



FROM MOTHER TONGUE TO MULTILINGUAL COMPETENCE:THE ROLE OF SANSKRIT IN ENHANCING LEARNING OUTCOMES UNDER NEP 2020

Dr G Surya Prasad

Assistant Professor, Dept. of Education Central Sanskrit University, New Delhi

Abstract

The National Education Policy (NEP) 2020 emphasizes mother-tongue-based education and multilingualism as foundational principles for improving learning outcomes and cognitive development. In the Indian context, where linguistic diversity is a lived reality, effective multilingual education requires a pedagogically coherent transition from the mother tongue to additional languages. This paper examines the role of Sanskrit in facilitating this transition by functioning as a meta-language and cognitive resource within mother-tongue-based multilingual education.

Drawing upon classical Indian linguistic traditions, contemporary educational research, and policy frameworks, the study analyses how Sanskrit's structured grammatical system, phonetic organization, and shared linguistic features with many Indian languages support metalinguistic awareness, grammatical clarity, and positive language transfer. The paper argues that when introduced pedagogically rather than symbolically, Sanskrit strengthens mother-tongue proficiency, facilitates multilingual competence, and contributes to improved learning outcomes. Positioned within the framework of NEP 2020, the study presents Sanskrit not as a classical relic but as a functional linguistic resource that supports inclusive, cognitively grounded, and culturally rooted education in multilingual India.

Keywords: Mother-Tongue-Based Education; Multilingualism; Sanskrit as Meta-Language; Learning Outcomes; NEP 2020; Indian Knowledge Systems

1. Introduction

India's linguistic landscape is inherently multilingual, yet formal education has often struggled to translate this diversity into effective learning outcomes. The National Education Policy (NEP) 2020 addresses this challenge by emphasizing mother-tongue-based education in the foundational years and a gradual transition toward multilingual competence. Educational and cognitive research affirms that instruction through the home language enhances conceptual understanding, comprehension, and learner engagement.

While NEP 2020 highlights both mother-tongue education and multilingualism, the pedagogical mechanisms connecting the two remain insufficiently articulated. In particular, the functional role of Sanskrit in this transition is often interpreted symbolically rather than pedagogically.

2. Statement of the Topic

From Mother Tongue to Multilingual Competence: The Role of Sanskrit in Enhancing Learning Outcomes under NEP 2020 is the topic. This paper examines the role of Sanskrit as a meta-language¹ and cognitive resource in facilitating the transition from mother-tongue education to multilingual competence.

3. Review of Related Literature

The study draws on research from educational policy, multilingual education, cognitive psychology, and Sanskrit linguistics. NEP 2020 emphasizes mother-tongue-based education, additive multilingualism, and the integration of Indian Knowledge Systems, a position further supported by Ahmad (2024). Studies on multilingualism show that bilingual and multilingual learners demonstrate enhanced executive control, metalinguistic awareness, and cognitive flexibility (Bialystok, 2011;

¹ The term *meta-language* is employed here in a functional and pedagogical sense and not as a claim of linguistic superiority over other Indian languages.



Bialystok et al., 2012), while Cummins' interdependence hypothesis (Cummins, 2000) explains positive linguistic transfer from the first language to additional languages.

Classical Sanskrit linguistic traditions, particularly Pāṇini's Aṣṭādhyāyī (Sharma, 2002), Patañjali's Mahābhāṣya (Joshi & Roodbergen, 1986), and Bhartṛhari's Vākyapadīya (Subramania Iyer, 1969), present a rule-governed and reflective model of language that promotes explicit grammatical awareness. Modern studies further demonstrate the relevance of Sanskrit for linguistic and cognitive development, including its applicability to computational models (Bharati et al., 1995) and its positive effects on memory and phonological awareness (Hartzell; Narendran, 2024). Together, these studies support the role of Sanskrit as a meta-linguistic and cognitive resource for enhancing multilingual competence and learning outcomes in line with NEP 2020.

