

From Ekāgratā to Viveka: Cognitive Foundations of Child Development in Indian Knowledge Systems

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Abstract

The National Education Policy (NEP) 2020 combines cognitive, emotional, social, ethical and cultural components of education to achieve holistic development of the child. In this context many cognitive elements derived from ancient sacred texts known as the Indian Knowledge System (IKS) can provide insights relevant to modern age child development. Even though these centuries-old texts do not articulate what today's psychology refers to as cognitive concepts, they do call upon cognitive concepts such as ekagrata (focus and attention), smriti (creating memories); samatva (emotional balance); abhyasa (discipline and diligence); svādhyaya (introspective awareness); and viveka (moral comprehension) to describe the workings of the mind. The purpose of this conceptual paper is to explore how these cognitive principles enhance the development of self-regulation, emotional stability, focus, reflective learning and ethical reasoning for overall child development; and, to examine how these cognitive concepts align with NEP 2020 principles of value-based, experiential and culturally-rooted education. Ultimately, this paper points out how modern parenting and educational practices can enhance the balanced cognitive, emotional and ethical development of children by incorporating IKS-based cognitive constructs.

Keywords: *Indian Knowledge Systems (IKS); Cognitive Development; Holistic Child Development; NEP 2020; Indigenous Epistemology.*

The comprehensive growth of a child is now viewed as the key issue within the contemporary educational system. The new model of education will not only contradict the narrow focus of academic success but also promote integrated growth of the child across all areas; cognitive, emotional, social, and moral. In India, the current educational paradigms, especially those guided by the NEP 2020, reflect this new philosophy of education by advocating for an experiential, value-based, and student-centered approach to learning (Tungoe, 2024; Shirly Anitha and Narasimhan, 2021). The National Education Policy 2020 focuses on the development of foundational literacy and numeracy skills, critical thinking, creativity, and social-emotional skills. This is a radical change from the traditional reliance on rote learning to multidimensional results in

learning outcomes (Tungoe, 2024; Educo India, 2025).

A key feature of the NEP 2020 is the integration of Indian Knowledge Systems (IKS) into the present-day curriculum. This provides an opportunity to use India's ancestral ways of knowing as knowledge sources for education and research (Government of India, Ministry of Education, 2025; Sharma, Awasthi and Soni, 2024). There are numerous texts from the Indian Knowledge System that represent centuries of inquiry through philosophy, teaching methods, and experiential learning. Each of the systems has examples of cognitive knowledge; aspects like attention, memory, emotional balance, structured work ethic, awareness, or moral judgment have developed, however they wouldn't have been defined using

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modern terminology. By embedding IKS into education, it not only develops academic competence, but also develops an ethical foundation, which allows learners to develop ethical reasoning and the capacity to reflect upon their learning. Therefore, the NEP 2020 provides a framework for holistic and value-focused education (Government of India, Ministry of Education, 2025; Sharma, Awasthi and Soni, 2024).

There is still a lack of academic literature articulating how specific cognitive concepts based on sacred Indian biology can be useful to support holistic child development, even though the policies are leaning toward doing this. Ancient Indian texts such as the Upanishads and the Bhagavad Gita and other classical Indian pedagogical traditions include complex ways of describing how we think, make decisions, and control ourselves. By taking these texts and examining how they articulate and develop particular cognitive principles such as *ekāgratā* (focus of attention), *smṛiti* (cultivating memory), *saṁatva* (emotional control), *abhyāsa* (developing a habit), *svādhyāya* (reflecting upon one's self), and *viveka* (the ability to discern between competing options), we can create a structure by which the principles can be used to conceptualize cognitive development and character development for children. Collectively, these principles address multiple domains of child development that are similar to neurodevelopmental, socio-emotional, and metacognitive ways of thinking about child development described in contemporary psychology, but they are grounded in cultural traditions of the peoples of India.

This paper proposes a conceptual cognitive model grounded in Indian Knowledge Systems that is made up of the six cognitive principles from IKS to assist in understanding how to create holistic development for children according to the culturally relevant criteria of

the NEP 2020. The integration of the insights generated from IKS with the developmental outcomes noted in NEP 2020 leads to a culturally integrated framework for bridging cultural heritage with modern pedagogical practices.

