized village primary school closes, young children are forced to travel greater distances across difficult terrain to attend school. For many families, this structural barrier leads to early dropouts, effectively reducing the active reach of the Odia-medium public school network.

3.3 Structural Resource and Quality Deficits

A clear qualitative divide exists between public regional-medium schools and private English-medium options. While the state infrastructure has shown improvements under recent development programs (such as the 5T School Transformation Initiative, which upgraded physical infrastructure, labs, and sports facilities), deep-seated instructional deficits remain.

- **Teacher Recruitment and Specialization Shortfalls:** Acute shortages of specialized subject teachers—particularly in Mathematics, physical sciences, and English language pedagogy—remain a challenge in remote rural pockets. The continued existence of single-teacher or dual-teacher primary schools compromises structured pedagogy.
- **The "English-Medium" Label Mirage:** In response to declining numbers, many public schools have attempted to introduce English-medium sections without updating their instructional capacity. Teachers who have spent decades teaching in Odia are suddenly required to instruct in English without receiving long-term linguistic training. This results in an ineffective hybrid model where neither language is taught with appropriate rigor.

4. Socio-Cognitive Effects on Students

When the language of the classroom is disconnected from the language of the home, a child's internal cognitive architecture and their external social identity undergo significant stress.

4.1 Cognitive Processing and Content Mastery: An Empirical Analysis

When a student is taught in an unfamiliar or semi-familiar language (L_2) before establishing a firm conceptual foundation in their first language (L_1), their cognitive faculties face a threefold burden. This can be expressed through a simple cognitive load framework:

$$\begin{aligned} \text{Total Cognitive Load} \\ &= \text{Task Comprehension } (L_2) + \text{Linguistic Decoding } (L_2) \\ &+ \text{Domain Mastery (Subject Content)} \end{aligned}$$

In a balanced, native-medium environment, the linguistic decoding factor is virtually automated, allowing the student's full working memory to focus on domain mastery. In an unscaffolded L_2 environment, a massive portion of the student's mental energy is consumed by the mechanical translation of vocabulary.

Cognitive Allocation Comparison			
Native-Medium Instruction Model (L1)			
[	Linguistic Decoding (Minimal)	]	[Subject Domain Mastery]
Premature Second-Language Model (L2)			
[	Linguistic Decoding	]	[Task Comp] [Subject Domain Mastery]

When evaluated using the PASS cognitive framework, these processing strains manifest as clear variations in performance:

Planning

Executive functions are disrupted when a student lacks the vocabulary to articulate a problem-solving strategy to themselves. In math and science reasoning, students from premature English-medium environments often struggle with self-monitoring. They fall back on memorizing procedural steps rather than adapting their strategies when a problem changes, because their internal verbal working memory is heavily taxed by language translation.

Attention

Linguistic exclusion directly impacts classroom engagement. When the instructional narrative flows in a language that exceeds the student's current comprehension threshold, their selective attention flags. The child enters a state of cognitive fatigue, leading to higher rates of distraction, restlessness, or passive disengagement during class.

Simultaneous Processing

Constructing abstract mental models requires a fluid grasp of language. For example, understanding the water cycle, ecosystem balances, or geometric proofs requires the integration of separate concepts into a single mental framework. When working in an unfamiliar language, students struggle to see these connections. They view items as isolated, fragmented facts to be memorized independently, rather than parts of a single, unified system.