4. Research Methodology

The study employs a qualitative, conceptual, and analytical methodology, drawing on policy analysis, classical Sanskrit linguistic texts, and contemporary educational research. Primary sources include NEP 2020 and foundational works of the Indian grammatical tradition, while secondary sources comprise studies on multilingualism and learning outcomes. A descriptive–interpretive and comparative approach is used to relate Sanskrit's linguistic and pedagogical features to modern theories of cognition and multilingual education.

5. Analysis

Language shapes cognition and learning, and research shows that the medium of instruction significantly affects conceptual understanding and higher-order thinking (Cummins, 2000). NEP 2020 emphasizes mother-tongue–based education, multilingualism, and Indian Knowledge Systems (Government of India, 2020). Within this framework, Sanskrit serves as a cognitive resource enhancing attention and memory (Hartzell, 2018) and as a linguistic resource supporting mother-tongue development and multilingual competence (Mohanty, 2019; Pal et al., 2025).

5.1. Mother-Tongue Based Education in NEP 2020

NEP 2020 strongly advocates the use of the mother tongue or home language as the medium of instruction in the foundational and primary stages (GOI, 2020, Sec. 4.11). Educational research shows that learning in the home language enhances conceptual understanding, comprehension, and classroom engagement while reducing cognitive load (UNESCO, 2003; Cummins, 2000; 2001; Ahmad, 2024). NEP 2020 further recognizes that early literacy and conceptual development are best supported through familiar linguistic contexts and positions mother-tongue education as the foundation for multilingual competence (GOI, 2020, Sec. 4.11, 4.13).

5.2. Mother-Tongue Teaching and Multilingualism

Mother-tongue–based instruction is foundational to effective multilingual education (UNESCO, 2003). NEP 2020 positions the mother tongue as the pedagogical base for multilingual competence. Research shows that strategic use of the learner's first language facilitates additional language acquisition by functioning as a cognitive scaffold that supports comprehension and conceptual clarity (Cummins, 2000, 2001; Mohanty, 2019).

Studies in multilingual pedagogy show that excluding the mother tongue can increase cognitive load and learner anxiety, particularly in early stages of language acquisition². Additive multilingual approaches promote deeper comprehension, metalinguistic awareness³, and learner confidence.

² Cook, V. (2001). Using the first language in the classroom. *Canadian Modern Language Review*. <https://doi.org/10.3138/cmlr.57.3.402>

³ Cummins (2000), Bialystok (2011)



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In India's inherently multilingual context (Mohanty, 2019), NEP 2020 promotes an additive model by positioning the mother tongue as the foundation for multilingual competence. When introduced as an additional language, Sanskrit strengthens this process by providing a structured linguistic framework that supports mother-tongue learning and systematic multilingual development.

5.3. Benefits of Multilingualism

Extensive research indicates that multilingualism offers significant cognitive, academic, and social benefits, including enhanced executive functioning, metalinguistic awareness, and problem-solving ability. Exposure to multiple languages strengthens attention control, cognitive flexibility, and analytical thinking⁴.

In India's inherently multilingual context (Mohanty, 2019), the benefits of multilingual education are maximized when pedagogy is linguistically structured. Owing to its systematic grammar and historical links with Indian languages, Sanskrit enables structured linguistic comparison and deeper language awareness. Beyond serving as an additional language, Sanskrit functions as a meta-linguistic resource that supports conscious reflection on language and strengthens