Theoretical Foundation: Cognition in Indian Knowledge Systems

A cognitive framework based on IKS calls for a grasp of how ancient Indian philosophical thought positions knowledge and the human mind. The ancient epistemological and philosophical traditions of India do not divide cognition from ethics, emotion, or self-control. Rather, they are seen by these traditions as one integrated mental process that generates the faculties of perception, attention, memory, reasoning, and moral judgment. This integrated view forms the epistemological basis upon which to construct a cognitive model with application to child development. IKS conceptualizes cognition out of mental faculties that combine to create cognition as mental activity. For example, the mind, or *manas*, the intellect (*buddhi*), memory (*smṛiti*), and self-awareness (*chitta*) are all functioning together interdependently and participate in mental activity. In the Vedic traditions, the mind is not just a recorder of sensory experiences but actively generates knowledge through its ability to transform and create by engaging in a dynamic process (the literature on cognition in ancient India has described the mind as a dynamic process - the internal illumination process) where knowledge is produced. Indian philosophical traditions such as Nyaya and Vaisheshika develop some very specific epistemological and methodological issues with respect to how we know things, where knowledge exists, and the means (*pramāṇa*) we use to differentiate between true cognition and mistakes through three types of valid sources (or types) of knowledge:

perception (pratyakṣa), inference (anumāna), and verbal testimony (śabda).

Another defining characteristic of Indigenous Knowledge Systems (IKS) is that cognitive processes are purposive. Cognition is undertaken not simply for theoretical knowledge; rather, it also supports ethical living and self-realization of the person. In the context of Indian thought, the larger educational goals include the cultivation of moral discernment (viveka) and self-discipline (abhyāsa). Moral discernment and self-discipline are as much a part of cognition as cognitive activities. This reflects an underlying epistemological perspective that cognition develops alongside ethical and existential aims rather than as the sole instrument for those purposes.

The National Education Policy (NEP) 2020 recognizes the importance of indigenous knowledge systems in mainstream education through the development of indigenous or traditional knowledge systems and their integration into education through ancient/classical texts, traditional arts, and indigenous frameworks in order to contribute to the learner's cognitive development, thereby optimising a learner's holistic growth. In addition to philosophy, logic, mathematics, astronomy, yoga and ethics, all of which are IKS areas, NEP 2020 suggests that these IKS will increase the depth, context and moral foundation of contemporary education (Government of India, Ministry of Education). To conclude, the theoretical framework for the current study combines the integrative epistemology established by classical Indian philosophy and the policy structure of NEP 2020. Both sources contend that cognitive development is more than a series of individual psychological events and must include a holistic approach consisting of the following cognitive components: attention; memory; affect; reflection; and moral-sense

discernment, as well as the cognitive processes that go with them. All of these cognitive elements are fundamentally part of a unified cognitive framework for child development.

Cognitive Principles in Indian Knowledge Systems

IKS (Indian Knowledge Systems) provides a structured understanding of cognition that incorporates attending, deriving knowledge through memory, using logical reasoning to establish relationships between concepts, interpreting emotional responses, developing skills and emotional intelligence through disciplined practice and developing self-awareness through reflection. Classical traditions of Indian thought namely, Yoga, Nyāya, and Vedānta; provide exhaustive descriptions of the cognitive processes of the mind and how they relate to the cognitive science concerns we see today, including perception, inference, memory, and metacognition (Ganeri, 2001; Phillips, 2012). Within these traditions, cognition is described as a cultivated and refined ability rather than a mechanistic activity. It includes all aspects of cognition, including the connections between the mind (manas), the intellect (buddhi), and memory (smṛti), and they function together; thus, the instructional training needed to achieve clarity and discernment is essential. Six essential cognitive dimensions are embedded within classical Indian literature and also relate to child development; they will be presented and discussed below:

1. Ekāgratā (Focused Attention)

Within classical Yoga philosophy, attention regulation is a fundamental aspect of practice. The Yoga Sutras by Patañjali explicitly define yoga as the restraint of mental fluctuations (citta-vṛtti-nirodhah), thus establishing sustained attention as the foundation for cognitive stability. The Bhagavad Gita also uses the metaphor of a flame that is located in a position protected from wind to symbolize a

disciplined mind (6.19). When viewed through a developmental framework, attention control has been identified as a strong predictor of executive functioning, academic performance, and self-regulation in children. Sustained attention has produced the capacity to encode information more deeply, thus enhancing problem-solving skills.