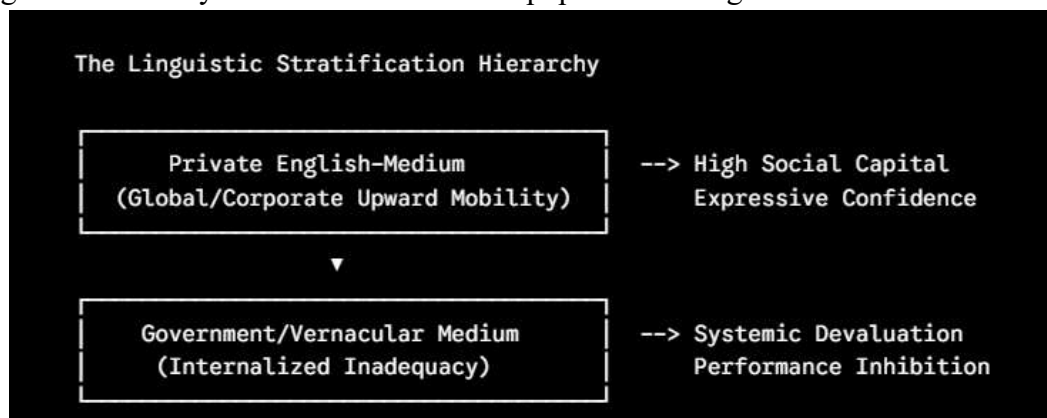
Successive Processing

Forced reliance on second-language instruction often overdevelops basic successive processing (rote serialization) at the expense of higher-order conceptualization. Students become highly skilled at reproducing exact textual definitions or blocks of text from memory without understanding the underlying concepts. This creates a surface appearance of academic

competence that falls apart when assessments require non-linear application or critical synthesis.

4.2 The Stratification of Social Identity and Linguistic Anxiety

The marginalization of Odia as a MoI has wider socio-cultural implications, creating a rigid linguistic hierarchy that divides the student population along class and institutional lines.



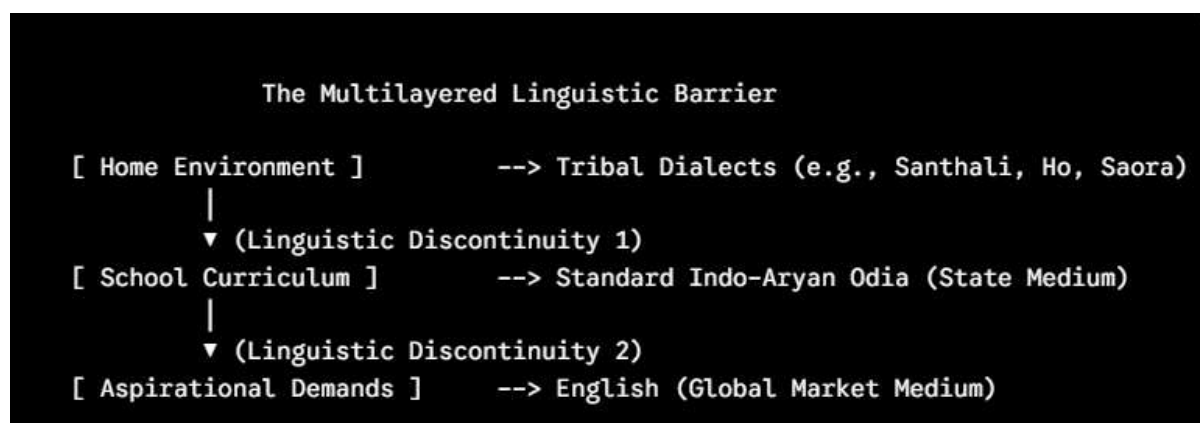
This structural division can be mapped across three distinct dimensions:

Dimension	English-Medium (L2) Cohorts	Odia-Medium (L1) Cohorts
Social Capital	High social prestige; perceived as modern, educated, and upwardly mobile.	Systemically devalued; frequently associated with lower socio-economic status.
Classroom Dynamics	Active articulation; high expressive confidence; lower fear of peer judgment.	High rates of expressive anxiety; extreme performance inhibition and fear of public speaking.
Cultural Continuity	Detached from regional literary, historical, and epistemological frameworks.	Grounded in localized culture but increasingly isolated from globalized discourses.