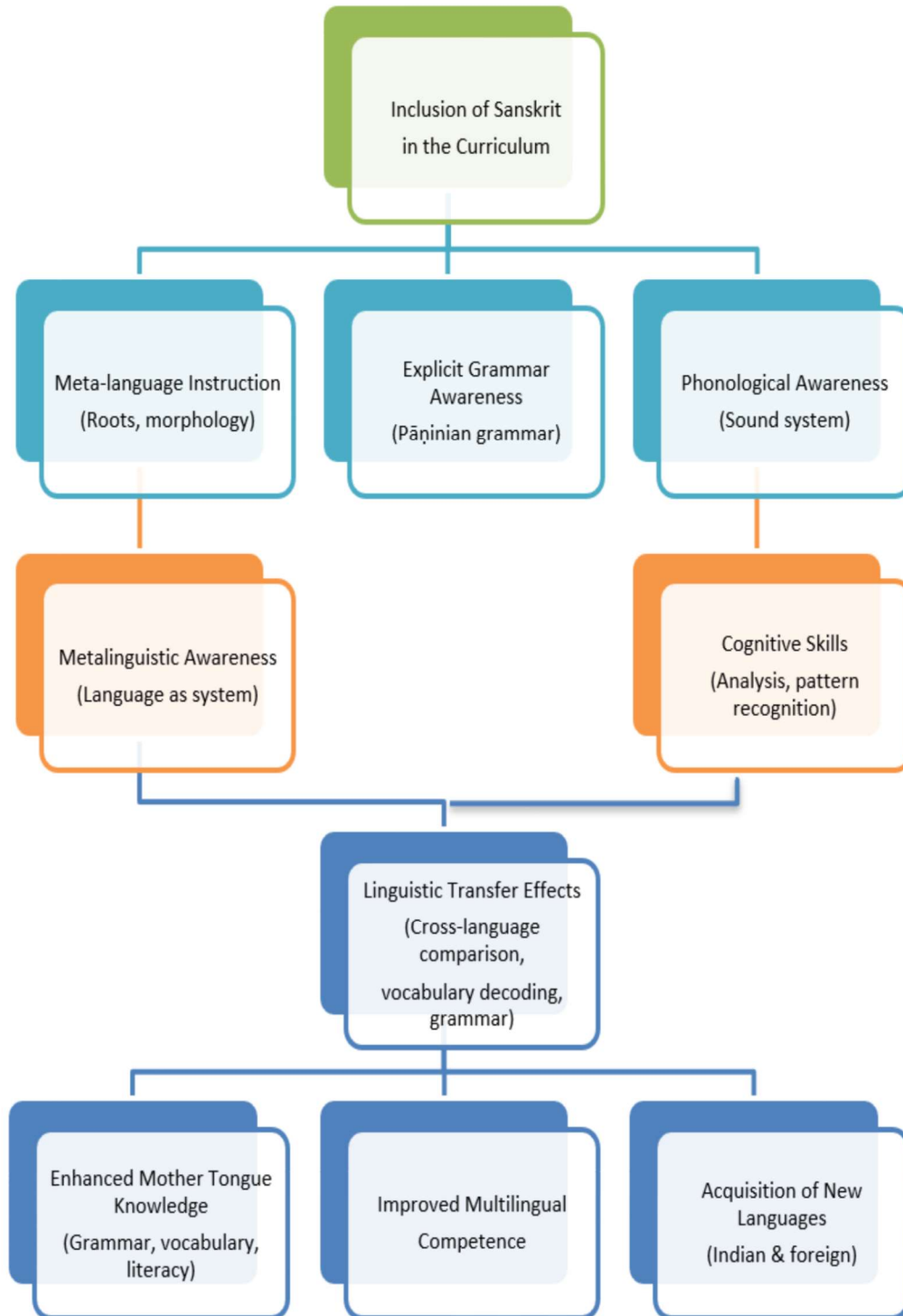
5.4. Inclusion of Sanskrit in the Curriculum

The inclusion of Sanskrit in the school curriculum under the National Education Policy (NEP) 2020 is not merely a cultural or heritage-driven initiative, but a pedagogically grounded strategy aimed at strengthening cognitive and linguistic foundations. NEP 2020 emphasizes multilingualism, conceptual understanding, and metalinguistic awareness, all of which are intrinsically supported by Sanskrit education. Sanskrit, with its highly systematic grammar, transparent morphology, and precise phonological structure, serves as an effective pedagogical tool for developing language awareness across Indian languages.