2. Smṛti (Memory and Cognitive Continuity)

Memory (smṛti) is regarded in Indian philosophy as a separate, but credible, form of cognition that occurs from prior perception. According to the Nyaya Sutras, memory results from the knowledge made present through previously experienced impressions and, therefore, is different from direct perception or inference (Phillips, 2012). For children to develop, memory is the basis of cumulative knowledge gained through experience. Memory enables language learning, attempts to connect concepts together and creates knowledge networks. Classical discussions of smṛti indicate that a child should tell a story in a way that demonstrates meaningful remembrance as opposed to rote memorization. This is consistent with modern theories of deep learning.

3. Samatva (Emotional Regulation and Cognitive Balance)

Samatva, or balanced responsiveness (or equanimity), is a central theme in the Bhagavad Gita (2.48), where it is defined in relation to disciplined activity. Emotional stability is not considered distinct from cognitive functioning; rather, it is seen as a driver of cognitive deficits. Similarly, emotional regulation improves working memory, flexible attention, and decision-making in current developmental psychology research. For children, emotional stability builds resilience, social skills, and persistent engagement in academics.

4. Abhyāsa (Disciplined Practice)

Patanjali's Yoga Sutras (1.13) define abhyāsa, which means developing steadiness of mind

through sustained effort and practice. This understanding of the need to repeat activity with purpose and clear intentions speaks to an awareness of how regular practice builds cognitive ability. Deliberate practice in the present context builds neural connections and reinforces skill development. In children, repetition, in concert with reflective thought, creates opportunities for mastery learning and cognitive endurance.

5. Svādhyāya (Reflective Awareness)

Svādhyāya is one of the niyamas in the Yoga Sutras of Patanjali (2.44) and refers to self-study as well as introspective study. Not only is svādhyāya expressed through the recitation of scriptures, but it also expresses the idea of learning and understanding one's own cognitive and moral functioning. The principle of svādhyāya (self-study) is analogous to the concept of metacognition, the capacity for thinking about how you think. Research conducted in the field of educational psychology identifies metacognitive awareness as a significant predictor of independent learning, and thus increased academic performance.

6. Viveka (Discernment and Higher-Order Reasoning)

In classical Indian philosophy, the term 'viveka' refers to the process of differentiating between valid knowledge (knowledge that is capable of being verified) from invalid knowledge (knowledge that cannot be verified) as well as between eternal, unchanging reality and temporary, changeable reality (Ganeri, 2001). At what level or degree these two types of 'kolas' are differentiated varies based on the context in which the term is used. As it relates to the development of a child's intellect, viveka is comparable to critical thought, moral reasoning, and judgment. Viveka represents the process of developing a child's thinking abilities into a refined and moral way of making decisions.

Alignment with National Education Policy (NEP) 2020 and Holistic Child Development

The National Education Policy 2020 signals a significant change in Indian schools and how instruction is being approached. It emphasizes moving away from primarily content-centered learning and assessment to include holistic or integrated, competency-based, and values-based approaches to education. The policy places significant importance on developing cognitive flexibility; critical thinking; learning through experience; ethical values; and socio-emotional development (Ministry of Education, 2020). These principles are very closely related to the cognitive concepts embedded in Kshatriya philosophy (Ganeri, 2001).

NEP 2020 outlines that foundational literacy and numeracy; critical thinking; creative ability; scientific reasoning; ethical reasoning; and constitutional values are essential developmental goals that should be included in all areas of education. In addition, the policy states that "Education must develop all capacities (cognitive, social, ethical, and emotional) of each individual" (Ministry of Education, 2020, p. 4). These comprehensive ideas are consistent with the philosophical views of classical Indian philosophy where achieving a higher level of intellect cannot be separated from achieving a higher level of discipline and morals.

1. Attention and Foundational Learning (Ekāgratā)

NEP 2020 highlights that foundational experience in early and primary education is essential. Foundational experience refers to the importance of being able to concentrate on a task for an extended period of time in developing the ability to read and do math. The practice of ekāgratā (translated as "concentration") helps develop this ability and is referred to as "executive functions". Recent developmentally based research has shown that

ability to focus one's attention will enhance the likelihood of doing well academically and therefore self-regulate (Diamond, 2013). Therefore, the long-held belief about being able to sustain attention fits well into the NEP's emphasis on (or defining features) of being ready to learn cognitively in the early years.