This structural divide creates a pervasive form of institutionalized linguistic anxiety. Students in regional-medium public schools frequently internalize a sense of academic or social inferiority when interacting with their English-medium peers. This anxiety inhibits spontaneous communication, creating a cycle of silence and withdrawal in multi-linguistic public spheres. Conversely, student cohorts pushed prematurely into English-only environments without adequate support systems face a different risk: **functional semi-lingualism**. They often fail to develop deep, expressive literacy in English while simultaneously losing the vocabulary and written fluency of their native language, leaving them without a robust linguistic home for complex thought.

5. Discussion: The Compounding Marginalization in Tribal Demographics

The structural issues surrounding regional-medium attrition become even more acute when examined within Odisha's unique demographic landscape, particularly in its tribal-dominated districts (such as Mayurbhanj, Rayagada, Koraput, and Keonjhar). For students in these regions, the language transition is not a simple choice between two languages; it is a complex, multi-layered linguistic barrier.



For a tribal child whose home environment is grounded in an Austro-Asiatic (e.g., Santhali, Ho) or Dravidian (e.g., Kui, Gondi) language family, standard school textbooks written in Indo-Aryan Odia already represent an unfamiliar second language. This initial transition requires substantial cognitive adjustment.

When the educational ecosystem shifts its emphasis from regional languages toward English, these students face a compounding linguistic barrier. They are forced to leap from a primary tribal dialect, past the regional state language, directly into a global language with completely different phonetic, syntactic, and cultural roots.

This double displacement compounds early learning poverty, increases primary school dropout rates, and alienates students from both their local cultural identity and the formal school environment. It demonstrates that any policy addressing medium of instruction must look closely at localized demographics to avoid turning language into a tool of institutional exclusion.

6. Policy Recommendations and Restructuring Strategies

To address this growing educational gap and balance the economic demand for English proficiency with the cognitive benefits of mother-tongue education, the state's educational framework requires structural changes in line with the National Education Policy (NEP) 2020.

6.1 Implementing Dual-Language Instructional Scaffolding

Schools should move away from strict monolingual models in favor of additive bilingual frameworks. In the foundational and preparatory stages of education (Grades 1 to 5), complex subjects like Mathematics and Environmental Sciences should be anchored in the student's primary language (L_1) to ensure solid concept formulation.

English should be introduced progressively as a specialized, high-utility language skill focusing on active communication, speech, and phonological clarity, rather than acting as an immediate gatekeeper for content comprehension. This approach protects early cognitive development while building long-term English proficiency.

6.2 Upgrading Vernacular Curricula and Technical Terminology

To restore prestige to regional-medium education, textbooks and digital learning resources must match modern pedagogical standards.

- **Dynamic Translation:** Vernacular text materials should be updated to replace archaic terms with clear, modern language that reflects contemporary usage.
- **Bilingual Technical Glossaries:** Science and mathematics textbooks should include bilingual glossaries that list terms in both Odia and English side-by-side. This format familiarizes students with global technical terms early on, easing their eventual

transition into higher education without compromising their immediate understanding of the concepts.

6.3 Addressing Language Processing in Teacher Training Programs

Teacher preparation programs must include specialized modules on language-in-education policies, psycholinguistics, and cognitive processing models like the PASS theory. Educators need to be trained to spot language-induced learning blocks, distinguishing between a student's lack of subject comprehension and a simple barrier in language decoding. Providing teachers with these diagnostic tools allows them to use flexible language strategies, like targeted code-switching, to resolve conceptual confusion in the classroom.

7. Conclusion

The systematic attrition of Odia as a medium of instruction is a complex structural challenge with deep socio-cognitive consequences for the student population. While the social and economic push for English fluency is a natural adaptation to a globalized job market, neglecting regional mediums creates substantial cognitive barriers, encourages rote learning, and worsens existing social inequalities.

True educational equity cannot be achieved by forcing an overnight linguistic transition that sidelines a child's foundational language. By restructuring our approach to treat the native language as a cognitive asset rather than an economic obstacle, the educational system can protect early cognitive development while preparing students to participate effectively in the wider global economy.

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