5.5. The Benefits of Inclusion of Sanskrit in the Curriculum

The inclusion of Sanskrit in the school curriculum offers systematic linguistic, cognitive, and educational advantages that extend far beyond the study of a single classical language. Sanskrit functions as a cognitive and linguistic resource, strengthening mother-tongue proficiency and facilitating the acquisition of multiple Indian and foreign languages. The benefits of inclusion of Sanskrit may be shown in a pictograph:

⁴ Bialystok, Craik & Luk (2012), Bialystok, E. (2001).





I. Sanskrit as a Meta-Language for Indian Languages

Sanskrit serves as a meta-language for many Indian languages, particularly Indo-Aryan languages⁵, due to shared roots, morphology, and syntactic patterns. Learning Sanskrit dhātus enables learners to recognize word families (Turner, 1966; Cardona, 1997), infer meanings, and understand word-formation patterns across languages such as Hindi, Marathi, Bengali, and Gujarati.

This cultivates morphological awareness, a key predictor of multilingual proficiency, and deepens learners' understanding of etymology, vocabulary precision, and spelling in their mother tongue.

II. Enhanced Grammatical Consciousness through Pāṇinian Grammar

The Pāṇinian grammatical tradition, especially the Aṣṭādhyāyī, offers a rule-based, generative, and explicit grammatical framework (Cardona, 1997; Bharati et al., 1995). Unlike implicit grammar instruction common in modern pedagogy, Sanskrit grammar promotes conscious understanding of case relations (vibhaktis), verb inflections, and sentence structure⁶.

This explicit grammatical awareness transfers effectively to both Indian and foreign languages, leading to improved syntactic clarity, grammatical accuracy, and analytical sentence construction in the mother tongue.

III. Development of Metalinguistic Awareness and Cognitive Transfer

Cardona (1997) and Joshi and Roodbergen (1986) demonstrate, Sanskrit grammatical study cultivates conscious reflection on linguistic form and function, corresponding to what modern linguistics terms metalinguistic awareness - the ability to think about language as an organized system. Learners become capable of consciously comparing linguistic structures, identifying similarities and differences across languages, and applying this insight to new language learning.

This cognitive transfer accelerates second and third language acquisition and supports higher-order literacy skills such as reading comprehension, coherent writing, and stylistic control in the mother tongue.

IV. Vocabulary Expansion and Academic Language Proficiency

Sanskrit has historically served as a major lexical source for many Indian languages (Turner, R. L., 1966; Masica, C. P., 1991; Emeneau, M. B., 1956; Altekar, A. S., 1934), especially in academic, scientific, and philosophical domains. Familiarity with Sanskrit-derived vocabulary allows learners to decode complex terms in textbooks and understand abstract concepts with ease.

As a result, students develop stronger academic language proficiency in their mother tongue and reduce dependence on borrowed English terminology by accessing precise Indian language equivalents.

V. Sanskrit as a Neutral Bridge Language in Multilingual India

Being culturally pan-Indian and not associated with any single modern speech community, Sanskrit can function as a neutral bridge language. Its inclusion avoids regional dominance concerns and provides a shared linguistic reference point for learners from diverse mother-tongue backgrounds.

This supports inclusive language education policies and encourages balanced multilingual competence.

⁵ Dasgupta, S. N., 1978; Turner, 1966; Bharati et al., 1995

⁶ Panini. *Aṣṭādhyāyī*; Bhartrhari. *Vakya-padiya*; Joshi, S. D., & Roodbergen, J. A. F. 1986; Cardona, 1997; Sharma, Ramnath 2002.