2. Memory and Conceptual Mastery (Smṛti)

NEP 2020 critiques the use of rote learning; this does not translate to disregarding the importance of having a good memory. NEP; indeed, promotes developing a conceptual understanding through meaningful experiences. In classical theory on knowledge (or epistemology), smṛti refers to the being able to recall or remember the information integrated into one's understanding, not simply as rote memorization. Furthermore, NEP's promoting the use of experiential and inquiry-based approaches to learning aligns well with the view of memory being used as a way to consolidate knowledge rather than being used just to hold information.

3. Socio-Emotional Development (Samatva)

The prominence of socio-emotional learning (SEL), resiliency building and ethical awareness is demonstrated throughout the NEP 2020. Samatva refers to the foundation of emotional stability. When one regulates their own emotions, they will be able to maintain focus in the classroom, be engaged in their learning, and build positive relationships with their peers. Because NEP is focused on the development of the whole child, it mirrors the classical belief that emotional equilibrium contributes to clarity of thought that enhances intellectual ability.

4. Experiential Learning and Practice (Abhyāsa)

Experiential learning, multidisciplinary exposure, and competency-based advancement are core principles in NEP 2020. Abhyāsa, defined as disciplined and ongoing practice, supports mastery through repetition and

awareness. Deliberate practice strengthens the neural pathways that enable developing an expertise in a domain (Ericsson, Krampe, and Tesch-Römer, 1993). This classical concept supports modern pedagogical design.

5. Reflective Learning (Svādhyāya)

Inquiry-based learning, self-evaluation, and critically analyzing issues in the classroom are required by the policy. Svādhyāya (reflective self-study) aligns with the metacognitive strategies that educational psychology recognizes as predictors of independent learning (Flavell, 1979). When students are encouraged to reflect on their cognitive processes, it helps them to adapt to change and understand better.

6. Critical Thinking and Ethical Reasoning (Viveka)

NEP 2020 explicitly states that critical thinking, rational inquiry, and value-based education should be the highest priorities in K-12 education. In Indian philosophy, viveka (discriminative reasoning) represents cognitive maturity, the highest cognitive level to discern between valid and invalid knowledge and to discern between right and wrong action. This concept is a close match to the higher-order thinking skills outlined in 21st century educational frameworks.

IKS Principle	Developmental Function	NEP 2020 Emphasis
Ekāgratā	Attention regulation	Foundational literacy and executive function
Smṛti	Meaningful memory	Conceptual learning
Samatva	Emotional balance	Socio-emotional development
Abhyāsa	Skill consolidation	Experiential and competency-

		based learning
Svādhyāya	Metacognition	Inquiry and self-directed learning
Viveka	Critical reasoning	Ethical and critical thinking

Figure 1: Convergence emerges between classical cognitive principles and NEP 2020 goals.

This convergence shows that incorporating Indian cognitive ideas into non-Western forms of education does not simply represent a resurgence of cultural identity; it also reflects a relationship between traditional thought and current developmental science.

Discussion and Educational Implications

In the preceding analysis, the classical Indian cognitive principles:

Ekāgratā, Smṛti, Samatva, Abhyāsa, Svādhyāya and Viveka provide a structured understanding of mental development that aligns with key tenets of modern developmental psychology and with the reform agenda of the National Education Policy 2020. This alignment demonstrates the fact that there is widespread agreement that cognition is multidimensional, that it develops over time, and that it is inextricably linked to emotional and ethical development.

1. Reframing Cognition as Integrated Development

Most modern educational systems compartmentalise cognition into discrete components (e.g., attention, memory, reasoning) and treat them as measurable skills. In contrast, the Indian Knowledge Systems view cognition as part of the continuum of development. For example, attention (Ekāgratā) involves more than just task-related focus; it involves mental discipline. Memory (Smṛti) is not merely about storing information

mechanically; it is about maintaining a continuity of significance. And, although discernment (Viveka) includes analytical reasoning, it also includes making moral decisions.