VI. Enhancement of Phonological Awareness and Pronunciation Skills

Sanskrit's scientifically organized phonetic system (*Śikṣā*)⁷, with explicit articulation-based classification of sounds, strengthens phonemic awareness, listening discrimination, and pronunciation skills.

These phonological abilities are transferable to both mother-tongue literacy and other language learning, improving spelling accuracy, reading fluency, and oral expression.

VII. Cognitive Skill Development Supporting Language Learning

Sanskrit learning involves sustained engagement with rule application, pattern recognition, and logical sequencing, strengthening analytical thinking, memory, and abstraction (Cardona, 1997; Bharati et al., 1995; Joshi & Roodbergen, 1986).

Consequently, learners show enhanced capacity for systematic language learning across linguistic domains (Bialystok, 2001).

VIII. Cultural-Linguistic Continuity and Learner Motivation

Language learning is most effective when it is supported by cultural connection and a positive sense of learner identity⁸, which enhance engagement, motivation, and meaning making in educational contexts (Norton, 2013; UNESCO, 2016). Sanskrit connects learners with India's literary, philosophical, and indigenous knowledge traditions, fostering motivation and sustained engagement.

Sanskrit is the language of foundational Indian texts - including Vedas, Upanishads, epics, philosophy, literature, science and indigenous knowledge texts - making it a direct link to India's cultural and intellectual traditions. This contextual richness provides cultural meaning and identity of Sanskrit.

This cultural-linguistic continuity reinforces respect for Indian languages and promotes long-term multilingual literacy.

IX. Alignment with NEP 2020

The inclusion of Sanskrit aligns directly with NEP 2020, which emphasizes multilingualism, mother-tongue-based education, Indian Knowledge Systems, and the pedagogical value of classical languages (NEP, Sec. 4.17, 22.15, 22.16). NEP recognizes Sanskrit not merely as a heritage subject but as a cognitive and linguistic resource. Integrating Sanskrit into the curriculum enhances phonological awareness, grammatical sensitivity, and cognitive engagement through its structured learning processes (Narendran, 2024), fostering metalinguistic awareness crucial for multilingual development (Bialystok, 2001). In India's multilingual context, Sanskrit functions as a shared linguistic resource that supports additive multilingual competence without displacing the mother tongue (Mohanty, 2019).

The inclusion of Sanskrit in the curriculum supports cognitive and multilingual development by functioning as a meta-language between the mother tongue and additional languages. Its rule-based grammar and phonological clarity enhance grammatical awareness and analytical understanding of language structure. In alignment with NEP 2020, Sanskrit strengthens mother-tongue learning while enabling effective cross-linguistic transfer. The table below illustrates this progression from foundational language learning to multilingual competence and related learning outcomes.

⁷ Paniniya Siksa; Allen, W. S. (1953)

⁸ Cummins, J. (2001). Negotiating identities: Education for empowerment in a diverse society. Los Angeles: California Association for Bilingual Education.



Mother Tongue to Multilingual Competence: Cognitive–Linguistic Outcomes

Pedagogical Stage	Role in Learning Process	Cognitive–Linguistic Functions	Resulting Learning Outcomes
Mother Tongue (L1)	Foundational medium of instruction	Conceptual clarity, emotional security, natural meaning-making	Improved comprehension, foundational literacy, learner confidence
Sanskrit as Meta-Language	Structural and analytical bridge	Grammatical awareness, etymological insight, rule-based reasoning	Enhanced metalinguistic awareness, analytical thinking, vocabulary expansion
Additional Languages (L2/L3)	Multilingual competence development	Cross-linguistic transfer, cognitive flexibility, comparative language processing	Improved multilingual proficiency, problem-solving ability, higher-order learning outcomes

5.6. Learning outcomes

Learning outcomes are central to effective teaching–learning processes and serve as key indicators of educational quality and learner achievement (Spady, 1994). Contemporary outcome-based education emphasizes that meaningful learning is reflected not merely in content coverage but in the learner’s demonstrated ability to understand, apply, analyze, and communicate knowledge (Bloom et al., 1956; Anderson & Krathwohl, 2001). Research on constructive alignment highlights that learning outcomes must be coherently aligned with pedagogy and assessment to foster deep learning rather than surface-level memorization (Biggs, 1996; Biggs & Tang, 2011).

Within this framework, multilingual and mother-tongue-based pedagogies contribute directly to improved learning outcomes (Cummins, 2000; UNESCO, 2003; NEP, 2020). Instruction rooted in the learner’s home language enhances conceptual clarity, comprehension, and retention (UNESCO, 2003), while multilingual exposure promotes cognitive flexibility and metalinguistic awareness (Bialystok, 2001; Bialystok et al., 2012). Sanskrit-supported language education further strengthens these outcomes by cultivating explicit grammatical awareness, analytical reasoning, and systematic language processing skills.

The cognitive demands of Sanskrit learning—rule application, abstraction, and pattern recognition—support higher-order thinking skills transferable across disciplines. Learners demonstrate improved reading comprehension, vocabulary, grammatical precision, and analytical ability, aligning closely with NEP 2020’s emphasis on competency-based and holistic education⁹.

5.7. Mother-Tongue Education and Impact on Learning Outcomes

Mother-tongue-based education has been consistently recognized as a critical determinant of positive learning outcomes¹⁰, particularly in the foundational and primary stages of schooling. Instruction delivered through the learner’s home language enhances comprehension, conceptual understanding, emotional security, and active classroom participation (UNESCO, 2003). Learners acquire literacy and numeracy skills more effectively when academic instruction is rooted in the language, they naturally use for thinking and meaning making.

⁹ Biggs (1996); Anderson & Krathwohl (2001); NEP 2020

¹⁰ UNESCO (2003), Mohanty (2019), Government of India (2020)



When mother-tongue education is complemented by Sanskrit within a multilingual framework, learning outcomes can be further strengthened. Sanskrit supports mother-tongue development by fostering explicit grammatical, morphological, and semantic awareness, particularly in Indian languages that share structural and historical affinities with Sanskrit (Bharati et al., 1995; Sharma R.N., 2002). Such metalinguistic awareness enables positive linguistic transfer across languages, contributing to improved vocabulary development, syntactic accuracy, and reading comprehension in the mother tongue (Cummins, 2000; Mohanty, 2019).

Empirical and policy-level studies indicate that learners educated through mother-tongue-based multilingual models demonstrate higher academic achievement, stronger metacognitive awareness, and greater capacity to acquire additional languages. Thus, mother-tongue education, reinforced through Sanskrit as a meta-language, contributes significantly to improved learning outcomes and directly advances NEP 2020's goals of equity, inclusion, and quality education in India's multilingual context¹¹.

6. Conclusion

The transition from mother-tongue education to multilingual competence is a central goal of NEP 2020. Sanskrit plays a crucial role in this transition by functioning as a meta-language and cognitive resource that strengthens linguistic foundations and enhances learning outcomes. When positioned pedagogically rather than symbolically, Sanskrit supports mother-tongue proficiency, facilitates multilingual transfer, and promotes cognitive development.

Thus, Sanskrit is not merely a language of the past but a strategic educational tool for the present and future. Its integration within mother-tongue-based multilingual education offers a coherent, research-grounded pedagogical pathway for advancing the goals of NEP 2020 within India's diverse multilingual landscape.

7. Findings

The study finds that:

1. Mother-tongue-based instruction should be strengthened as the foundation of early learning.
2. Mother tongue must be positioned as the base for additive multilingual education.
3. Sanskrit should be included as a supportive language focusing on linguistic structure and meaning making.
4. Sanskrit must be recognized as a functional meta-language rather than a symbolic subject.
5. Structured language pedagogy incorporating Sanskrit can enhance learning outcomes.

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