This integrative approach supports an overall pedagogy that includes development in both affect regulation and ethical development as components of cognitive growth. Therefore, value-based education becomes an important element of cognitive development, rather than an adjunct to intellectual training.

2. Implications for Curriculum Design

a. Foundational Stage (Early Childhood and Primary)

At the foundational level, structured attentional practices, such as age-appropriate mindfulness activities, storytelling with focused attention, and rhythmically reciting poetry, can help put Ekāgratā (one-pointed focus) into operation. By repeating a task with slight differences in the stimulus, an individual can demonstrate Abhyāsa (perfected practice), while structuring training around finding meaning in the activity will support Smṛti (retention through directed memory).

b. Preparatory and Middle Stages

Middle childhood (ages 6 to 12) introduces additional engaging tools for developing Svādhyāya (awareness of self through one's experience). Tools used to accomplish this include reflective journals, dialogic pedagogy, and project-based learning that is inquiry-based. Samatva (equanimity) is bolstered by participation in programs that provide support for developing emotional literacy and self-regulation.

c. Secondary Stage

Secondary education uses ethical debates, case study analyses, and interdisciplinary reasoning tasks to promote Viveka (discernment). The critical thinking process that develops also

bridges cognitive sophistication and evaluative maturity as based on discernment.

3. Teacher Preparation and Pedagogical Practice

Teacher training that incorporates these practices into the profession must move beyond simply delivering content and include the following outcomes for teachers:

- Develop attentional discipline without coercion
- Give attention to engagement rather than compliance
- Provide repetition of activities while providing the learners with socio-emotional depth
- Incorporate ethical reasoning into subject matter

This changes pedagogical practice from a form of transmission to one of cultivation (developmental/relational orientation); these are aligned with both Indigenous Knowledge Systems and National Education Policy 2020.

4. Psychological and Developmental Significance

From the perspective of developmental science, the principles as derived above correspond to established cognitive/memory domains as well as those of:

- Executive function (attentional regulation)
- Memory consolidation
- Emotional regulation
- Automaticity through practice
- Metacognition
- Higher order reasoning

The integration of IKS provides an additional element to educational practice, as the areas of knowledge (i.e., domains) provided by IKS are seen as interconnected and interdependent systems of knowledge; together they provide mutually supportive competencies through continuous engagement with each system of knowledge. This perspective enhances the

theoretical basis for holistic education.

Conclusion

This research looked into how Indian knowledge systems (including focused attention, continuous memory, emotional regulation, disciplined practice, self-awareness, and the ability to distinguish fact from fiction) could be applied to holistic child development. This was accomplished by using established classical Indian philosophical texts and contemporary developmental theory to show how these principles come together to create our understanding of cognitive development in terms of attention, memory, emotional regulation/metacognition, and higher thinking skills.

Furthermore, the analysis identified that the cognitive insights developed by indigenous peoples align nicely with the reform intentions of the National Education Policy 2020, which call for foundational literacy, critical thinking, social/emotional learning, experiential pedagogy, and ethical awareness all of which are in harmony with what is outlined in classical Indian thought as structured mental development. This indicates that implementing Indian knowledge systems into the contemporary educational system is not only an effort to integrate culture, but an effort to enrich current frameworks of cognitive development with a solid philosophical basis.

These six principles do not act on their own. Attention facilitates the learning of meaningful concepts; memory solidifies this learning; control of emotional states regulates cognitive state; practice reinforces learned skills; reflective thinking shapes understanding; and the objective assessment of experiences leads to the development of ethical judgment as well as reasoning that is reflective. These principles work together in a continuum toward the creation of a full-fledged intellectual judgment starting with foundational cognitive self-control (e.g., the ability to concentrate) and

eventually developing into a more mature cognitive judgment.

By revisiting these foundational cognitive principles in the context of reform, this article also contributes to the ongoing discussion of the creation of globally applicable frameworks for holistic child development, yet grounded in culture. Future research in education can build on this theoretical discussion through empirical studies, and develop effective classroom-based interventions as well as an interdisciplinary dialogue toward integrating diverse forms of knowledge (e.g., indigenous cognitive frameworks with contemporary cognitive science).

More broadly, the application of traditional Indian cognitive traditions to education creates an overarching framework for development, one that integrates the development of intellect, emotion, discipline, and ethical consciousness in helping learners become ethical and responsible members of society.

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